
National Energy and Climate Plan – Overview of the Opportunities and Challenges

Policy Study

/2020



The bottom half of the page features a large, abstract geometric pattern. It consists of a grid of triangles, each with a 3D effect, creating a complex, crystalline structure. The triangles are shaded in various tones of blue and grey, giving the pattern a sense of depth and movement.

National Energy and Climate Plan – Overview of the Opportunities and Challenges

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Zhvillimi i Qëndrueshëm
Sustainable Development

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Executive Summary

The National Plan for Energy and Climate (NECP) will be developed with full involvement of institutions, civil society and academia. This approach of the Government of Kosovo has enabled working groups to have a diverse perspective on institutions on the one hand and civil society organizations and academia on the other. Representatives of the latter were appointed in the thematic working groups. Good cooperation to date has shown that indeed, energy transition and long-term projections in the energy sector require the sincere cooperation and efforts of all social groups.

In all working groups, barriers and potentials have already been identified. Most of the barriers include lack of studies, lack of financial capacity, lack of sufficient implementation of the current legal basis and lack of long-term projections. Despite these challenges, the working groups have identified an incredible amount of potential in all the areas they cover. The positive atmosphere in these groups has enabled the barriers and challenges to be transformed into identified areas of opportunity and potential for the NECP implementation and for a smooth energy transition.

In the coming years, an initial focus should be put on the design of detailed studies in various fields, as a basis for an evidence-based policymaking and planning. Ranging from the field of renewable resources, market, greenhouse gasses, energy efficiency, energy security and innovation, there is enormous scope for research and studies to identify potentials, modulate scenarios and compile cost-benefit analysis. Only in the field of renewable resources needed studies have been identified on the potentials of biomass, geothermal energy and energy storage. In the energy efficiency-working group, a study on district heating systems is identified as necessary. Moreover, the energy security-working group identified, among others, that the lack of studies on natural gas potential is a barrier that needs to be addressed. For this, it is a conclusion of this paper that one of the areas to focus on most is the studies on a number of aspects identified during the work of the thematic groups.

Kosovo needs energy security in a way that security means not only the availability of energy but also its affordability. For this reason, the Energy Security Working Group has identified different scenarios of energy supply in order to increase security of supply and maintain affordability. The decommissioning of Kosovo A and the rehabilitation of Kosovo B have been put together as options alongside the construction of the "New Kosovo" power plant. In addition, major penetration of RES investments including prosumers were also seen as a pivotal part of energy security.

So far, the group has identified various options within the framework of a sustainable energy transition, pending policy decisions that may eventually clarify the path to follow. Also, in order to increase energy security, measures such as the implementation of renewable resources targets, empowering and advancing the self-consumption support scheme, introduction of energy storage systems, introduction of gas into the market, digitalization of the grid, electrification of transportation, and addressing the energy poverty are crucial. Energy Security, thus, is a crosscutting sector with a lot of potential.

In the field of renewables, it is important to enable full implementation of the third package of European legislation in the field of energy. This will enable further opening of the market for renewable energy sources. Competition schemes such as auctions are among the future steps the energy market needs to introduce. The working group on renewable energy also identified legislative measures such as the harmonization of energy legislation with the environmental one. Many efforts need to be made to further decentralize production such as with decentralized thermal pump systems. Other measures introduced include fiscal incentives, green public procurement rules, green curricula, energy cooperatives and electro mobility.

Regarding the energy market, market liberalization was seen as the first and necessary measure to be fully implemented. Subsequently, other measures are foreseen to increase market flexibility, market integration with Albania with the ultimate goal of regional integration, smart grid, demand side management measures and equipment of at least 80% of consumers with smart meters. These measures will increase market stability and prepare the market for more renewable penetration with lower costs.

As for the Greenhouse Gases group, policies compiled include the implementation of the Strategy on Climate Change as well as the adoption of a Law on Climate Change. New measures include the Spatial Plan for Green Environment, revision on the Strategy on Heating, a National Program on Reforestation, advancing the system of waste management, introducing national mobility plan, reducing the number of old cars etc.

In the energy efficiency field, as a significant number of funds are already pledged to support efficiency measures, the working group has considered it important to have a concerted effort and to identify all the investments that are made in the field of energy efficiency. Necessary measures have been foreseen to strengthen the Efficiency Fund, intensify the implementation of municipal energy efficiency plans, energy certification of buildings, inspecting the heating and ventilation systems, etc.

Innovation and technology have also been seen in the work of the thematic groups as an important pillar of energy transition. In this sense, measures envisaged include the implementation of Innovation Strategy 2019-2023, the implementation of the Administrative Instruction on Entrepreneurship, a National Program on Support for New Efficient Technologies, the promotion of smart cities concept, supporting ICT in the energy sector etc.

The work of the thematic groups and the NECP working group includes not only identifying the measures, but also the responsible institutions, linking the measures with European legislation, the implementation period, etc. All of these are tabulated so that we can have a clear view of the implementing actors, challenges, deadlines and types of proposed measures. To do all this, further cooperation from all parties and increased donor support will be required.

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Introduction

Kosovo is part of the Treaty Establishing the Energy Community and under this umbrella, it is committed to follow and fulfil the EU legislation on energy. Thus, Kosovo is dedicated in working to adopt the National Energy and Climate Plan based on the Decision of the Ministry of Economic Development and Ministry of Environment and Spatial Planning No. 1878 of September 2019 following a communication Letter from Director of Energy Community Secretariat sent on the 28th of June 2018.¹

The first meeting of the Working Group (WG) took place on December 6th of 2018. In this meeting the members of NECP WG were informed about the Recommendation of Minister Council for developing the NECP, Guidelines for Preparing the NECP, results of the Study for methodology for targets for EE, RES and GHG etc. The main conclusion of this meeting was recommendation for Ministry of Economic Development to authorize the NECP WG for establishing the thematic groups for each dimension of NECP. Based on this recommendation of the NECP WG, the Minister of MED in coordination with Minister of MESP, has approved Decision No.13. on the 8th of January 2019 which authorized the NECP WG to establish the thematic groups.²

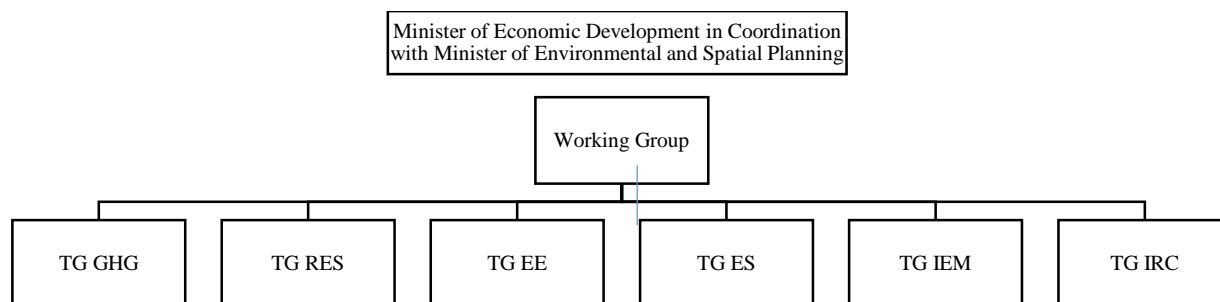
Through meetings and workshops organized by GIZ ORF and ECS, the NECP Working Group has worked to:

- Create a joint understanding of NECP process design
- Exchange about requirements for and possible setup of the National Coordination Process
- Initiate thematic working groups and define their tasks
- Agree on a steering structure for thematic working groups
- Identify first steps, activities and responsibilities

Below is the organization of the Kosovo National Energy and Climate Plan Working Groups and Thematic Groups structure and composition:

¹ Ministry of Economic Development, (2018), Decision No. 1878 for establishing the Working Group for developing the Integrated Nacional Energy and Climate Plan (NECP), Pristina: MED and MESP

² Ministry of Environment and Spatial Planning, (2019), Decision No. 13 to authorize NECP WG to establish thematic groups.



NECP Working Group	<p>NECP Working Group was established by Minister of ED in coordination with Minister of ESP.</p> <p>Co-chairs MED and MESP(Sabit Gashi, MED, Visare Hoxha - Istrefi MESP)</p> <p>Members/representatives:</p> <p>Ministry of Economic Development co – chair</p> <p>Ministry of Environmental and Spatial Planning – co chair</p> <p>Prime minister Office – Office of Strategic Planning</p> <p>Ministry of Finance</p> <p>Ministry of European Integration</p> <p>Ministry of Infrastructure</p> <p>Ministry of Agriculture Forestry and Rural Development</p> <p>Ministry of Innovation and Entrepreneurship</p> <p>Association of Kosovo Municipalities</p> <p>Kosovo Agency of Statistics</p> <p>Kosovar Agency for Energy Efficiency</p> <p>Civil Society</p> <p>University</p>
Thematic Group 1	<p>Thematic Group for GHG(Decarbonisation Dimension/GHG component)</p> <p>Chair: Abdullah Pirçe, Ministry of Environmental and Spatial Planning(MEPS)</p> <p>Members:</p> <ol style="list-style-type: none"> 1. Sabit Restelica, MESP 2. Visare Hoxha - Istrefi, MESP 3. Armend Agushi, MEPS 4. Vlora Spanca, MEPS 5. Lekë Bakalli - CS(Group for Legal and Political Studies) 6. Shaban Hamzaj, Ministry of Agriculture Forestry and Rural Development 7. Rasim Veseli, KEK(Kosovo Energy Corporation) 8. Gojart Bajrami, Association of Kosovo Municipalities

Thematic Group 2	<p>Thematic Group for RES(Decarbonisation Dimension/RES Component) Chair: Besiana Berisha, Ministry of Economic Development) Members:</p> <ol style="list-style-type: none"> 1. Arberesha Isufi, MED 2. Gazmend Kabashi, KOSTT(TSO) 3. Ymredin Misini, ERO(Energy Regulation Office) 4. Dardan Abazi, Civil Society(INDEP) 5. Bashkim Kastrati, Ministry of Environmental and Spatial Planning 6. Kemail Kadriu, Ministry of Agriculture Forestry and Rural Development 7. Nazmi M. Gashi, Ministry of Infrastructure 9. Afrim Prokshi, Association of Kosovo Municipalities 10. Naser Sahiti, University 11. Sabri Ternava, KEDS(DSO)
Thematic Group 3	<p>Thematic Group for EE(Energy Efficiency Dimension) Chair: Bujar Sekiraqa, Kosovo Agency for Energy Efficiency Members:</p> <ol style="list-style-type: none"> 1. Naser Sahiti, University 2. Leartha Hollaj, Civil Society(INDEP) 3. Fidan Isufi, ERO(Energy Regulatory Office) 4. Bedri Dragusha, University 5. Isak Kerolli, KEK (Kosovo Energy Corporation) 6. Arsim Mulaku, Ministry of Infrastructure 7. Bashkim Sadiku, Association of Kosovo Municipalities
Thematic Group 4	<p>Thematic Group for Energy Security(Energy Security Dimension) Chair: Skender Xani, MED Members:</p> <ol style="list-style-type: none"> 1. Ymer Rudari, ERO(Energy Regulatory Office) 2. Gazmend Kabashi, KOSTT(TSO and MO) 3. Përparim Kabashi, KEK((Kosovo Energy Corporation)) 4. Besfort Kosova, Balkan Green Foundation 5. Sabit Gashi, MED

Thematic Group 5	Thematic Group for Internal Market(Dimension of Energy Internal Market) Chair: Sabit Gashi, Ministry of Economic Development Members: 1. Petrit Krasniqi, ERO(Energy Regulatory Office) 2. Burbuqe Hasani, KOSTT(TSO and MO) 3. Përparim Kabashi, KEK(Kosovo Energy Corporation) 4. Blend Hyseni, Instituti GAP 5. Skender Xani, MED 6. Adnan Preniqi, MED 7. Rudina Heroi, KESCO/(Shukri Aliu, KESCO)(Electricity Public Supplier)
Thematic Group 6	Thematic Group for Research, Innovation and Competitiveness (Dimension of Research, Innovation and Competitiveness) Chair: Ermelinda Ahmetaj, Ministry of Innovation and Entrepreneurship Members: 1. Alban Osmanaj, Ministry of Innovation and Entrepreneurship 2. Gazmend Pula, University 3. Shpetim Lajqi, University 4. Agron Pajaziti, University 5. Elion Gerguri, Civil Society(Balkan Green Foundation 6. Uranik Begu, ICK(Innovation Centre Kosovo)

The work of the thematic working groups

Working groups' efforts were focused on initially identifying existing policies in the relevant areas to proceed with objectives, sector affected, type of policy measure, and reference to EU policies, status of the measure, implementation period and the responsible institutions. The thematic groups have also identified the main barriers in certain areas. Through the analysis of the barriers and broad group discussions, it was possible to identify the key measures needed to be taken in the next ten years but also for the vision of energy and climate by 2050.

There are two major challenges to the work of the groups identified so far. The first concerns the lack of complete clarity about the future of the energy sector, in particular as regards to the investments in new coal generation capacities. As Kosovo's new Government is to be constituted, it was very difficult to fully determine which policies will be followed or which

investments should precede over others. However, scenarios were initially discussed based on current legislation and policies in place and later alternatives were also described. The context of Kosovo's development, opportunities and needs as well as projections for the future were also taken into consideration.

1. Energy Security Dimension

Regarding the energy security, the Thematic Group recognized the fact that energy security does not simply mean the availability of sufficient energy but also the affordability of it and the quality of services. The group discussed the level of implementation of current policies and proposed measures for the future.

In the National Energy Strategy 2017-2026, the security is mentioned in terms of ensuring a continuous and uninterrupted power supply:

Ensuring a reliable, quality, reliable and uninterrupted power supply is one of the key conditions for the development of a country. This problem has become an acute problem in Kosovo and requires an urgent solution, although costly as itself is the nature of the investments needed.³

The working group in the National Energy and Climate Plan has gone one step further by aiming that in addition to the energy supply to include a broad perspective of energy security which includes also the affordability of prices and quality of services in line with the third package of energy legislation of the European Union.

As current measures, the group noted the implementation of the current Energy Strategy 2017-2026, decommissioning of Kosovo A, rehabilitation of Kosovo B and building the new “Kosova e Re” power plant. These measures are in line with the European Commission’s recommendation: “In the coming year, Kosovo should prepare for the decommissioning of the Kosovo A power plant and the environmental upgrade of Kosovo B.”⁴ The Energy Security thematic group also discussed the implementation of the current renewable energy targets as a priority.

Another measure mentioned was a Master Plan for natural gas in Kosovo, a feasibility study regarding the gas pipelines with Macedonia and a gasification prefeasibility study conducted by MCC. Another important document is the Southeast European Regional Gas Network Optimization Report on Achieving Maximum Diversification for Natural Gas Supply targeting 2040. These studies are currently planned and/or being implemented.

The thematic group proposed the following new measures:

³ The Republic of Kosovo, (2017), Kosovo Energy Strategy 2017-2026, Security of Power Supply, page 13, available at https://mzhe-ks.net/repository/docs/Strategjia_e_energjiise_2017-26_.pdf (accessed in December, 2019)

⁴ European Commission, (2019), Kosovo Report, Energy, page 81, available at <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20190529-kosovo-report.pdf>, (accessed in December, 2019)

- Creating backups for full balance on the system (batteries, pump storage)
- Replacing the decommissioned capacity with clean energy (Natural Gas - 300MW and RES - 1200MW)
- Aggressive penetration of prosumers into the energy market (including electric cars / 100000 units until 2040)
- Harmonization of measures and policies relating to security of supply countries in the region (including the transmission code)
- Digitalization of the electricity grid - Smart Grid
- Emergency Action Plan (Emergency Preparedness Plan)
- Accommodation of transport in the electricity system
- Switching from Electricity to District Heating (Reducing electricity consumption to thermal energy)
- Reinforcing and improving the network
- Energy poverty
- Establishment of TSO for Natural Gas
- Creation of Natural Gas Infrastructure

Investments in energy storage capacities were assessed as very necessary to increase energy security and to ensure that energy is available and responsive to demand. This measure, however, was proposed to be implemented after 2030, when investment conditions and technology are more affordable than now.

The group proposed policies to increase the number of prosumers in the energy sector. Until 2040, Kosovo should have at least 100.000 prosumers producing energy and feeding it into the grid. This will ultimately increase the investments, reduce the cost of energy bills but also reduce the demand for energy and help control the demand. The group also proposed measures to harmonize the policies with neighboring countries including the harmonization of transmission codes.

The thematic group also proposed policies for digitalization of the electricity market and the introduction of smart grid. This measure should start by 2025 and continue throughout the implementation of the National Energy and Climate Plans. According to the discussions made, smart grid and smart meters will help both better manage demand and increase efficiency.

Thematic Group: Security of Supply									
	NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	STATUS	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
1	The Energy Strategy of the Republic of Kosovo 2017 - 2026	Security of Supply	GHG Sector (Positively) RES sector The innovation sector Internal Market	Strategic measure	PRE PKZ-MSA	Implementing	2017 - 2026	MED and other relevant institutions	Lack of a long term strategy for 2026-2050
2	Decommission of Kosovo A	Security of Supply	GHG Sector (Emissions - Negatively) Internal market	Strategic measure	PRE PKZ - MSA EU Directive (Emission Level) (Industrial Emissions Directive)	Implementing	2023	Government KEK	The risk of non-construction of the new Kosovo The lack of an analysis of social costs (social aspect) Balancing System (Lack of Balancing System)
3	Rehabilitation of Kosovo B	Security of Supply (generation adequacy, network adequacy, access to raw materials, market)	GHG Sector (Emissions - Negatively) Internal market	Strategic measure	PRE PKZ - MSA EU Directive (Emission Level) (Industrial Emissions Directive)	Approved	2024-2025	Government KEK	Lack of regulatory reserves Lack of Storages 400kV line with Albania Lack of long term security

									studies until 2030,40,50
4	Kosovo B	Security of Supply (generation adequacy, network adequacy, access to raw materials, market)	GHG Sector (Emissions - Negatively) Internal market	Strategic measure	PRE PKZ - MSA EU Directive (Emission Level) (Industrial Emissions Directive)	Approved	2040	Government KEK	Increase in CO2 Price Development of other skeletons Lack of long term security studies until 2030,40,50
5	Construction of TPP Kosova e Re (2023 - 2050)	Security of Supply	GHG Sector (Emissions - Negatively) Internal market	Strategic measure	PRE PKZ - MSA EU Directive (Emission Level) (Industrial Emissions Directive)	Implementing	2023 (functional until 2050)	Government KEK	Political uncertainty Unsecured Funds (WB Withdrawal)
6	Implementation of RES indicative targets for wind energy (2020 - establishing 150 MW)	Security of Supply	RES sector GHG Sector (Positively) Innovative Sector	Regulatory measure	New EU Directive on RES PKS - MSA	Implementing	2020	ERO	Balancing the system Finding funding
7	Implementation of RES indicative targets for Solar Energy (2020 - establishing 30 MW)	Security of Supply	RES sector GHG Sector (Positively) Innovation Sector	Regulatory measure	New EU Directive on RES PKS - MSA	Implementing	2020	ERO	Balancing the system Investment Delay
8	Implementation of RES indicative targets for Hydropower (2020 - establishing 110 MW)	Security of Supply	RES sector GHG Sector (Positively)	Regulatory measure	New EU Directive on RES PKS - MSA	Implementing	2020	ERO	Balancing the system Finding funding

			Innovation Sector						
9	Extending Current Heating (Termokos and Gjakova Heating)	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	PKZ - MSA PRE New EU Directive on Efficiency (Cogeneration)	Implementing	2019 - 2021	Termokos and Gjakova Heating Municipality of Prishtina and Gjakova EC and KfW funded	Supply uncertainty
10	Feasibility Study for Northern Macedonia - Kosovo Pipeline	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	PKS - MSA PRE EU Directive on Efficiency	Approved	2020 - 2021	MED WBIF Grant	Supply uncertainty Political dependence Lack of Natural Gas Expertise (Lack of Natural Gas Management Discipline at University)
11	Study of the Master Plan for Natural Gas in Kosovo	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	PKS - MSA PRE EU Directive on Efficiency	Approved	2020 - 2021	MED WBIF Grant	Supply uncertainty Political dependence Lack of Natural Gas Expertise (Lack of Natural Gas Management Discipline at University)

1 2	A prefeasibility study by MCC for Kosovo gasification	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	N/A	Implementing	2020 - 2021	MCC MED	Supply uncertainty Political dependence Lack of Natural Gas Expertise (Lack of Natural Gas Management Discipline at University)
1 3	Southeast European Regional Gas Network Optimization Report on Achieving Maximum Diversification for Natural Gas Supply Target for 2040	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	N/A	Implementing	2018-ongoing	USEA / USAID MED	Supply uncertainty Political dependence Lack of Natural Gas Expertise (Lack of Natural Gas Management Discipline at University)
1 4	Production of electricity for self-consumption (Included: demand side management, smart grid) (RES for rooftops)	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Regulatory measure	EU Directive on Efficiency	Implementing	2018 - unplanned	ERO	VAT pf Products (invoice with VAT) (non-obligatory payable) Legal uncertainties Bureaucracies KEDS / KESCO lack human and network investment Human

									capacities of the responsible institutions Ambiguous Legal Basis	
15	Study by MCC on batteries. Lack of information	Security of Supply	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	Entso Regulation TSO	E per	Planned	2019-2020	MCC - KOSST	Lack of follow-up studies
	NEW MEASURES									
1	Creating backups for full balance on the system (batteries, pump storage)	Security of Supply	GHG Sector (Positively) RES sector The innovation sector Internal Market	Strategic measure	Entso Regulation TSO	E for	To be implemented	2030 +	Government (in policy-making and creating conditions for investments KOSTT (purchase and management) ERO	Lack of signal for investment (Incentivizing investors)

2	Replacing the decommissioned capacity with clean energy (Natural Gas - 300MW and RES - 1200MW)	Security of Supply	GHG Sector (Positively) RES sector The innovation sector Internal Market	Strategic measure	EU Directive on Efficiency	To be implemented	2040+	Government and other relevant institutions	Lack of Storages and Backups Uncertainty about natural gas supply (political turmoil) Regional Study on Capacity Allocation in the Region (Import)
3	Aggressive penetration of prosumers into the energy market (including electric cars / 100000 units until 2040)	Security of Supply	GHG Sector (Positively) RES sector The innovation sector Internal Market	Strategic measure	Regulation 1999/2018 3rd and 4th Package of Laws	To be implemented	2020 +	ERO Government	Lack of investment incentive Human capacity Bureaucracy Lack of study
4	Harmonization of measures and policies relating to security of supply countries in the region (including the transmission code)	Security of Supply	GHG Sector (Positively) RES sector The innovation sector Internal Market	Strategic measure	Regulation 1999/2018	To be implemented	2020+	Government KOSTT ERO	Lack of long - term regional supply security study Dependence on the political will of other countries Dependence on policies of SKE and ENTSO-E Non-membership of KOSTT in ENTSO-E

5	Digitalization of the electricity grid - Smart Grid	Security of Supply	The innovation sector RES sector Market Sector	Strategic measure	EU Directive 2009/72 EU Directive 2009/73	To be implemented	2025+	KEDS KOSTT ZrRE	Lack of long-term study on smart grid Lack of human capacity for smart grid
6	Emergency Action Plan (Emergency Preparedness Plan)	Security of Supply	The innovation sector Internal Market	Regulatory measure	EU Regulation 1999/2018 Commission Regulation (EU) 2017/1485	To be implemented	2030+	Government and other relevant institutions	Lack of capacity to develop such a plan (25) Lack of appropriate structure (all stakeholders should participate and some may not) Regional cooperation (lack of agreements with neighboring countries)
7	Accommodation of transport in the electricity system	Security of Supply	The innovation sector GHG sector RES sector Internal market Transport Sector	Strategic measure	EU Policies on Transport	To be implemented	2030+	Government ERO	Lack of long-term study on the coordination of electricity transport (analysis of the impact of transport on the electricity system)

8	Switching from Electricity to District Heating (Reducing electricity consumption to thermal energy)	Security of Supply	The innovation sector GHG sector RES sector Internal Market	Strategic measure	EU Directive on Efficiency	To be implemented	2025+	Government Other heating systems	Lack of long-term studies Lack of investment Competition in other markets
9	Reinforcing and improving the network	Security of Supply		Strategic measure		To be implemented			
10	Energy poverty	Full Market Liberalization	Market	Strategic measure	Directive 2009/72	To be revised after establishing other energy market measures	2021+	Government ERO Operators	Finalization of the study and its revision as needed
12	Establishment of TSO for Natural Gas	Security of Supply	Market	Strategic measure	PRE PKS-MSA Policy of SKE	To be implemented	2025+	Government KOSTT	Political Challenges ENTSO-G Membership
13	Creation of Natural Gas Infrastructure	Security of Supply	Market GHG RES	Strategic measure	PRE PKS-MSA Policy of SKE	To be implemented	2030+	Government TSO for Gas ERO	Lack of funding Political dependency No Security of supply

2. Internal Market

The thematic group for the internal market dimension faced one of the major challenges, namely determining how the market will look in the coming years, with particular emphasis on the next ten years and prospects by 2050. In addition to numerous discussions, the group thematic of the market dimension, so far, has proposed the following new measures:

- Establishment of TSO for Natural Gas and establishment of rules by ERO
- Creating the Infrastructure for Natural Gas "
- Integration into regional markets of neighboring countries such as Macedonia and Montenegro (the process with Albania is expected to finish sooner)
- Regulation / functionalization of day-ahead and intra-day markets and close to real-time
- revision of primary and secondary legislation on implementation of the 4th package
- Smart Grid
- Creation of electricity storage (pump storage, battery) (Building a storage)
- Demand Side Management
- Study of energy poverty for implementing an integrated plan for energy and climate.
- Amending and supplementing the amendment of support schemes to integrate RES into the liberalized market
- Providing 80% of consumers with smart meters depending on the results of the study and economic evaluation

Initially, the thematic group discussed market liberalization and envisaged its full implementation. The Energy Regulatory Office has designed and published The Manual on Market Liberalization. So far, this document has faced difficulties to implement with the Regulatory Office postponing the deadlines for deregulation of prices year after year. For this, the group has concluded that a completion of this process of market liberalization is needed.

In addition, the thematic group has discussed other current measures. Increasing network flexibility, finishing the evaluation on smart meters, increasing competition in prices (especially for RES investments), etc. were among the most discussed topics and proposed measures.

The thematic group that covered the market dimension, similar to the Security of Supply one, envisioned natural gas as a good way to diversify energy sources and as an important part of the energy transition. Here there were proposed measures for the creation of TSO for gas, then creation of infrastructure for natural gas etc. All of these measures are important to introduce

natural gas into the market. The figure below shows the regional gas infrastructure projects and options for Kosovo to connect.

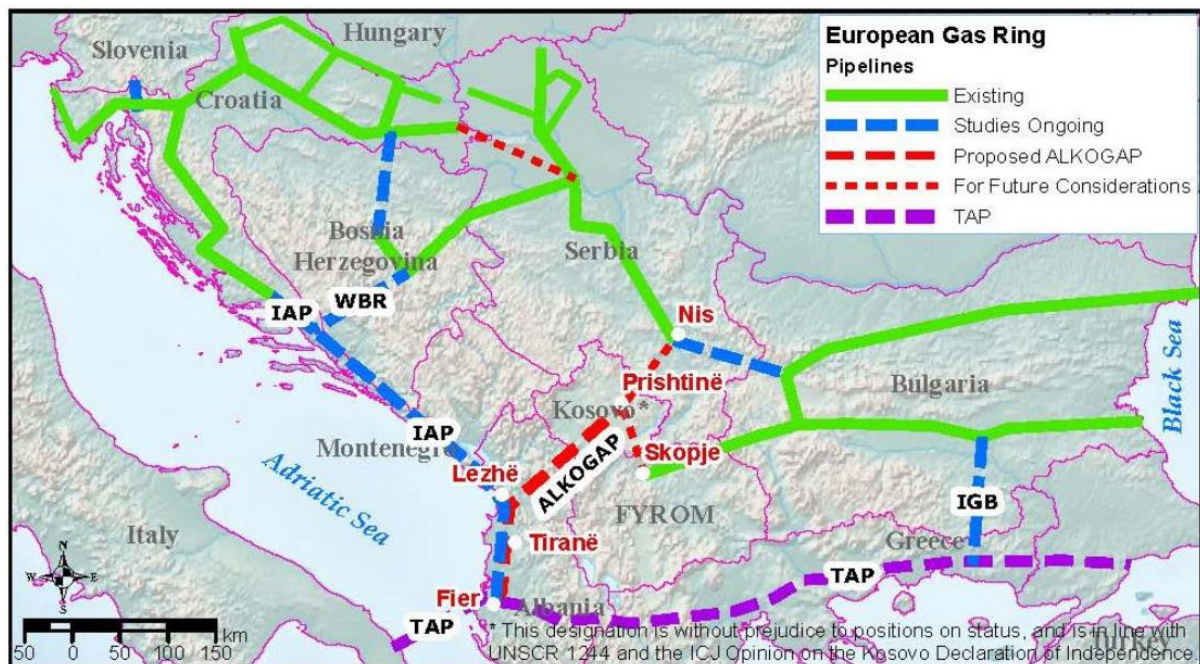


Figure 1. Regional gas infrastructure projects and options for Kosovo to connect. Source: ERO Annual Report for 2018

The design and functioning of the internal market in general in Kosovo, will depend largely in the political, technological and financial environment. The thematic group on Internal Market had to plan both a transition path considering the current agreements with Albania, while considering a future in which the whole region is integrated.

	Internal Market								
	NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	MEASURE STATUS (Implementing, Implemented, To Be Implemented)	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
1	Primary and secondary legislation in the energy market (law on energy, natural gas, electricity)	Energy Market	Market Security supply GHG	Regulatory measure	3rd Energy Package	Implementing	2018-2030	Government of Kosovo and other relevant institutions	Adjusting prosumers. Self-consumption scheme Need for amending / updating
2	Liberalization of the electricity market	Energy Market	Internal market Security supply	Strategic measure	3rd Energy Package	Implementing	2016-2022	ERO	KOSTT's non-affiliation with ENTSO-E Wholesale Agreement between KEK and KESCO The price of production is cheap in Kosovo - thus other suppliers are unable to be competitive in Kosovo Need of new measures from ERO

3	Increased flexibility of the electricity market	Energy Market	Internal market Security supply	Strategic measure	3rd Energy Package	To Be Implemented	2025	ERO, TSO, MED	Smart Grid Aggregation of producers Demand Side Management Lack of Storages Problems with dispatch and re-dispatch.
4	Promotion of electricity prices	Increase of Competition	Internal market Competition	Strategic measure	3rd Energy Package	To Be Implemented	2025+	ERO	Limited range of products No competitive prices for RES Lack of intra-day pricing Lack of stock exchange for setting day-ahead price. (Lack of market day ahead) (Creating stock exchange with Albania will solve this problem) Lack of market liquidity
5	Integration and mapping the market with Albania	Energy Security	Internal market, Security of Supply	Transitional measure	Energy Community Treaty	To Be Implemented	2020	TSO, ERO	
6	Assessment of Smart Meters	Market flexibility	Electricity sector	Strategic measure	3rd Energy Package, Regulation (EU) 2019/943	To Be Implemented	2020	KEDS Assessment by ERO	

7	Feasibility Study for Northern Macedonia - Kosovo Pipeline	Diversification of energy sources	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	PKS - MSA PRE The EU Directive on Efficiency	Approved	2020 - 2021	MED WBIF Grant	Supply uncertainty Political dependence Lack of Expertise on Natural Gas (Lack of Natural Gas Management Discipline at University)
8	Study of the Master Plan for Natural Gas in Kosovo	Diversification of energy sources	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	PKS - MSA PRE The EU Directive on Efficiency	Approved	2020 - 2021	MED WBIF Grant	Supply uncertainty Political dependence Lack of Expertise on Natural Gas (Lack of Natural Gas Management Discipline at University)
9	A prefeasibility study by MCC for Kosovo gasification	Diversification of energy sources	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	N/A	Implementing	2020 - 2021	MCC MED	Supply uncertainty Political dependence Lack of Expertise on Natural Gas (Lack of Natural Gas Management Discipline at University)
10	Southeast European Regional Gas Network Optimization Report on Achieving Maximum Diversification for Natural Gas Supply for Target 2040	Diversification of energy sources	GHG Sector (Positively) Internal market Innovation Sector	Strategic measure	N/A	Implementing	2018-ongoing	USEA / USAID MED	Supply uncertainty Political dependence Lack of Expertise on Natural Gas (Lack of Natural Gas Management Discipline at University)
	NEW MEASURES								

1	Establishment of TSO for Natural Gas and establishment of rules by ERO	Diversification of energy sources	Market	Strategic measure	PRE PKZ-MSA Policies of SKE	To Be Implemented	2025+	The Government KOSTT ERO	Political Challenges ENTSO-G Membership
2	Creating the Infrastructure for Natural Gas	Diversification of energy sources	Market GHG RES	Strategic measure	PRE PKZ-MSA Policies of SKE	To Be Implemented	2030+	The Government TSO for Gas ERO	Lack of funding Political dependency No security of supply Lack of adequate legislation
3	Integration into regional markets of neighboring countries such as Macedonia and Montenegro (the process with Albania is expected to finish sooner)	Energy Security	Internal market, Security of Supply	Strategic measure	Energy Community Treaty	To Be Implemented	2030	The Government KEK KOSTT ERO	Legislative gaps Lack of political will Consumer Protection Policy
4	Regulation / functionalization of day-ahead and intra-day markets and close to real-time	Energy Security	Internal Market, trading market	Regulatory measure	EU Regulation 2016/0379	To Be Implemented	2021	TSO, ERO	Legislative gaps (revision of secondary legislation) Designation of Markets
5	revision of primary and secondary legislation on implementation of the 4th package	Energy Market	Internal market	Regulatory measure	4th Energy Package	To Be Implemented	2030+	MED, Kosovo Assembly	
6	Smart Grid	Energy Market	The innovation sector RES sector Market Sector Supply Security	Strategic measure	EU Directive 2009/72 EU Directive 2009/73	To Be Implemented	2025+	KEDS KOSTT ERO	Lack of long term smart grid study Lack of human capacity for smart grid

7	Creation of electricity storage (pump storage, battery) (Building a storage)	Energy Security	Production	Strategic measure	3rd Energy Package	To Be Implemented	2030+	MED, Private investors	
	Demand Side Management	Energy Efficiency	GHG sector Internal market The innovation sector Supply Security	Regulatory measure	The EU Directive on Efficiency	To Be Implemented	2030	MED, Municipalities	
	Study of energy poverty for implementing an integrated plan for energy and climate.	Full market liberalization	Energy market	Strategic measure	EU Directive 2009/72	To be revised after establishing other energy market measures	2021+	The Government ERO Operators	Finalization of the study and its revision as needed
	Amending and supplementing the amendment of support schemes to integrate RES into the liberalized market	Full market liberalization	GHG sector (Positively) RES sector The innovation sector Internal market	Strategic measure	The EU Directive on Efficiency	To Be Implemented	2040+	Government of Kosovo and other relevant institutions	Completion and amendment of support scheme
	Providing 80% of consumers with smart meters depending on the results of the study and economic evaluation	Energy Efficiency	Internal Market	Regulatory measure	EU Regulation 2016/0379	To Be Implemented	2025	KEDS ERO	

3. GHG (Decarbonisation Dimension)

The GHG Thematic Group discussed extensively on the best ways to foster reduction of emissions and ensure a transformation towards a carbon free future. Among the new measures the group proposed were:

- Revision of the strategy for protecting forests from climate change
- Spatial Plan for Green Environment
- Review of the heating strategy
- Reforestation program (XXX seedlings / year)
- Tax policy - polluters have to pay
- Advancement of waste management
- Promoting smart cities - Mobility plan - Advancement of public transport - Freight transport
- Improvement of road infrastructure
- Incentives to reduce the number of old vehicles. - Increased number of vehicle category pertaining EURO 4
- Promoting the use of electric cars. - Construction of electric charge points
- Strategy for industry

Initially, the group recognized the work done so far, especially in terms of strategic documents. The implementation of the Law on Environmental Protection was mentioned here as important as the Strategy on Climate Change and the Action Plan 2019-2028. A new measure is needed to adapt the Law on Climate Change. However, the implementation of legislation remains a major challenge “In the coming year Kosovo should implement the strategy on climate change adaptation and low emissions development, consistent with the EU 2030 framework for climate and energy policies.”⁵

The group proposed regulatory measures such as the review of the Strategy for Protecting Forests from Climate Change, review of the Heating Strategy, Strategy for Industry etc. In addition, policy measures such as a Spatial Plan focused on green environment, a National Reforestation Plan, reforms in the waste management system, tax incentives etc., were proposed to both adapt and mitigate effects of emissions and pollution.

⁵ European Commission, (2019), Kosovo Report, Environment and Climate Change, page 68, available at <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20180417-kosovo-report.pdf> (accessed in December, 2019)

Green House Gas - GHG								
NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	MEASURE STATUS (Implementing, Implemented, To Be Implemented)	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
1. Law on Environmental Protection - Law on Air Protection	Approximation of the legislation with the Acquis communautaire	All the sectors	Regulative	Regulation (EU) 2019/1010	Implementing	2025	MESP, AMMK	Lack of historical data on GHG (20)
2. Climate Change Strategy and Action Plan 2019-2028 Action Plan 2019-2021	GHG reduction by sectors	All the sectors	Strategic	REGULATION (EU) 2018/1999	Implementing	2019-2028	MESP	Extending the strategy period for Climate Change
3. Administrative Instruction for Substances that damage the Ozone layer. Administrative Instruction for Access to Information on Fuel Costs	Approximation of the legislation with the Acquis communautaire, Greenhouse Gas Inventory, GHG reduction by sectors	Transport	Regulative	Regulation (EC) 1005/2009	Implementing	2013+	MESP	Non-implementation of AI (1,3,4)

4. Administrative Instruction for monitoring greenhouse gas emissions. Administrative Instruction on the capture and storage of CO2 in geological form	Approximation of the legislation with the Acquis communautaire, Low CO2-GHG Sustainable Development, GHG reduction by sectors	Public Health All the sectors	Regulative	REGULATION (EU) 2018/1999	Implementing	2018+	MESP	Drafting of the Law on Climate Change (6)
6. Law on Climate Change	Approximation of the legislation with the Acquis communautaire, Protection from natural disasters due to climate change	All the sectors	Regulative	REGULATION (EU) 2018/1999	To be implemented	2020+	MESP	Review of energy strategy in line with new targets in GHG reduction (8)
7. Water Strategy 2015-2034	Definition of low emission zones (12,16,23,26,31,32)	Agriculture All the sectors	Strategic	Commission Directive (EU) 2015/1787	Implementing	2015-2034	MESP	Waste system review. - GHG reduction measures - Media protection measures. - Updating the timeframe of the plan in relation to NECP
8. Energy Strategy 2017-2026	Heating network expansion, cogeneration, city heating, 4G system - power supply (13,23,27,35)	All the sectors	Strategic	3rd Energy Legislation Package	Implementing	2017-2026	MED	The lack of concrete measures in the forestry strategy (reforestation) Deadlines / NECP (10,11)

9. Waste Strategy 2013-2022 (The draft is being processed)	Raising awareness	Waste Management	Strategic	Directive 2008/98/EC	Implementing	2013-2022	MESP	Failure to implement forest protection law - Lack of thoughtful control of forests in the north and throughout Kosovo (10,11)
10. Forestry strategy	Unification of the waste strategy - Extension of the contract for the country's defense - Law enforcement in forest protection	Education	Strategic	The European Union Timber Regulation (EUTR)	Implementing	2010-2020	MESP	Review of the spatial plan in accordance with NECP - Coordination between central and local level
11.Strategy for protecting forests from climate change 2012	Harmonization of strategies and legislation of all sectors in accordance with NECP	Trade	Strategic	The European Union Timber Regulation (EUTR)	Implementing	2020+	MESP, MAFRD	Review of heat strategy timeline / Compliance of measures with NECP
12. Spatial plan	Ghg reduction	Mines and minerals, Waste management, Education	Strategic	Digital Single Market and Smart Cities policy	To be implemented	2020+	MAFRD	Law enforcement on fuel quality - Fines, Licenses
13. Heating Strategy 2011-2018	Approximation with EU Aquis	Mines and minerals, Waste management	Strategic	Energy Efficiency Directive (12/27/EU),	Implementing	2011-2018	MED	Lack of municipal strategy for air / Environmental quality (16)
14. Law on Petroleum and Oil Derivatite	Approximation of the legislation with the Acquis communautaire	Trade	Regulative	EU's Oil Stocks Directive (2009/119/EC	Implementing	2020+	MTI	Design and implementation (21,24,25,26,27,28,29)

15. National Emission Reduction Plan 2018-2027	Reduction of emissions	Trade, Mines and Minerals	Strategic	2020 Climate and Energy Package	Implementing	2018-2027	MESP	Drafting Legislation for EURO 5 - Incentives for new cars - Construction of charging points (33,34)
16. Drafting the municipal strategy for air / environment quality - Action Plan	Reducing air and pollution emissions	Mines and minerals, Waste management	Strategic	Regulation (EU) 2019/1010	Implementing	2020+	MESP, Association of Municipalities	Incentives for Green Technology (23)
17. Environmental awareness campaign	Raising awareness	Waste Management	Strategic	Regulation (EU) 2019/1011	To be implemented	2020	MESP, AMMK	Establishing the industry strategy in accordance with NECP (35)
18. Long-term development strategy	Approximation of the legislation with the Acquis communautaire	Trade, Mines and minerals	Strategic	Regulation (EU) 2019/1012	To be implemented	2020-2050	Kosovo Government	
19. Implementation of GHG emissions trading system	Approximation of the legislation with the Acquis communautaire	Trade, Mines and minerals	Transitional	Directive 2004/101/EC	To be implemented	2022	ERO	
20. Definition of base year for GHG	Better policy planning	Mines and Minerals	Strategic	REGULATION (EU) 2018/1999	To be implemented	2020	MESP	
21. The tax on carbon	Reduction of emissions	Trade	Transitional	EU Green Deal	To be implemented	2025	ERO	
22. Study on emission data from all sectors	Better policy planning	Trade, Mines and minerals	Strategic	REGULATION (EU) 2018/1999	To be implemented	2023	MESP	
23. The use of green technologies in the energy sector	Reduction of emissions	Trade	Strategic	Renewable energy directive 2018/2001/EU	To be implemented	2020+	MESP, AMMK	
24. Review of the forestry strategy	Approximation with EU acquis	Mines and Minerals	Strategic	The European Union Timber Regulation (EUTR)	To be implemented	2020	MESP	

NAME OF THE NEW MEASURES								
25. Revision of the strategy for protecting forests from climate change	Reduction of emissions	Mines and Minerals	Strategic	The European Union Timber Regulation (EUTR)	To be implemented	2020	MESP	
26. Spatial Plan for Green Environment	Better policy planning	Mines and Minerals	Strategic	Digital Single Market and Smart Cities policy	To be implemented	2022	MESP	
27. Review of the heating strategy	Approximation with EU Aquis	Mines and Minerals	Strategic	Energy Efficiency Directive (12/27/EU),	To be implemented	2021	MED	
28. Reforestation program (XXX seedlings / year)	Reduction of emissions	Environment	Strategic	The European Union Timber Regulation (EUTR)	To be implemented	2020	MESP	
29. Tax policy - polluters have to pay	Approximation with EU Aquis	Trade	Regulative	Directive 2004/35/EC	To be implemented	2020	MF, MESP	
30. Advancement of waste management	Reduction of emissions	Industry	Strategic	Directive 2008/98/EC	To be implemented	2020	MECP	
31. Promoting smart cities - Mobility plan - Advancement of public transport - Freight transport	Increased efficiency	Trade	Strategic	Digital Single Market and Smart Cities policy	To be implemented	2025	MECP	
32. Improvement of road infrastructure	Increased mobility	Waste Management	Strategic	Directive 2008/96/EC	To be implemented	2020-2030	MI	

33. Incentives to reduce the number of old vehicles. - Increased number of vehicle category pertaining EURO 4	Approximation with EU Aquis	Trade	Strategic	Directive 2008/96/EC	To be implemented	2021	MF, MESP	
34. Promoting the use of electric cars. - Construction of electric charge points	Approximation with EU Aquis	Trade, Education	Strategic	Directive 2008/96/EC	To be implemented	2021	MI, MF, MESP	
35. Strategy for industry	Better policy planning	Trade	Strategic	SAA	To be implemented	2020	MTI	

4. Renewable Energy

One of the main tasks of the Renewable Energy thematic group was to find the best ways in order for the inevitable penetration of renewable resources into the energy transition to be in optimum conditions and by complementing developments in other sectors. Some of the main new measures proposed so far are:

- Application of competitive schemes for RES
- Certificates of Origin for RES
- One Stop Shop for RES
- The agreement to purchase energy - SPA
- Protective measurements for the generation of RES
- Law on Petroleum Products (AI for Biofuels on hold)
- Harmonization between legislations for RES construction and environmental legislation
- Study of biomass for energy production
- Study of potentials for geothermal energy
- Study on the concept of energy storage
- Decentralized thermal pump systems
- Fiscal measures for RES technologies
- Increased application of RES in the transport sector (electro mobility)
- 10,000 home roofs will install solar panels and PV (2030)
- Assessment of the need for development of centralized heating / cooling projects (city heating)
- Public procurement (green procurement)
- Energy cooperatives
- Self-consumption scheme
- Curriculum for alternative energy in vocational schools
- Planning and strengthening the DSO network for RES connections
- Training, information and raising awareness about usage of RES (a, b)
- Revision of forest strategy (a, b)
- Support scheme for heat generation from RES
- Application of the RES projects (KEEF)
- Regional cooperation

Some of these measures such as the application of competitive schemes for RES are among the main measures that are seen as the next step in the development of RES in Kosovo. “Kosovo needs to introduce a market-based approach for cost-effective promotion of renewable energy and integration of renewable energy into the market.”⁶

⁶ European Commission, (2019), Kosovo Report, Energy, page 72, available at <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20180417-kosovo-report.pdf> (accessed in December, 2019)

The thematic group largely discussed about the measures such as studying the potentials for geothermal energy, on the concept of energy storage, on biomass etc. Other measures foreseen include the increased application of RES in the transport sector, assessment of the need for development of centralized heating and cooling projects, promotion of green procurement etc.

Another aspect discussed was the promotion of energy cooperatives. These would be citizens-led initiatives following the cooperative principles meaning the members of the cooperation are part of the decision-making bodies. There needs to be measures to promote these very important initiatives for the energy transition.

RES								
NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	MEASURE STATUS (Implementing, Implemented, To Be Implemented)	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
1. Energy Strategy 2017-2026	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Strategic	3rd Energy Package	Implementing	2017-2026	MED	Longterm SEK up to 2050
2. Law on Energy	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Final consumer	Financial and Informative	4th Energy Package	implementing	2016+	MED, ERO	Completion and Amendment of Current Legislation in Line with the Requirements of the New Directive
3. Law on Electricity	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Transport	Regulatory	5th Energy Package	Implementing	2016+	MED, ERO	Development of Competitive Procedures
4. Law on Energy Regulator	Increased production of energy from renewable sources and consumption of energy produced	Production of electricity	Regulatory	6th Energy Package	Implementing	2016+	ERO	Lack of Functionalization of Issuance of Certificates of Origin

	from renewable sources							
5. National Action Plan on Energy Resources of the Republic of Kosovo 2011-2020	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Strategic	Directive 2009/28/EC	Implementing	2011-2020	MED	Lack of Identifying and Addressing Legal Barriers
6. Administrative Instruction for administrative targets	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Regulatory	Directive 2009/28/EC	To be implemented	2020	MED, MESP	Lack of Regulation for Self-consumption
7. Supporting Scheme - Feed in tariffs	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Internal market	Regulatory	Directive 2009/28/EC	Implementing	2017+	ERO, MED	Lack of Legislation and Infrastructure - (Transport)
8. Authorization procedure for RES construction	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Internal market	Regulatory	Directive 2009/28/EC	Implementing	2020	ERO	Mechanism, Methodology and Regulation Support (10,000 roofs)

9. Application of competitive schemes for RES	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Internal market	Strategic	EU Guidance for renewables support schemes	To be implemented	2020	MED, ERO	Lack of Human and Financial Capacity (Studies)
10. Certificates of Origin for RES	Increased quality of electricity supply (Security of supply)	Internal market	Regulatory	Directive 2009/28/EC	To be implemented	2020+	ERO	Lack of Agreements for Cooperation with some Countries in the Region
11. One Stop Shop for RES	Increased quality of electricity supply (Security of supply)	Industry	Strategic	Directive 2009/28/EC	To be implemented	2020+	MED	Insufficient DSO Capacities for RES Integration
12. The agreement to purchase energy - SPA	Increased quality of electricity supply (Security of supply)	Internal market	Strategic	Directive 2009/28/EC	To be implemented	2021+	MED, ERO	Lack of Legislation (Cooperatives)
13. Protective measurements for the generation of RES	Increased quality of electricity supply (Security of supply)	Production of electricity	Strategic	3rd Energy Package	To be implemented	2022+	MED	
14. Law on Petroleum Products (AI for Biofuels on hold)	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Oil industry	Regulatory	Directive 2009/119/EC):	To be implemented	2020	MTI	

15. Harmonization between legislations for RES construction and environmental legislation	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Regulatory	EU's Regulatory Framework for Legislative Quality	To be implemented	2020	MED, MESP	
16. Study of biomass for energy production	Identification of the potential for new ways of applying RES with less impact on the environment	RES industry	Strategic	Directive 2009/119/EC):	To be implemented	2022	GoK	
17. Study of potentials for geothermal energy	Identification of the potential for new ways of applying RES with less impact on the environment	RES industry	Strategic	Directive 2009/119/EC):	To be implemented	2023	GoK	
18. Study on the concept of energy conservation (energy storage)	Identification of the potential for new ways of applying RES with less impact on the environment	All the energy sector	Strategic	Directive 2009/119/EC):	To be implemented	2023	GoK	
19. Decentralized thermal pump systems	Identification of the potential for new ways of applying RES with less impact on the environment	RES industry	Strategic/Policy	Directive 2009/119/EC):	To be implemented	2020-2030	MESP, MED	

20. Fiscal measures for RES technologies	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	RES industry	Strategic/Policy	Directive 2009/28/EC	To be implemented	2021+	MF	
21. Increased application of RES in the transport sector (electro mobility)	Identification of the potential for new ways of applying RES with less impact on the environment	RES industry	Strategic	Directive 2009/28/EC	To be implemented	2030	MED, MI	
22. 10,000 home roofs will install solar panels and PV (2030)	Identification of the potential for new ways of applying RES with less impact on the environment	Internal market	Strategic	Clean Energy Package	To be implemented	2030	MED, ERO	
23. Assessment of the need for development of centralized heating / cooling projects (city heating)	Identification of the potential for new ways of applying RES with less impact on the environment	RES industry	Strategic	EU strategy for heating and cooling	To be implemented	2025	MESP, MED	
24. Public procurement (green procurement)	Identification of the potential for new ways of applying RES with less impact on the environment	Internal market	Regulatory	EU Green Public Procurement (GPP) policy	To be implemented	2022	MF	

25 Energy cooperatives	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Internal market	Regulatory	EU's Communication on the promotion of co-operative societies in Europe (2004)	To be implemented	2023	MED	
26. Self-consumption scheme	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	Internal market	Strategoc	Clean Energy Package	Implementing	2017+	ERO	
27. Curriculum for alternative energy in vocational schools	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	RES industry	Strategoc	Clean Energy Package	To be implemented	2023	ME	
28. Planning and strengthening the DSO network for RES connections	Security of supply and system balancing	RES industry	Strategoc	EU Directive 2019/944,	To be implemented	2023	ERO, DSO	
29. Training, information and raising awareness about usage of RES (a, b)	Increased production of energy from renewable sources and consumption of energy produced	Education, RES Industry	Strategoc	Clean Energy Package	To be implemented	2022	MED	

	from renewable sources							
30. Revision of forest strategy (a, b)	Identification of the potential for new ways of applying RES with less impact on the environment	Environment	Strategoc	The European Union Timber Regulation (EUTR)	To be implemented	2020	MESP	
31. Support scheme for heat generation from RES	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	RES industry	Regulatory	Directive 2009/119/EC):	To be implemented	2021	ERO	
32. Application of the RES projects (KEEF)		RES industry	Strategic	EU Directive 2012/27/EU	To be implemented	2020+	KEEF	
33. Regional cooperation	Security of supply and system balancing	All the sectors	Strategic	3rd Energy Package	To be implemented	2020+	GoK, TSO	

5. Energy Efficiency

Energy efficiency will be the first necessary step to ensure an effective energy transition. For this, the group proposed the following measures:

- Energy certification of buildings
- Minimum standards for energy performance in buildings
- Inspection of heating, cooling and ventilation system
- Certification Scheme for training and licensing energy auditors
- Energy Audit Program - Implementation of EE Standards in Public Buildings (MED / KEEA)
- Plan to increase the number of buildings according to standards of NZEB
- Defining mandatory and alternative measures for EE
- ECO design and labeling
- EE awareness campaign
- Fiscal measures to promote EE products
- Energy audit in industry
- Energy audit obligations in industry
- Monitoring and reporting system
- Building local capacity for energy management
- Establishment of condominium building associations
- Drafting of regulatory policies on the market enabling the ESCOs
- Procurement Law - Purchase of EE products from the public sector
- Promotion of EE in heating and cooling
- Co-generation of energy
- Heating Study across Kosovo Municipalities
- EE measures in transport
- EE measures in industry
- Application of fines for non-implementation of EE measures in buildings (LPEN deficiency)
- Restructuring of electricity tariffs

Besides the current legislation and policies in place, the energy efficiency thematic group proposed a wide set of measures from promoting energy efficiency in the transport to eco designing and labeling to increasing awareness.

Energy Efficiency								
NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	MEASURE STATUS (Implementing, Implemented, To Be Implemented)	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
Energy Strategy (2017-2026)	Security of Supply, Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Strategic	3rd Energy Package	Implementing	2017-2026	MED	Long-term strategy - 2050
Law no. 06/L-079 on Energy Efficiency	Reduce consumption, create institutional mechanisms to implement EE measures.	All the sectors	Regulatory	3rd Energy Package	Implementing	2018+		Completion and approval of normative acts
Law on Energy	Increased production of energy from renewable sources and consumption of energy produced from renewable sources	All the sectors	Regulatory	3rd Energy Package	implementing	2016+	MED, ERO,	Harmonization of the legal framework
Law of Energy Performance in Buildings	Increase energy performance of buildings, set up minimum standards for energy performance, for auditing, inspections etc.	Construction, Energy Industry	Regulatory	3rd Energy Package	Implementing	2016+	MESP	System of EE professionals; National Register

PKVEE IV (Integration in PKEK)	Increase energy efficiency, implement EE targets	All the sectors	Regulatory	3rd Energy Package	Implementing	2018+	MED	Data collection
Municipal Energy Efficiency Action Plans	Increase energy efficiency, implement EE targets	Local Governance	Regulatory	3rd Energy Package	Implementing	2016+	Municipalities	Functionalization of municipal energy offices; Full operationalization of the fund
Energy Efficiency Fund	Increase energy efficiency, implement EE targets, offer financial instrument	Financial sector	Regulatory	3rd Energy Package	Implementing	2019	KEEF	Focus only on municipal public buildings
KEERP Project	Increase energy efficiency	All the sectors	Transitional	3rd Energy Package	To be implemented	2018+	KEEF	Reporting according to KEEA requirements (NVP / basic template)
MCC Project	Increase energy efficiency	Public, Business, Residential	Transitional	3rd Energy Package	Implementing	2018+	MCC	Delays in the start of project implementation
EEM - PB M.L.K (I KfW Project)	Increase energy efficiency across sectors in Kosovo	Public sector	Transitional	3rd Energy Package	Implementing	2018	EEM	Delays in the start of project implementation
National Strategy for renovating buildings	Reduce consumption, create institutional mechanisms to implement EE measures.	Public sector	Regulatory	3rd Energy Package	To be implemented	2020	MESP	Lack of strategy
The EBRD project for EE	Reduce consumption, increase energy efficiency	Residential sector	Transitional	3rd Energy Package	To be implemented	2017+	EBRD	Lack of investment reporting
Energy certification of buildings	Reduce consumption, create a registry of buildings	Constructi on, Renting sectors	Regulatory	3rd Energy Package	To be implemented	2020	MESP	Lack of secondary capacities and legislation

Minimum standards for energy performance in buildings	Reduce consumption of buildings	Construction, Renting sectors	Regulatory	3rd Energy Package	To be implemented	2020	MESP	Lack of secondary legislation
Inspection of heating, cooling and ventilation system	Increase efficiency, reduce consumption for heating	Public sector, Businesses	Regulatory	3rd Energy Package	To be implemented	2020	MESP	Lack of human capacities and secondary legislation
Certification Scheme for training and licensing energy auditors	Increasing inspecting capacities, Increase knowledge	Public Sector	Regulatory	3rd Energy Package	Implementing	2019	MESP	Lack of human capacities and secondary legislation
Energy Audit Program - Implementation of EE Standards in Public Buildings (MED / KEEA)	Reduce consumption, increase energy efficiency	All the sectors	Strategic	3rd Energy Package	Implementing	2019	MED, MESP	
Plan to increase the number of buildings according to standards of NZEB	Reduce consumption, raise awareness	All the sectors	Strategic	3rd Energy Package	To be implemented	2020	MESP, GoK	
Defining mandatory and alternative measures for EE	Reduce consumption, increase efficiency, raise awareness	All the sectors	Strategic	3rd Energy Package	To be implemented	2021	MED, GoK	
ECO design and labeling	Reduce consumption, raise awareness, protect consumers	Industry, trade	Regulatory	3rd Energy Package	To be implemented	2021	MESP,	
EE awareness campaign	Increase awareness, reduce consumption	Residential sector	Strategic	3rd Energy Package	Implementing	2021	MED	
Fiscal measures to promote EE products	Reduce consumption, increase the number of efficient	Industry, trade	Strategic	3rd Energy Package	To be implemented	2021	MF	

	products in the market							
Energy audit in industry	Reduce the consumption, encourage investments	Industry	Strategic	3rd Energy Package	To be implemented	2021	MESP	
Energy audit obligations in industry	Reduce the consumption, encourage investments	Industry	Strategic	3rd Energy Package	To be implemented	2021	MED	
Monitoring and reporting system	Increase the number of data, provide data-based policy solutions	Public Sector	Strategic	3rd Energy Package	Implementing	2019	MESP, EEA	
Building local capacity for energy management	Reduce consumption, increase energy efficiency	Municipalities	Strategic	3rd Energy Package	To be implemented	2024	Municipalities	
Establishment of condominium building associations	Reduce consumption, increase energy efficiency	Industry	Strategic	3rd Energy Package	To be implemented	2024	MED, MI, Business community	
Drafting of regulatory policies on the market enabling the ESCOs	Reduce consumption, increase energy efficiency	Financial sector, Industry	Regulatory	3rd Energy Package	To be implemented	2021	MED	
Procurement Law - Purchase of EE products from the public sector	Reduce consumption, increase energy efficiency	Public sector	Regulatory	3rd Energy Package	To be implemented	2021	MF	
Promotion of EE in heating and cooling	Reduce consumption, increase energy efficiency	Public sector, Residential sector	Regulatory	3rd Energy Package	To be implemented	2020	MED	
Co-generation of energy	Reduce consumption, increase energy efficiency	Public sector	Strategic	3rd Energy Package	Implementing	2020	MED	

Heating Study across Kosovo Municipalities	Reduce consumption, increase energy efficiency	Municipalities	Strategic	3rd Energy Package	To be implemented	2021	MED, Association of Municipalities, donors	
EE measures in transport	Reduce consumption, increase energy efficiency	Transport	Strategic	3rd Energy Package	To be implemented	2025	MI, MED, MESP	
EE measures in industry	Reduce consumption, increase energy efficiency	Industry	Strategic	3rd Energy Package	To be implemented	2022	MED, MTI, MESP	
Application of fines for non-implementation of EE measures in buildings (LPEN deficiency)	Reduce consumption, increase energy efficiency	Industry	Strategic	3rd Energy Package	To be implemented	2021	MED, MESP, Inspectorate	
Restructuring of electricity tariffs	Improve efficiency, de incentivise consumption	All the sectors	Regulatory	3rd Energy Package	To be implemented	2020	ERO	

6. Innovation and Technology

Innovation and Technology is a great novelty in Kosovo's strategic documents regarding energy and climate. The Innovation and Technology Thematic group proposed some new measures to promote innovation and technology to support the energy transition. These measures include:

- Promotion of Smart cities
- Research on cost-effective development of city heaters
- Research for lower CO2 emissions
- Integrating hot water from the district heating
- Evaluation of the impact of policies on climate change in the economy, environment and society
- Study on PPP funding patterns
- Research on the possibility of applying ICT in the energy and environment sector
- Research on the potentials of exploiting cost-effective energy sources
- Exchange of experiences and knowledge in the field of innovation with the countries of the region
- Research on competitiveness for the economy of green
- Platform for cooperation with universities on adjusting the curriculum

The innovation group had some fruitful discussions about using research measures as well as policy and regulatory measures to promote technology and innovation. In order for the new measures to be implemented, a great deal of support is needed from both local and international donors. "The relevant EU programmes and instruments shall contribute to the upgrading of educational, training, research and innovation structures and activities in Kosovo".⁷

⁷ EU/Kosovo (2016), Stabilization and Association Agreement, article 107, available at [http://www.kryeministri-ks.net/repository/docs/Kosovo-EU_SAA_Final_2.pdf?cf_chl_jschl_tk_=0b6b6cb1fe18470f9838463dffffdacc6a7a7b245-1577097831-0-\(accessed on AaFcerv6LOAECK-QYKlx5OPI8o-dEme9YNvWOKaTEzcBExijXOppXZTNbzUPbODtnS0wKGiZcs0Jv TCzpSDEbILWBWNtEfigE1 eYzpIcxxpAPVRYC5nCbaDIQKhRPEJE0zZWgpw78b0jLZGigIBkuPF-skbFaS5z4edRvIljb8fIAKwVT81mrIfE46A2EnKMqYcqN5OsmUXLMntEYTLeeb-Hlof47yp6lxePRejU3X6lp9J55jid59VMpLyqyeLxrN3zF79dPx1ad6uP4jyaxPiS6B7rXlZcjuyo ovWoYa44g8xmJ9dVzrbEsQw](http://www.kryeministri-ks.net/repository/docs/Kosovo-EU_SAA_Final_2.pdf?cf_chl_jschl_tk_=0b6b6cb1fe18470f9838463dffffdacc6a7a7b245-1577097831-0-(accessed on AaFcerv6LOAECK-QYKlx5OPI8o-dEme9YNvWOKaTEzcBExijXOppXZTNbzUPbODtnS0wKGiZcs0Jv TCzpSDEbILWBWNtEfigE1 eYzpIcxxpAPVRYC5nCbaDIQKhRPEJE0zZWgpw78b0jLZGigIBkuPF-skbFaS5z4edRvIljb8fIAKwVT81mrIfE46A2EnKMqYcqN5OsmUXLMntEYTLeeb-Hlof47yp6lxePRejU3X6lp9J55jid59VMpLyqyeLxrN3zF79dPx1ad6uP4jyaxPiS6B7rXlZcjuyo ovWoYa44g8xmJ9dVzrbEsQw)

Innovation								
NAME OF THE EXISTING MEASURE / POLICY	OBJECTIVE	THE SECTOR AFFECTED	TYPE OF MEASURE	COMPLIANCE WITH EU POLICIES (DIRECTIVES)	MEASURE STATUS (Implementing, Implemented, To Be Implemented)	IMPLEMENTATION PERIOD	ENTITY RESPONSIBLE FOR IMPLEMENTATION	GAP
1. Innovation & Entrepreneurship Strategy 2019-2023	Promote Innovation	All sectors	Strategic	SAA Article 118	Implementing	2019-2023	Ministry of Innovation	Lack of compliance with the NECP timeline Non-coverage of climate and energy fields
2. Administrative Instruction for innovation & entrepreneurship	Promote Innovation	All sectors	Regulatory	SAA Article 119	Implementing	2020	Ministry of Innovation	
3. Law on Industrial Property	Promote innovation	Internal Market	Regulatory	Directive 2004/48/EC	Implementing	2020	Ministry of Justice	
4. Law on Innovation and Transfer of Knowledge and Technology	Support innovation	Education	Regulatory	SAA Article 118	Implementing	2021	Ministry of Innovation	
5. AI for the separation of funds from the economic categories of	Support innovation	All sectors	Strategic		Implementing	2019+	Kosovo Government	

Subsidies & Transfers								
6. Emissions reduction technology research	Lower costs of decarbonisation	Production	Strategic	EU) Directive 2016/2284	Implementing	2020+	Ministry of Education, MESP	The need of experts Knowledge sharing Funding
7. Program for supporting new efficient technologies	Support innovation	Industry	Strategic	Energy Efficiency Directive (2012/27/EU)	Implementing	2020+	Ministry of Education, MED	The need of experts Knowledge sharing Funding
8. Law on Standardization - Law on Accreditation	Increase quality of products and promote innovation	Industry	Regulatory	Regulation (EU) 1025/2012, Europe 2020 Strategy for smart, sustainable and inclusive growth	Implementing	2018+	MTI	Improper implementation of standards, technical, management, products
9. Certification of product quality	Promote Innovation	Industry	Regulatory	Regulation (EU) 1025/2012	Implementing	2018+	MTI, Conformity Bodies	Lack of accreditation bodies for product certification
NEW MEASURE								
10. Use of research by other thematic groups	Integrate innovation into other sectors	/	Strategic	/	To be implemented	2019	Innovation group	The need of experts Knowledge sharing Funding

11. Smart city	Promote Innovation	Local governance	Strategic	European Innovation Partnership on Smart Cities and Communities (EIP-SCC)	To be implemented	2020+	Municipalities, Kosovo Government	Lack of space, environment, utilities, mobility, Smart City developing plans The need of experts Knowledge sharing Funding
12. Research on cost-effective development of district heating systems	Support innovation	Local governance	Strategic	the Energy Efficiency Directive (12/27/EU),	To be implemented	2020+	Municipalities, Kosovo Government	The need of experts Knowledge sharing Funding
13. Research for lower CO2 emissions	Reduce emissions	Industry	Strategic	Regulation (EU) 2019/631	To be implemented	2021	MESP	Lack of technical capacity for measuring and monitoring emissions of GHG
14. Integrating hot water from the district heating	Reduce emissions	Heating	Strategic	the Energy Efficiency Directive (12/27/EU),	To be implemented	2025	MED	The need of experts Knowledge sharing Funding
15. Research of energy sources	Diversify production	Renewables	Strategic	EU Directive 2018/2001/EU	To be implemented	2022	MED	The need of experts Knowledge sharing Funding
16. Evaluation of the impact of policies on climate change in the economy, environment and society	Improve evidence-based policymaking	All sectors	Strategic	Regulation (EU) No 525/2013	To be implemented	2020+	MED, MESP	Lack of a study on assess the impact of policies on Climate Change in Economy, Environment and Society
17. Study on PPP funding patterns	Increase funding opportunities	All sectors	Strategic	EU Digitising Industry strategy	To be implemented	2021	Kosovo Government	Lack of technical capacity for measuring and monitoring emissions of GHG

18. Research on the possibility of applying ICT in the energy and environment sector	Increase efficiency	Education, Energy	Strategic	Digital Single Market	To be implemented	2021	MPA, MESP	Lack of technology
19. Research on the potentials of exploiting cost-effective energy sources	Diversify production	Renewables	Strategic	EU Directive 2018/2001/EU	To be implemented	2022+	MED	The need of experts Knowledge sharing Funding
20. Exchange of experiences and knowledge in the field of innovation with the countries of the region	Increase mobility	Regional Cooperation	Strategic	WB6 Connectivity Agenda	To be implemented	2020+	MFA, MED, MESP	Lack of regional agreements and cooperation
21. Research on competitiveness for the economy of green	Increase economic benefits	Industry	Strategic	DIRECTIVE (EU) 2019/1	To be implemented	2020+	MTI, KCA	The need of experts Knowledge sharing Funding
22. Platform for cooperation with universities on adjusting the curriculum	Linking economy with education and promoting innovation	Education	Regulatory	DIRECTIVE (EU) 2019/2	To be implemented	2021+	ME	Lack of personnel, curriculum, lack of practical university-cooperation