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Ministry of Economy

Ministarstvo Ekonomije-Ministry of Economy

DRAFT CONCEPT PAPER ON THERMAL ENERGY

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Content

Summary of the Concept Paper

General information	
Title	**Concept Paper on Thermal Energy**
Ministry in charge	**Ministry of Economy,** ***Department of Energy***
Contact person	**Rina Kryeziu- Rogova** Heating and Natural Gas Systems Senior Officer Email: rina.kryeziu.rogova@rks-gov.net Office phone number: 038 200 215 73
NDP	**National Development Plan 2024-2026**, Strategic goal 2.1- Enhance security of energy supply, sustainability and affordability, Strategic measure 2.1.6- *Enhance policy and legislative frameworks*
Strategic priority	**1. Energy Strategy of the Republic of Kosovo 2022-2031**[1] Strategic Objective 2: Decarbonization and promoting renewable energy; Specific Objective 2.3: Promoting sustainable use of renewable energy in heating • *Promoting more efficient and cleaner systems for individual and/or district heating considering RES (e.g., biomass, geothermal heating and heat pumps)* • *Diversification of the technology of the existing DH system of Prishtina by 2025, in order to include solar heating of at least 50 MW_{th}* Strategic Objective3- Increasing energy efficiency Specific Objective 3.1: Improving the energy efficiency of buildings • *Supporting energy-efficient and environmentally friendly technologies such as heat pumps and solar thermal systems* Specific Objective 3.2: Promoting efficient cogeneration and efficient district heating systems • *Promoting efficient district heating systems by doubling the existing cogeneration capacity.* **2. Kosovo Energy Strategy Implementation Program (KESIP) for the period 2022-2025**[2] Point III.2 - Specific Objective: Promoting efficient cogeneration and efficient district heating systems

[1] https://kryeministri.rks-gov.net/wp-content/uploads/2023/03/Strategjia-e-Energjise-e-Republikes-se-Kosoves-2022-2031.pdf
[2] https://me.rks-gov.net/wp-content/uploads/2023/10/PZSEK-2022-2025_SHQ.pdf

	Point III.2.3- Action: *Doubling the cogeneration capacity and expanding the transmission network of Termokos/KEK enterprises by 2025* **3. Program of the Government of the Republic of Kosovo for the period 2021-2025[3]** Point 2.14.1-*Creating conditions for sustainable energy supply* **4. European Reform Agenda (ERA II)[4]** Priority 2.2: *Commitment to meeting energy efficiency and renewable energy targets* **5. Medium-Term Expenditure Framework 2025-2027[5]** Priority 2 (Energy sector): Increasing the share of renewables in the energy mix, Main direction/orientation for implementation 2.2: *Promoting the use of renewable energy for heating*

Decision	
Main issue	The energy supply in Kosovo continues to be dominated by lignite as a fossil fuel, the combustion of which results in significant environmental pollution. Moreover, the existing electricity generation capacities are based on thermal power plants with outdated technology, which requires regular and costly maintenance. An aggravating factor in this regard arises from the heating sector, where a large portion of residential buildings use electricity for heating. Such situation is negatively reflected both in the economic aspect of the households themselves due to the significantly higher cost of heating with electricity, but also in the significant increase in electricity consumption in the winter period. The appearance of bottlenecks in the electricity supply and production sector, as result of such situation, has a negative impact on the profitability of manufacturing entities, commercial enterprises, the service sector and other economic areas. Consequently, the continuation of such a situation will inevitably be accompanied by long-term economic consequences as result of the burden on household budgets, the reduction of the possibility of enterprise development and the limitation of the possibility in creating new jobs. On the other hand, the successful implementation of the thermal and electricity cogeneration project at the Kosovo B thermal power plant, utilizing the network of Termokos, has demonstrated that this form of heat generation can be highly beneficial in stabilizing the supply of thermal energy and consequently the supply of electricity. Such experience has also been reflected in the planning of new cogeneration capacities, diversification of energy sources that can be used for

[3] https://masht.rks-gov.net/wp-content/uploads/2022/06/Programi-i-Qeverise-se-Kosoves-2021-2025.pdf
[4] https://kryeministri.rks-gov.net/wp-content/uploads/2022/05/1-PV-ERA-II-miratuar-nga-Kuvendi.pdf
[5] https://kk.rks-gov.net/vushtrri/wp-content/uploads/sites/33/2024/07/KASH-2025-2027.pdf

	district heating needs, as well as in the expansion of the network to other municipalities. However, such plans have not been followed up by an update of the legal basis, which would regulate the implementation of the relevant strategic objectives related to thermal energy. In order to overcome this situation, the drafting of the current concept paper has been initiated to provide a detailed overview of all issues, challenges, causes, and consequences if there is no change in the situation. Based on the analysis of the concept paper, experiences of other countries, discussions within the working group, and consultations with other relevant stakeholders, the working group has recommended the option which would enable the drafting of a comprehensive legal basis, in line with EU directives, to promote the inclusion of alternative forms of energy generation, capacity expansion, promotion of competition, quality of services, support for cooperation between central and local authorities, timely planning and according to standards of sanitary water heating through the district heating network, appropriate addressing of uncertainties related to the cost of operation and maintenance of the secondary network, as well as the inclusion of relevant provisions of a preventive nature against potential abuses and omissions by the parties.
Summary of consultations	To be completed after the preliminary and public consultation process.
Proposed option	To draft a new Law on Thermal Energy with the aim of addressing current challenges, improving thermal energy efficiency, supporting the use of renewable sources and integrating new technologies, in accordance with EU legislation and in order to ensure a sustainable supply of thermal energy.

Main expected impact	
Budgetary impact	The options considered are covered by the budget of the Republic of Kosovo as well as donor support.
Economic impact	• Encouraging domestic and foreign investments in the sector of diversifying energy sources used for heating; • Diversification of heating sources primarily through increasing the share of renewable energy sources and the application of advanced technologies such as heat pumps reflect not only in reducing negative environmental impacts but also in reducing the cost of thermal energy supply and increasing the security of energy supply;

	• Reduction of the cost for thermal energy and improvement of energy supply have a direct impact on business growth and the creation of new jobs in the sectors of production, installation, maintenance, and servicing.
Social impact	• The creation of a sustainable thermal energy supply system reduces energy poverty among the population; • Increased employment generally reflects in the improvement of the population's well-being; • Stability of thermal energy supply has a direct impact on the comfort of life, work, and education of citizens; • Diversification of thermal energy supply sources is reflected in stable supply and balanced energy prices; • Utilization of environmentally friendly energy sources, such as renewable energy sources for thermal energy supply needs, influences the increase of citizens' awareness of the importance of the rational use of energy sources; • Reduction of environmental pollution as a result of the application of renewable sources for heating is directly reflected in the improvement of citizens' health.
Environmental impact	• Utilization of renewable sources and modern technologies for providing thermal energy significantly reduces environmental pollution; • Through the reduction of CO_2 emissions and other greenhouse gases, the country marks progress towards fulfilling obligations under the Energy Community Treaty regarding climate change mitigation.
Cross-sectoral impact	• Investments in the thermal energy sector are interconnected to the growth of the industrial sector, reduction of unemployment, and the increased need for training and qualification of young people in the field of thermal energy technology and renewable energy sources; • Other impacts are related to infrastructural developments and urban planning.
Administrative burdens for companies	The following burdens may arise: • Administrative burdens related to the licensing of various activities by the Regulator; • Burdens for increasing administrative capacities for monitoring and reporting related to the implementation of the new law; • Burdens related to increasing administrative capacities for measurement, billing, and informing consumers.
SME test	The improvement and expansion of opportunities for thermal energy supply reflect positively in the SME sector. This is because sustainable and competitively priced thermal energy supply creates financial stability for enterprises and better working conditions. Such developments create the possibility for new investments and thus are reflected in increased production and improvement of services offered by the respective enterprises.

Next steps	
Short-term	Following the approval of this Concept Paper by the Government of the Republic of Kosovo, a new working group will be established by the ME, in cooperation with all stakeholders, to begin work on implementing the recommended option of this Concept Paper – drafting the new Law on Thermal Energy.
Medium-term	Following the approval of the Concept Paper and then the drafting and approval of the new Law on Thermal Energy, meetings, public debates, and workshops will be organized to promote the new law with the aim of informing central and local level institutions about its implementation. In parallel, the Ministry of Economy, in cooperation with other sector actors, will begin drafting, supplementing, and issuing the necessary secondary legislation for the implementation of the new Law on Thermal Energy. The drafting of new legislation on thermal energy, including certain activities within the framework of the Law on Thermal Energy, is intended to be finalized no later than the end of 2025. After approval in the Assembly of Kosovo, which is planned to occur by the end of 2025, the process of drafting and approval of secondary legislation will follow, which is planned to be completed by mid-2026.

Introduction

The thermal energy sector in Kosovo faces a series of challenges related to deficiencies in the legal treatment of practical and operational issues and the lack of provisions that would support the implementation of significant development plans anticipated to occur in this field. The current Law on Thermal Energy has not been updated to reflect the advancements and needs of the last decade, resulting in a mismatch between the sector's requirements and the relevant legal framework. In this context, the current document will analyze and address in detail the aspects for which the current law does not provide the necessary legal framework, some of which are presented below in the introduction, and through a comprehensive formulation of the entire current problem as well as a discussion of the causes and consequences, the possible options will be elaborated and the relevant option recommended to be followed by the institutions will be identified. Furthermore, the option that will be recommended, in addition to serving to address the challenges presented below, will also serve to fully transpose several relevant aspects of the EU legal framework such as, for example, the method of determining the cost of heating and cooling in multi-apartment buildings or buildings with multiple purposes, the deadlines related to smart meters and the need to specify minimum amounts of energy from RES within building codes.

Due to the need for a better and stable energy supply, in the last decade there has been progress in stabilizing the supply of thermal energy based on cogeneration of electricity from Kosovo B, while new capacities, network expansion, and utilization of renewable energy sources for thermal energy needs, have been planned.

However, the existing legal framework is insufficient to provide the necessary legal framework which would serve to promote the construction of new energy cogeneration capacities across Kosovo's municipalities, more active involvement of municipal authorities in such developments, promotion of competition to improve services and ensure actual and stable costs for the provided service, adequate regulation of access to public and private properties for the needs of network extension, addressing the manner of covering common areas with thermal energy, addressing the responsibility for maintenance and operation of the respective network, as well as clarifying contentious situations to prevent legal disputes. Also, as a result of incomplete transposition of the relevant provisions of the EU Legal Framework, the current legal basis does not correspond with Kosovo's obligations regarding the Energy Community and the commitments within the Sofia Declaration, related to the improvement of energy efficiency in the heating sector and the inclusion of alternative forms of energy generation to enable energy transition and reduction of environmental pollution.

As a result, alongside updating of a part of the legislation that covers different segments of energy, the drafting of this concept paper has been initiated, with the aim of a detailed analysis of the situation, evaluation of alternatives, and issuing an appropriate recommendation for institutions with the aim of creating a modern legal basis, in accordance with the country's needs and in line with EU policies in the field of thermal energy.

Table 1: Table containing generation information on the Draft Paper

Title	**Concept Paper on Thermal Energy**
Ministry in charge	**Ministry of Economy,** ***Department of Energy*** Energy Policy Drafting Division
Contact person	**Rina Kryeziu-Rogova** Heating and Natural Gas Systems Senior Officer Email: rina.kryeziu.rogova@rks-gov.net Office phone number: 038 200 215 73
NDP	**National Development Plan 2024-2026**, Strategic goal 2.1- Enhance security of energy supply, sustainability and affordability, Strategic measure 2.1.6- *Enhance policy and legislative frameworks*
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	Priority 2.2: *Commitment to meeting energy efficiency and renewable energy targets* **5. Medium-Term Expenditure Framework 2025-2027** Priority 2 (Energy sector): Increasing the share of renewables in the energy mix, Main direction/orientation for implementation 2.2: *Promoting the use of renewable energy for heating*
Working Group	Members of the Working Group based on Decision No. 5091, dt.11.07.2024: 1. Rina Kryeziu - Rogova — DE/ME — Chair 2. Miftar Nika — DE/ME — Member 3. Deniza Krasniqi — LD/ME — Member 4. Mendohije Kabashi — DEIPC/ME — Member 5. Behije Tahiri — DBF/ME — Member 6. Bekim Brahimi — PIU/ME — Member 7. Fahrije Qorraj — HRMU — Member 8. Egzona Raçi — GCS/OPM — Member 9. Jehona Ademi — MFLT — Member 10. Arben Ajazi — MESPI — Member 11. Blerim Halabaku — MIET — Member 12. Arsim Osmani — AKM — Member 13 Dr. Drilon Meha — UP/FME — Member 14. Bajram Seferaj — MAFRD — Member 15. Besim Myrtezani — MLGA — Member 16. Astrit Saraqini — ERO — Member 17. Përparim Kabashi — KEK — Member 18. Valdete Marevci — Termokos — Member 19. Florentina Lamaj — District Heating Gjakova — Member
Additional information	Preparation of this Concept Paper arises from the obligations of the Republic of Kosovo as a signatory party to the Energy Community Treaty[6] and the need to update the legal framework related to thermal energy.

[6] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22006A0720(01)

Chapter 1: Definition of the problem

1.1. Role of Thermal Energy within Kosovo's Energy System

Thermal energy can be interpreted as a form of energy generated in thermal-energetic facilities and transmitted to a specific user, usually through water or steam, with the aim of meeting the needs for space heating or sanitary water heating, namely transmitted through cooled water to meet the needs for space cooling. Regarding the current document, thermal energy represents the energy produced by steam generators through the combustion of lignite or in relevant boilers through the combustion of fuel oil, which thermal energy is transmitted to water which then, as water containing thermal energy, serves to heat buildings. Such an interpretation of thermal energy is mainly found within legal acts that address thermal energy generated within central heating/cooling systems, also known as district heating/cooling systems. However, a form of thermal energy also is the energy generated by individual devices within buildings whose spaces need to be heated/cooled or that require hot sanitary water. Also, should be considered the fact that thermal energy can also be easily obtained as a result of converting electricity in respective electric devices for heating and/or cooling, which often happens in practice.

As mentioned is clear that thermal energy, as concept, is complexly interrelated with other decisive aspects for the proper functioning of the country's energy system, such as energy efficiency, renewable energy sources, the mix of energy sources for the generation of electricity, but also with other elements that characterize sustainable energy development, such as the possibility of recovering (reusing) lost thermal energy. Consequently, a significant role in improving a country's energy efficiency is played by respective devices that enable efficient generation of thermal energy, as well as devices characterized by high efficiency in utilizing this form of energy for heating and cooling needs. Considering that a large share of thermal energy in Kosovo is generated through electricity, while about 96% of it is generated from lignite, we can conclude the significant importance of adequately addressing the generation and utilization of thermal energy for sustainable electricity supply and for reducing environmental pollution. On the other hand, compared to other forms of energy utilization, thermal energy is among the most demanded forms, since about 40% of the total energy consumed in Kosovo is used for the needs of the residential sector, and within this total, thermal energy for heating needs accounts for 66%[7]. A similar situation is reported at the level of EU countries[8,9]. Therefore, for a proper and comprehensive addressing of thermal energy, it is inevitable to treat this form of energy within a broader context that takes into account all relevant aspects for the development and maintenance of a sustainable energy supply system of the types and quantities imposed by demand.

[7] WBC-INCO.NET (2013): Priority Setting to Structure Participation on the 7th Framework program, Background Country Report- Kosovo, Chapter Energy (s.237), https://kec-ks.org/wp-content/uploads/2016/05/National-Reports.pdf

[8] https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

[9] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_consumption_in_households

Among the decisive moments in the history of the establishment of the energy system of the Republic of Kosovo is undoubtedly its membership in the Energy Community through the signing of the treaty of this community in 2005[10]. The commitment of the country's institutions to fulfill obligations in relation to the Energy Community, but also the actual need to overcome practical problems of supplying citizens and the country's economy with energy, has resulted in significant consolidation of relevant institutions for addressing energy, including in a solid strategic and legal framework. In this context, Kosovo is fully committed to drafting strategic documents to build a stable energy system and in line with the EU's efforts for the implementation of energy transition by 2050. Such commitments have also resulted in the transposition of relevant EU directives in the energy sector, in drafting and implementing action plans concerning the improvement of energy efficiency and increasing the share of RES in the current energy mix, as well as in building institutional infrastructure. Such commitments are in line with the universally recognized fact that the provision of adequate and sustainable energy services is a prerequisite for sustainable economic development. In the case of Kosovo, the transpose of the legal basis in the field of energy with that of the EU has significantly influenced investments in the RES sector, specifically in the establishment of new capacities based on wind and solar energy. Significant progress has also been recorded in the increase of investments in the field of Energy Efficiency, mainly as investments for the improvement of EE in public sector buildings, while in recent years, within the framework of measures supported by the Kosovo Energy Efficiency Fund, progress has also been recorded in the financial support of the residential sector. Such investments have naturally been accompanied by the creation of new jobs, the sustainability of relevant enterprises, the establishment of new businesses and in general the creation of a vibrant economic field. Of course, investments in the field of RES and EE have been accompanied by relevant progress in the field of the environment, since such measures in Kosovo are directly reflected in the reduction of the dependence of energy supply through the burning of lignite. Consequently, such measures have resulted in the reduction of greenhouse gas emissions and the improvement of air quality, thus having a positive impact on public health.

Another development, also decisive for Kosovo's overall progress on the path of European integration and in this aspect also in the energy sector, was marked by the ratification of the Stabilization and Association Agreement in 2015, whereby the Republic of Kosovo undertook, inter alia, obligations for the transposition of EU directives in the field of energy, such as those related to energy efficiency, renewable energy sources, and energy performance in buildings.

Another important moment in Kosovo's engagement in supporting EU policies in relation to energy and environmental needs was recently marked by the signing of the Sofia Declaration on the Green Agenda for the Western Balkans in 2020[11]. By signing this declaration, Kosovo, as well as other Western Balkan countries, committed to become part of the European Union's efforts embodied in the agreement known as the "Green Deal", which aims to achieve climate neutrality, promote sustainable development, protect biodiversity, and support the transition towards a green

[10] https://me.rks-gov.net/traktati-per-themelimin-e-komunitetit-te-energjise/

[11] https://www.rcc.int/download/docs/Leaders%20Declaration%20on%20the%20Green%20Agenda%20for%20the%20WB.pdf/196c92cf0534f629d43c460079809b20.pdf

economy by 2050. Completing the legal framework in the thermal energy sector has a direct impact on the development of this sector and thus on the implementation of the measures of the first pillar of the Green Agenda, which is dedicated to climate, energy and mobility. One of the measures foreseen within this pillar of the Green Agenda is the review and completion of relevant legislation that would support the decarbonization of the energy sector, which is also the objective of this document. Other relevant aspects of the Green Agenda related to the development of the thermal energy sector are the improvement of EE in all sectors, the increase in the participation of RES, the development of programs to address energy poverty and renovation financing schemes in the household sector, the promotion of innovative technologies, etc.

1.2. Thermal Energy-related background and issues

Heating, namely the energy needed for space heating and sanitary water preparation, represents the dominant form of thermal energy, although in recent years, as a result of climate change and increased standards, thermal energy in the form of cooling is also being used increasingly. When it comes to heating, this form of energy in the Republic of Kosovo has traditionally been generated through the combustion of wood biomass, but in urban settlements to a considerable extent also by utilizing electricity. Meanwhile, cooling as thermal energy, in the residential sector, is usually produced through air conditioners. Such cooling devices operate by consuming electricity, so high temperatures during summer and increased standards have made in recent years that sudden increases in electricity consumption occur not only during the winter period but also in short periods during the summer. Such development aggravates the electricity supply situation and thus imposes the need for unplanned and high-cost imports from regional countries. The situation becomes especially complex considering that during the summer periods, regular overhauls of certain units of the Kosovo A and B Thermal Power Plants are usually carried out. This situation is very unfavorable also in terms of environmental pollution, considering that electricity in Kosovo is produced over 93% from lignite, the combustion of which results in high and harmful emissions for the environment.

In order to alleviate this situation, in the last decade Kosovo has undertaken a series of measures and made significant investments such as those related to the cogeneration project between Termokos and the Kosovo B Thermal Power Plant, the expansion of Termokos's capacities, integration of thermal energy generation capacities based on RES, and the conducting of a study for the development of cogeneration units in 8 municipalities of Kosovo, other than the municipalities which already have such capacities. As a result of measures to expand heating capacities (according to the implementation of the latest project 2021-2024), 40,880 m of Termokos network pipes have been rehabilitated, expanded and densified, 325 new substations have been built, 225 substations have been rehabilitated and 31 substations have been automated, while in the Gjakova District Heating Plant there has been a renovation of the secondary network and 355 substations have been rehabilitated. A feasibility study for the "Solar4Kosovo" project for

the production of thermal energy from solar energy has also been carried out and the relevant project is under implementation[12,13].

However, such progress related to increasing supply security and expanding existing capacities has not been supported by the respective legal framework. As a result, concrete legal obstacles have arisen regarding the impossibility of including sanitary water heating in the city's central heating system due to the lack of necessary network planning as a result of the failure to address this issue in the current law, the manner of handling arbitrary interventions in the heating network, etc., which have resulted in legal disputes. Other issues that require adequate legal addressing are related to the operational aspects of the sector, such as those related to the generation, distribution, and supply of thermal energy, including those related to the type and structure of operating entities, the manner of network expansion and maintenance, as well as the need for clear addressing of the manner of access to private and public properties for such purposes.

On the other hand, the expansion of district heating capacities planned to occur in municipalities other than those that already have such systems (Prishtina and Gjakova) is difficult to be implemented without constructive and active cooperation of municipal authorities with central ones. However, the current legal framework lacks provisions that require and affirm such cooperation.

Another issue that is proving to be very problematic in the current practice of functioning of this sector and which requires appropriate legal addressing is related to the inability of using district heating to heat sanitary water in residential spaces, and as a result, electricity consumption for these needs continues to be high. In the absence of appropriate legal provisions, the construction of residential complexes continues to occur without the appropriate planning of the hot sanitary water network, and thus even in circumstances of technical possibility for connection to the district heating network, such a thing cannot be implemented due to the lack of the respective secondary network.

Such circumstances related to the inability of heating sanitary water, uncertainties related to the responsibility of maintaining the secondary network in common spaces, but also other similar circumstances are causes of unauthorized interventions and other abuses, for which the necessary punitive measures have not always been foreseen, which would have prevented such cases and would have served for better regulation of the sector.

Consequently, to create a more sustainable legal and institutional framework, in line with the EU legal framework and in function of energy transition, significant legislative changes are necessary to ensure the necessary and planned progress in the thermal energy sector, as well as to achieve the long-term objectives of this sector as foreseen by the country's strategic framework by 2031.

Furthermore, despite the increased need for thermal energy supply for cooling, the current Law on Thermal Energy apart from basic definitions, does not refer at all to this form of thermal energy, namely it does not contain any specific provision or paragraph in relation to the development and integration of efficient and environmentally friendly systems related to district cooling.

[12] https://me.rks-gov.net/wp-content/uploads/2024/05/Raporti-i-progresit-te-Zbatimit-te-PZSEK-se-2022-2023.pdf
[13] https://me.rks-gov.net/wp-content/uploads/2024/08/Raporti-i-progresit-te-Zbatimit-te-PZSEK-se-janar-qershor-2024.pdf

Alongside legal gaps and incomplete addressing of some dimensions of development and organization of the district heating sector, which should have reflected the progress of recent years in the field of these systems, current operators in the market (Termokos and DH Gjakova) testify to numerous cases of legal disputes with consumers, as a consequence of existing legal uncertainties related to the responsibility of maintenance and the manner of handling unauthorized interventions in the secondary network.

1.3. Strategic orientations related to Thermal Energy

Taking into consideration the importance of systems for generation, distribution, and utilization of thermal energy in terms of integrating energy efficiency practices and renewable energy sources in relation to rational energy use, reduction of energy losses, and reduction of environmental pollution, treatment of thermal energy in various aspects occupies a considerable place in all relevant strategic documents as well as in respective legal and sub-legal acts. The ways of treating thermal energy in some of the main strategic documents are elaborated below.

The basic strategic document within which, in various forms, the strategic approach related to thermal energy is presented is the **Energy Strategy of the Republic of Kosovo 2022-2**. Thermal energy in this document is mainly addressed through one of its main forms of manifestation, such as heating, including heating produced through energy cogeneration systems.

Regarding the heating sector, this document highlights that this is the sector with the highest energy consumption compared to all other sectors. The strategy also describes environmental problems as a result of deforestation, a phenomenon which, on the other hand, is linked to high consumption of wood as an energy source in the heating sector. Moreover, as a result of high electricity consumption for heating needs, which on the other hand is mainly generated by lignite combustion, a process characterized by high emissions of CO_2, other greenhouse gases, and dust, the environmental problems have only worsened. Specifically, thermal energy in the form of heating is addressed, for example, within Specific Objective 2.3, which envisages the promotion of more efficient and clean systems for individual and central heating based on the utilization of alternative forms of thermal energy generation, e.g., through RES and heat pumps. Meanwhile, within Specific Objective 3.1, with the aim of increasing the number of efficient buildings, it is foreseen to support the use of efficient technologies for heating generation, such as heat pumps and solar thermal systems. On the other hand, within Specific Objective 3.2, thermal energy is specifically addressed through the forecast of doubling the existing cogeneration capacities of Termokos and adding at least another 50 MW_{th} based on solar energy, but also in the form of improving the efficiency of heat distribution from Termokos and the Gjakova District Heating. In general terms, in the context of energy consumption and energy efficiency, the Strategy envisages the need to review and draft the legal and regulatory framework so that more space is offered to Energy Service Companies (ESCOs), which can have a significant impact also on sustainable thermal energy supply. In relation to achieving targets related to energy efficiency, the Strategy also envisages the review of the Law on Energy Efficiency, the Law on Energy Performance of Buildings, and the Law on Renewable Energy Sources. The last two laws have already been

supplemented/amended and adopted in the Assembly of Kosovo, while the draft Law on Energy Efficiency is in the drafting process.

Based on obligations in relation to the Energy Community Treaty and with the aim of aligning energy policies with EU policies, to achieve climate neutrality by 2050, Kosovo has drafted, or is in the final phase of approving, the National Energy and Climate Plan 2025-2030 (NECP), which should serve as a key instrument in strategic planning of the energy and climate policies of the country. Through this strategic document, the breakdown of strategic orientations and objectives of the Energy Strategy into multiple strategic measures across respective sectors is made. Regarding thermal energy, NECP 2025-2030 has identified as one of its main objectives the increase of the use of district heating systems based on the forecast of a 2.5 times increase in heating demand in 2030 compared to the demand for this type of energy in 2021. In this regard, as one of the main measures to achieve strategic objectives, NECP has envisaged the reconstruction and expansion of the district heating network, while as one of the other key actors for the implementation of NECP has identified the district heating companies. Viewed from a technological aspect, the increase of district heating capacities, besides through the expansion of cogeneration opportunities with Kosova B Thermal Power Plant, to a significant extent is planned to be achieved through the solar district heating system under the Solar4Kosova II project. As one of the other measures towards decarbonization, increasing energy efficiency, energy security, and the dimension of regulating the internal energy market, NECP has also listed the feasibility study of district heating in 8 municipalities, based on which a conclusion is expected regarding the technical and economic feasibility of district heating systems operating through RES, e.g., biomass, geothermal energy, and solar thermal pumps.

In line with strategic orientations, the Republic of Kosovo, by adopting two new laws covering the energy field and the initiation of drafting the law on EE, in some aspects related to thermal energy and which will be discussed in the respective section below, has marked a measurable progress. However, thermal energy, specifically that generated and distributed through district heating systems, has so far been addressed within the current Law No. 05/L-052 on Thermal Energy, approved in 2015. However, although the adoption of this law in 2015 can be considered a significant progress in the energy sector, as noted in the Introduction and section 1.2, shortcomings and gaps have been noted in the practice of its implementation, which should be effectively addressed through an updated legal framework. The updating of the legal basis should be done first of all with the aim of addressing the concrete shortcomings already mentioned, such as those related to the uncertainties regarding the method of billing thermal energy for common areas, the impossibility of using thermal energy for heating sanitary water, the method of handling customer interventions in the heating network, the lack of addressing the role of municipal authorities in expanding cogeneration capacities, the method of promoting competition, as well as the more complete transposition of relevant provisions from the EU legal framework (cost of service in specific cases, deadlines related to smart meters, level of RES used). In addition to such reasons, the very timing of the adoption of the current law has made it impossible to include some of the dimensions of thermal energy that are imposed based on the dynamic developments of the energy sector in the last decade and which have already been included in the relevant EU legal framework.

1.4. Policy documents, legislation, and responsible institutions

As already highlighted few times, the concept of thermal energy is closely related to other forms of energy, therefore, its comprehensive addressing requires taking into account the entire landscape of energy policies, such as the generation of electricity, energy efficiency, renewable energy sources, security of supply, market regulation, environmental impact, etc. Adequate addressing of all such dimensions of energy policies over the years has naturally imposed the need for drafting, approving, and implementing a wide spectrum of strategic, legal, and sub-legal documents by responsible institutions. A summary of strategic and legal documents and responsible institutions is presented in the following table.

Table 2: Policy documents, laws, bylaws and institutions

Policy documents, law or bylaw	**Relationship with the policy or planning document via internet or legal acts in the Official Gazette**	**State Institution(s) responsible for implementation**	**Objective/function/purpose**
Energy Strategy of the Republic of Kosovo 2022-2031	https://kryeministri.rks-gov.net/wp-content/uploads/2023/03/Strategjia-e-Energjise-e-Republikes-se-Kosoves-2022-2031.pdf	Government of the Republic of Kosovo Ministry of Economy Energy Regulatory Office All public institutions	The Energy Strategy has set forth five strategic objectives: 1. Improving System Resilience 2. Decarbonization and promoting renewable energy 3. Increasing energy efficiency 4. Strengthening regional cooperation and market functioning 5. Protecting and empowering consumers
Kosovo Energy Strategy Implementation Program (KESIP) for the period 2022-2025	https://me.rks-gov.net/wp-content/uploads/2023/10/PZSEK-2022-2025_SHQ.pdf	Government of the Republic of Kosovo Ministry of Economy Ministry of Finance Ministry of Labour Energy Regulatory Office Transmission, System and Market Operator Kosovo Electricity	Kosovo Energy Strategy Implementation Program (KESIP) for the period 2022-2025 is a fundamental three (3) year document on the development of energy sector. This document presents detailed activities for the implementation of the measures provided in the Energy Strategy of the Republic of Kosovo for the period 2022-2031.

		Distribution Company Kosovo Electricity Supply Company	
Law No. 08/L-201on Amending and Supplementing Law No. 05/L-081 on Energy	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=79160	Ministry of Economy Energy Regulatory Office	Aims to amend and supplement Law No. 05/L-081 on Energy ("Basic Law") to set out energy saving measures during the emergency period, supervision of the implementation of the measures, and penalty provisions.
Law No. 05/L-081 on Energy	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=12689	Ministry of Economy Energy Regulatory Office	Defines the general principles whereby which the activities in the energy sector in the Republic of Kosovo are managed, aiming to guarantee safe, sustainable and high-quality energy supply, to create conditions for an open, functional, transparent and competitive market. Designs energy policies and is responsible for inspecting, monitoring and planning the development of the energy sector.
Law No. 08/L-258 on the Promotion of the Use of Renewable Energy Sources;	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=89043	Ministry of Economy Energy Regulatory Office	Establishes a general framework for the promotion of the use of Energy from Renewable Sources in the Republic of Kosovo, with the aim to increase the use of Energy from Renewable Sources and Cogeneration in the electricity sector, the heating and cooling sector and the transport sector, with the aim to fulfill the energy needs, increase the security of energy supply, improve environmental protection, as well as provide social and health benefits and promote of equitable

			employment opportunities in the energy sector.
Law No. 06/ l-079 on Energy Efficiency	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=18216	Ministry of Economy Energy Regulatory Office	Defines the necessary legal framework for the promotion and enhancement of energy efficiency in the Republic of Kosovo, aiming to determine energy efficiency targets and achieving these targets in the implementation of energy efficiency action plans, the development of the energy services market and other energy efficiency measures and regulates activities aimed at reducing the energy intensity in the state economy and that contribute to reducing the negative impact on the environment activities related to the energy sector.
Law No. 08/L-242 on Energy Performance of Buildings	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=92131	Ministry of Environment, Spatial Planning and Infrastructure	Aims to define rules, procedures and measures for enhancing energy performance in buildings, taking into account external and local climate conditions, as well as requirements for internal climate and cost-effectiveness.
Law No. 05/L-085 on Electricity	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=12744	Ministry of Economy Energy Regulatory Office KOSTT	Defines the rules and measures for the operation of the electricity sector to guarantee a safe, regular and quality supply of electricity, at actual prices, taking into consideration the preservation of the environment and its efficient use. Defines the role, obligations and responsibilities of different stakeholders in the energy sector.
Law No. 05/L-052 on Thermal Energy	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=11326	Ministry of Economy Energy Regulatory Office	Defines the conditions for development of a sustainable and competitive thermal energy market for concentrated heating/cooling, according to the free market economy,

		District Heatings	meeting consumer demand and protecting the environment, safe, stable and efficient supply of thermal energy, for space heating/cooling, heating of sanitary water and industrial water for consumers to enjoy the right to connect to thermal energy systems and to be supplied with thermal energy according to standards and at an economic price.
Law No. 05/L-084 on Energy Regulator	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=12694	Energy Regulatory Office Ministry of Economy	Defines the powers, duties and functions of the Energy Regulatory Office, including the conditions for issuing licenses to carry out energy activities, certification of transmission system operators, procedures for granting authorizations for the construction of new generating capacity, the creation and efficient functioning of competitive energy markets, and the criteria for regulating tariffs and the conditions of energy supply.
Administrative Instruction No. 09/ 2017 on Municipal Energy Offices	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=15305	Ministry of Economy Municipal Energy Offices	Determine the duties and responsibilities of municipal energy offices, to address issues of planning, implementation and monitoring of energy policies in the local level.
Administrative Instruction No. 02/2023 on the Target of Electricity from Renewable Energy Sources	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=82827	Ministry of Economy Energy Regulatory Office	Determine annual and long-term target on share of renewable energy source in the gross final electricity consumption.
Administrative Instruction No. 01/2023 on Utilization and Support of Energy Generation from Renewable Sources	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=73462	Ministry of Economy	Aims to determine the types of renewable energy sources used for generation of electricity and thermal energy, the power plants that are supported for the use of renewable sources for energy generation, the conditions of use and technical

			standards, the promotion of the support scheme and measures for cooperation such as: statistical transfer, joint support schemes and joint projects for achieving the overall renewable energy targets.
Administrative Instruction No. 05/2017 on Renewable Energy Source Targets	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=14893	Ministry of Economy Energy Regulatory Office	Determine annual and long-term target on share of renewable energy source in the gross final electricity consumption.
Administrative Instruction (ME) No. 06/2021 on Energy Services (ESCO)	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=51726	Ministry of Economy	Aims to promote the development of the national market of energy services in the Republic of Kosovo by defining the rules and procedures for the operation of energy service companies (ESCO).
Administrative Instruction (ME) No. 05/2021 on the General Reporting Framework for Energy Efficiency	https://gzk.rks-gov.net/ActDetail.aspx?ActID=51516	Ministry of Economy	Defines the general reporting framework for the National Energy Efficiency Action Plan and Annual Progress Report including reporting requirements.
Administrative Instruction No. 10/2020 on Common Methods and Principles for Calculating the Impact of Energy Efficiency	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=35757	Ministry of Economy	Sets out the common methods and principles for calculating the impact of energy efficiency.
Regulation No. 02/2020 on Minimum Requirements for Billing and Billing Information Based on Current Consumption	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=35759	Ministry of Economy	Sets out minimum requirements for billing and billing information based on actual consumption.
Regulation No. 01/2020 on Minimum Criteria for Energy Audits including those performed as part of Energy Management Systems	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=33603	Ministry of Economy	Sets out minimum criteria for energy audits including those carried out as part of energy management systems to the extent that this is technically feasible.

Administrative Instruction No. 08/2020 on Certificate/Guarantee of Origin for Electricity Produced from High-Efficiency Cogeneration	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=33495	Ministry of Economy	Determines the requirements regarding Certificate/Guarantee of Origin for Electricity Produced from High-Efficiency Cogeneration.
Administrative Instruction No. 07/2020 on General Conditions for Cost Benefit Analysis for Heating and Cooling Relating to Measures to Promote Energy Efficiency in Heating and Cooling	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=31869	Ministry of Economy	Determines the general conditions for cost-benefit analysis related to measures for promotion of heating and cooling energy efficiency.
Administrative Instruction No. 06/2020 on the Calculation of Electricity from Cogeneration	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=31194	Ministry of Economy	Defines the general principles for the calculation of electricity from co-generation, thus ensuring the correct calculation of electricity from the co-generation process.
Administrative Instruction No. 04/2020 on the Heating and Cooling Efficiency Potential	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=30543	Ministry of Economy	Sets out a comprehensive assessment of energy efficiency potential in heating and cooling.
Administrative Instruction (MEDE) No. 02/2017 on the Type and Quantity of Minimal Reserves of Fuel or Contingency Generation Capacity for Thermal Energy Utilities	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=13427	Ministry of Economy	Aims at determining the type and amount of minimum reserves of fuel, or contingency generation capacity for thermal energy enterprises regarding the short-term protective measures of security of supply, meeting consumer demand, secure, sustainable and efficient supply with thermal energy for heating/cooling of spaces and heating sanitary water.
Regulation No. 05/2020 for the System of Energy Service Providers and Minimum Criteria for Energy Audit	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=28177	Ministry of Economy	Sets out procedures for the functionalization of the system for energy service providers includes energy auditors, energy assessors and independent

			experts, for training and certification, registration, monitoring and enforcement.
Regulation No. 02/18 on National Calculation Methodology for Integrated Energy Performance of Buildings	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=18295	Ministry of Environment, Spatial Planning and Infrastructure	Sets out the calculation methodology used for evaluating the energy performance in buildings of the Republic of Kosovo and shall be used to: • Demonstrate the fulfillment of minimum standards of energy performance in the designated building, at the design stage and in the early stages of construction; • Generate an energy performance certificate for new and existing buildings;
Regulation No. 03/18 of the Procedures on Energy Performance Certification of Building	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=18296	Ministry of Environment, Spatial Planning and Infrastructure	Sets out the procedures on Energy Performance Certification of Buildings, taking into account the calculation methodology, energy estimators, certification, monitoring and enforcement.
Regulation No. 04/18 on Minimum Requirements for the Energy Performance of Buildings	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=18297	Ministry of Environment, Spatial Planning and Infrastructure	Defines the minimum requirements for energy performance in new buildings and in building units renovated or reconstructed in order to achieve the optimal cost levels for different categories of buildings.
Regulation no. 01/2018 on Inspection of Heating and Air-Conditioning Systems	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=16142	Ministry of Environment, Spatial Planning and Infrastructure	Defines the rules of inspection of heating and air-conditioning systems installed in a building, in order to identify obvious deficiencies, report on the general condition, efficiency and capacity of the system in relation to the requirements of the building and recommend cost-effective improvements.
Rule on Licensing Energy Activities in Kosovo	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=92746	Energy Regulatory Office	Aims to create a public, transparent and non-discriminatory licensing procedure that promotes the

			establishment of a competitive energy sector, encourages investment by ensuring the stability and security of energy supply in Kosovo.
Rule on Prosumers of Renewable Resources	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=92747	Energy Regulatory Office	Aims to define the principles and the regulated mechanism for supporting electricity customers that wish to generate electricity at their own premises based on renewable technology for their own use.
Rule No. 03/2022 on Authorization Procedure for Construction of New Generation Capacities, New Systems for the Transmission and Distribution of Gas, Including Interconnectors, Direct Pipelines for Thermal Energy and Direct Electricity Lines and Direct Pipelines for the Transmission of Natural Gas	https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=92726	Energy Regulatory Office	Aims to determine the procedure for the issuance of Authorization for construction of New Generation Capacities, New Systems for the Transmission and Distribution of Gas, including Interconnectors, Direct Pipelines for Thermal Energy and Direct Electricity Lines and Direct Pipelines for the Transmission of Natural Gas.

1.5. Aspects of aligning with the EU legal framework

By signing the Energy Community Treaty in 2005, the Republic of Kosovo, similar to other signatory countries, undertook the obligation to transpose all relevant EU legal acts in the fields of energy, environment, and competition into its national legal framework. Such EU legal acts are an integral part of the policies of the EU's Green Deal[14,15] and are subject to continuous review and supplementing/amending to achieve climate neutrality by 2050. With the signing of the Sofia Declaration on the Green Agenda for the Western Balkans, [16]Kosovo, along with other Western Balkan countries, committed to achieve climate neutrality and thus follow the dynamics of the EU's energy policies.

The basis of EU policies regarding thermal energy, specifically energy for heating and cooling needs, consists of the National Energy and Climate Plans and the respective directives related to

[14] https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/757637/EPRS_BRI(2024)757637_EN.pdf
[15] https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2022/01/green-deal-policy-guide-web-2022.pdf
[16] https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn

Renewable Energy Sources, Energy Efficiency, and Energy Performance of Buildings[17]. The National Energy and Climate Plans 2021-2030[18] of EU member states, approved in 2019, contain 10-year energy targets and are currently being implemented. As mentioned above, Kosovo, within its obligations under the Energy Community Treaty, has drafted and is in the final approval phase of the NECP 2025-2030. On the other hand, the main EU directives related to thermal energy, approved by the Energy Community and currently in force, are[19]:

- Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources;
- Directive 2012/27/EU on energy efficiency and Directive (EU) 2018/2002 amending Directive 2012/27/EU;
- Directive 2010/31/EU on the energy performance of buildings.

Some of the main aspects addressed in Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, which relate to informing consumers, training installers, the minimum share of RES in building heating/cooling, the potential of RES for heating/cooling, access to and operation of the network, as well as specifics of district heating/cooling, are:

- Providing consumers with easily accessible information (on websites or relevant bills) about the energy performance and the share of RES in their district heating/cooling systems;
- Preventing regulatory and technological lock-in in the field of district heating/cooling to enable fuel switching to renewable sources, respectively facilitating consumers' choice among options with higher energy performance;
- Offering consumers protection in the process of their exit from inefficient heating/cooling systems and enabling them to self-produce heating/cooling from renewable sources with significantly better energy performance;
- Including in building codes for new buildings and those undergoing significant renovation a minimum use of renewable energy sources, as long as it is technically, functionally, and economically reasonable;
- Assessing the potential of renewable energy sources for heating and of wasted thermal energy for heating/cooling;
- Developing and implementing certification/qualification schemes for installers of renewable energy technologies;
- Providing guidance to relevant actors, especially planners and architects, to adequately consider the optimal combination of RES, energy-efficient technologies, and district

[17] https://www.interregeurope.eu/sites/default/files/2023-07/Decarbonising%20heating%20and%20cooling.pdf
[18] https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans_en
[19] https://www.energy-community.org/legal/acquis.html

heating/cooling systems during the planning, designing, and renovating of industrial, commercial, and residential spaces;

- Based on the Energy and Climate Plan, taking necessary actions to develop district heating/cooling infrastructure to accommodate heating/cooling from RES and from wasted thermal energy;
- Determining the method of achieving the increase in the share of RES for heating/cooling needs to reach the annual percentage increase specified within Article 23 of the Directive.

Relevant aspects related to thermal energy, which deal with the method of measuring district heating/cooling, the method of determining the cost of heating/cooling, the method of billing and information on heating/cooling, the cost of metering and billing, promoting efficient heating/cooling, and conditions for supporting cogeneration, are also addressed within Directive 2012/27/EU on energy efficiency and Directive (EU) 2018/2002 amending Directive 2012/27/EU, for example:

- Implementing accurate and cost-effective metering;
- Method of conducting metering when the consumer partially uses district heating/cooling and partially uses individually generated heating/cooling;
- The need for meters installed after 30 October 2023 to be remotely readable;
- Billing and consumption information be reliable, accurate, and based on actual consumption;
- Providing consumption cost and history information, including in electronic form;
- Conducting a comprehensive assessment of the potential for applying high-efficiency cogeneration and efficient district heating/cooling;
- Approving promotional policies for the use of district heating/cooling systems at local and regional levels, especially those linked to high-efficiency cogeneration;
- Cases where treaty signatories must ensure cost-effective analysis related to thermal energy installations with a capacity greater than 20 MW;
- The need to take measures to develop infrastructure for efficient district heating/cooling when potential for applying efficient cogeneration and district heating/cooling is identified.

Another relevant directive in the context of thermal energy, specifically Directive 2010/31/EU on the energy performance of buildings, primarily addresses minimum requirements, the method of assessment, certification, and inspection of heating, air conditioning, and hot sanitary water preparation systems as important technical components with significant impact on assessing the energy performance of buildings. However, the directive also addresses some specific aspects of thermal energy related to district heating/cooling systems, such as:

- The need for member states to enable and encourage architects and planners to adequately consider the optimal combination of energy efficiency, use of RES, and district

heating/cooling systems during the planning, designing, construction, and renovation of industrial and residential spaces;

- For new buildings, before their construction begins, a technical, environmental, and economic feasibility study must be considered regarding district or block heating/cooling, especially when such a system is based entirely or partially on energy from RES.

The Energy Community directives listed and commented on above have been partially transposed into the legal framework of the Republic of Kosovo concerning thermal energy through the following laws:

- Law No. 08/L-258 on the Promotion of the Use of Renewable Energy Sources (year 2024);
- Law No. 06/L-079 on Energy Efficiency (2018) - the new law is currently in the adoption process;
- Law No. 08/L-242 on Energy Performance of Buildings (2024).

In terms of the treatment and content regarding thermal energy, Law No. 08/L-258 on the Promotion of the Use of Renewable Energy Sources marks significant progress by addressing issues such as:

- Consumer information aspects;
- Certification/qualification schemes for installers of RES technologies;
- Promotion of the use of RES for heating and cooling;
- Measures for increasing the share of RES in the heating and cooling sector;
- Incentive measures for the use of RES or waste thermal energy for heating/cooling needs;
- The obligation of the thermal system operator to connect and purchase thermal energy for heating/cooling needs produced by third parties;
- The right of consumers to be adequately informed by district heating/cooling suppliers regarding energy performance and the share of RES;
- Connection of any new building to an efficient district heating/cooling system.

Law No. 06/L-079 on Energy Efficiency (year 2018), among other things, addresses the following aspects related to thermal energy:

- The method of measuring thermal energy for heating/cooling;
- A detailed description of the method of informing consumers about consumption, including consumption history for at least the previous 3 years;
- Comprehensive assessment of the potential for applying high-efficiency cogeneration and heating and cooling efficiency;
- Cases where investors or operators are obliged to conduct a cost-effective analysis of thermal energy installations with a capacity above 20 MW;

- The possibility of proposing appropriate measures for the development of efficient district heating/cooling infrastructure if the relevant study identifies a certain potential.

Within the review of the main laws in the field of energy, the draft of the new Law on Energy Efficiency has been prepared, and the respective working group is in the process of finalizing the draft. Regarding thermal energy, the current draft of the EE law addresses the main aspects presented above, except for the aspect of measuring consumed energy and informing consumers, which is intended to be addressed through the respective administrative instruction.

Similar to the EU Directive on the energy performance of buildings, Kosovo's Law No. 08/L-242 on Energy Performance of Buildings focuses on addressing aspects related to the method of inspecting heating, air conditioning, and hot sanitary water preparation systems, the method of assessing their energy performance, the method of certifying buildings from the aspect of their performance, the data that the energy performance certificate should contain, etc. Specifically, regarding thermal energy in the form of district heating/cooling, the Law provides as follows:

- The need to consider the possibility of using alternative district heating/cooling systems, especially those using RES, in the design of new buildings or those undergoing major renovation;
- The need to install district heating/cooling meters in the design of new buildings or those undergoing major renovation.

Alongside the 3 main laws that address various aspects related to thermal energy, Kosovo also has in force the Law on Thermal Energy approved in December 2015, which aims to regulate specifics of thermal energy in the form of district heating, such as generation, distribution, supply, consumer rights and responsibilities, network access, metering, measuring devices, technical codes, and punitive provisions.

Despite the fact that Kosovo's legal basis, including the Law on Thermal Energy, is quite consolidated, in the context of the level and manner of addressing some aspects covered by EU Directives, Kosovo's current legal framework does not fully address some dimensions of thermal energy. In this context, the following aspects are not fully or at all addressed, for example:

- The requirement for member states to adopt transparent and publicly accessible rules for determining heating costs in multi-apartment buildings or buildings with multiple uses, which are supplied with district heating/cooling or where individual heating/cooling systems dominate, to ensure transparency and accountability regarding individual consumption (Directive 2012/27/EU on EE). Within such rules, the method of measuring not only the energy consumed for heating/cooling of apartments but also the energy consumed for heating sanitary water and energy consumed in common areas such as staircases and corridors should be clarified;
- The deadline that meters installed after 30 October 2023 must be smart meters, and the replacement of already installed meters with smart ones should be completed by 1 January 2030 (Directive 2012/27/EU on Energy Efficiency);

- The need for member states to specify minimum amounts of energy from RES within building codes for new buildings and those subject to major renovation (Directive (EU) 2018/2001 on Renewable Energy Sources).

1.6. Problem tree

Based on the preceding analysis regarding the importance of thermal energy for the country's energy system, strategic orientations, institutional development, the current legal framework, and the current state of the thermal energy sector, considering also the level of harmonization of the respective legal provisions with those of the EU, as well as recommendations/guidelines/information from the working group, the entire problem is described below. Initially, the entire problem is presented in the following table in the form of a "problem tree", and subsequently, a more detailed description of the main problem, causes, and effects that would arise if such a problem is not addressed is provided.

Table 3: Problem Tree – effects, main problem, and causes

Effects	1. Inefficient and inadequate treatment of thermal energy within the existing legal framework; 2. Insufficient harmonization of some relevant aspects of thermal energy in existing legal provisions compared to those resulting from EU directives; 3. Limitation of the possibility to promote competition in the thermal energy sector, obstacles in expanding supply capacities, reduction of opportunities for better management of the primary network and reduction of thermal losses, reduction of the possibility for equal access to thermal energy supply, and jeopardizing opportunities to achieve strategic objectives related to EE, RES, and reduction of emissions at the national level; 4. Limitation of the possibility for quality services as a result of insufficiently defined responsibilities related to the maintenance of the secondary network, continuation of legal disputes arising from such undefined situations, and limitation of the possibility to prevent relevant abuses/omissions.
Main problem	The current Law on Thermal Energy is incomplete, does not address the need to promote alternative sources of thermal energy and expand capacities, and does not include addressing other important aspects for the development of the thermal energy sector and the harmonization of relevant legislation with that of the EU.
Causes	1. Different aspects of thermal energy are separately addressed in 4 other laws related to thermal energy, energy efficiency, renewable energy sources, and energy performance of buildings; 2. Some aspects addressed within EU directives, such as those related to rules for determining heating costs in multi-apartment buildings or buildings with multiple uses, timely planning of sanitary hot water heating for multi-apartment buildings, the minimum energy from RES in new buildings/buildings subject to major renovation, and the implementation deadline of smart meters, are not addressed within Kosovo's legal framework;

	3. Relevant aspects related to the functioning of the thermal energy system, such as those related to the type and structure of operating entities in the thermal energy market, the manner of management, expansion, and maintenance of the network, the role of municipal authorities in sector development, are not addressed in the existing Law on Thermal Energy; 4. The existing legal framework does not provide the necessary framework regarding the responsibility and right of maintenance of the secondary network, timely avoidance of various failures, and the manner of sanctioning possible abuses/omissions.

1.6.1. Main problem

Extensive use of electricity to cover needs related to thermal energy for meeting heating or cooling demands in the residential sector, and partially in the services sector, presents one of the main challenges for the country's energy system. As a result of positive experience from the implementation of the cogeneration project with Kosovo B TPP in Prishtina, the district heating company Termokos has planned and is in the phase of implementing the project to double the existing cogeneration capacities. Additionally, Termokos is expected to increase its thermal energy capacity by another 50 MW using solar energy as the primary source. Furthermore, the Republic of Kosovo has undertaken the initiative and is in the final phase of a feasibility study regarding the development of cogeneration units in eight other municipalities of Kosovo. Successful implementation of such a plan would be reflected in a significant improvement in heating supply and a substantial reduction in environmental pollution. In this way, the country could report concrete progress to the Energy Community Secretariat and confirm its commitment concerning the Sofia Declaration on the Green Agenda in the field of improving energy efficiency in the heating sector and reducing environmental pollution. However, a serious challenge in implementing such initiatives may be the outdated legal framework. This is justified by the fact that the current Law on Thermal Energy, approved in 2015, has not undergone any updates that would provide the necessary legal basis to support the mentioned projects. Particularly problematic is the development of the thermal energy sector in municipalities, as the current law does not provide the necessary legal framework for the interaction of municipalities, central institutions, and respective thermal energy operators.

Another problem is the inadequate treatment in the existing law of some extremely important aspects related to adaptations/changes of secondary installations, maintenance, and remediation of failures, as well as the process of metering and billing consumers. As a result of such gaps, disputes often arise between consumers and operators, the resolution of which requires resources, time, and unnecessary expenses.

Within the main problem is also included the negative impact of the non-updated legal framework on the implementation of the country's development plans in the thermal energy sector for heating/cooling needs due to inadequate addressing of specific aspects such as those related to the generation, distribution, supply, and operators of thermal energy, network rules, punitive measures, etc.

1.6.2. Causes

Kosovo's legal framework related to thermal energy contains elements and aspects included in the Law on Thermal Energy, but a considerable part of them is also in three other laws that represent the transposition of respective EU directives in the field of energy efficiency, renewable energy sources, and energy performance of buildings. Although such a legal framework has largely ensured the harmonization of Kosovo's respective directives with those of the EU, treatment in four different documents has resulted in a situation characterized by fragmented treatment of different dimensions of thermal energy in different documents. As a result, the implementation process may be accompanied by uncertainties and dilemmas, which in turn would manifest with negative effects even in the monitoring and reporting phase regarding the level of implementation.

The current Law on Thermal Energy was approved in 2015 and in the meantime has not undergone any amendments, even though in certain cases, other laws approved later refer to the provisions of the Law on Thermal Energy, but these provisions, due to the lack of updating the law, do not offer such regulation. Consequently, some relevant aspects for regulating this sector are not addressed at the appropriate level. In this context, it can also be included, although in few cases, the insufficient transposition of some specific dimensions of EU directives into local legislation.

In addition to the aforementioned deficiencies, the current Law on Thermal Energy does not provide the necessary regulatory framework that would be in function of the positive developments of the last decade in this sector, which are related to the expansion of generation capacities, the need to promote competition in the thermal energy sector, the need for active cooperation of municipal authorities regarding the planning of new capacities, network expansion, and the promotion of alternative technologies and sources for thermal energy generation.

For various objective and subjective reasons, such as lack of experience in implementation and inability to foresee problematic situations, etc., the current law does not provide a sufficient regulatory framework for the process of metering, billing, and adequately informing consumers. Also, the current law does not provide the necessary legal framework regarding the responsibility, manner of maintenance, and respective cost of the secondary network in the case of multi-apartment buildings. The current law lacks provisions that would promote sanitary water heating through district heating systems, e.g., by foreseeing the need for timely planning of the sanitary water secondary network, especially in multi-apartment buildings, and by foreseeing transparent ways of measuring the energy consumed for such needs. Despite the increasing need for space cooling in recent years, the current Law on Thermal Energy does not provide a supportive framework for promoting district cooling systems through the application of efficient systems such as heat pumps, even initially in the form of pilot projects.

1.6.3. Effects

If the current Law on Thermal Energy is not supplemented/amended to reflect the latest developments in this sector, both domestically and in EU policies, the negative effects would act as a deterrent to the current positive development trend of this sector. In this way, the implementation and realization of the objectives set out in the Energy Strategy of the Republic of

Kosovo 2022-2031 could also be jeopardized. In this context, the following negative effects can be mentioned:

- Insufficient and inefficient implementation of various legal provisions scattered across different documents, difficult monitoring, and fragmented reporting;
- Incomplete harmonization of the legal basis with that of the EU regarding thermal energy for heating/sanitary water within specific spaces, time limits related to the installation of smart meters, and the extent of promoting RES within building codes;
- Jeopardizing the accomplishment of developmental objectives and limiting the benefits from the implementation of ongoing projects, thereby reducing the opportunities for significant progress in the decarbonization of the urban part of the heating/cooling sector;
- Insufficient and inefficient utilization of existing resources, particularly renewable energy sources, limiting the possibility of applying new and alternative generation technologies, restricting alternatives for increasing the security and sustainability of supply, limiting opportunities for timely and competent addressing of obstacles related to the expansion of generation capacities and the construction of new capacities;
- Reduction of the possibility for improving the quality of services and for regulating the supply pricing due to the lack of opportunity to open the market and promote competition, as well as due to inadequate and untimely maintenance of the secondary network as a result of undefined responsibilities, maintenance methods, and respective costs;
- Continuation of electricity consumption for sanitary water heating due to the lack of timely planning for the use of thermal energy for such needs.

1.7. Comparison with other countries

Among the countries in the region that have systems for the generation and supply of thermal energy are Kosovo, Croatia, North Macedonia, Serbia, and Bosnia and Herzegovina[20]. Montenegro and Albania do not have generation capacities related to thermal energy but are in the process of implementing such projects[21,22,23]. For the purposes of the current analysis, the situation in North Macedonia and Croatia will be described below.

North Macedonia - The legal framework in the field of energy in this country consists of two laws and the respective sub-legal acts. Such laws are:

- Energy Law[24]

[20] https://bankwatch.org/blog/district-heating-in-the-western-balkans-we-need-clean-modern-heating-that-works-for-everyone-for-the-long-term
[21] https://www.energy-community.org/dam/jcr:77a9cb08-a6bd-4479-9c05-0cbb8b10b015/EnC_IR2023_Montenegro.pdf
[22] https://www.energy-community.org/dam/jcr:1e419b0f-0832-421f-82aa-b66f6a19daa6/CARi_EBRD_0222.pdf
[23] https://bankwatch.org/wp-content/uploads/2023/10/2023_10_16_Scaling-up-investments-in-the-decarbonisation-of-district-heating.pdf
[24] https://www.erc.org.mk/odluki/Izmeni%20na%20Zakon%20za%20energetika_236%2022_AL.pdf

- Law on Energy Efficiency[25]

The Energy Law is the basic and comprehensive law in terms of the aspects it regulates. Among other things, this law provides provisions regulating issues related to electricity, thermal energy, and those related to renewable energy sources. The latest amendment of this law was made in 2022.

The Law on Energy Efficiency was adopted in 2020, with the aim of transposing EU directives related to energy efficiency, energy performance of buildings, labeling of energy products, etc.

The details of relevant issues related to electricity, thermal energy, renewable energy sources, energy performance of buildings, etc., North Macedonia has regulated through respective sub-legal acts. Sub-legal acts related to thermal energy address issues dealing with pricing rules, tariff system, supply rules, quality rules, and network rules[26].

Such a form of regulation is not entirely compatible with the requirements of the Energy Treaty. The latest relevant report on the implementation of energy policies[27] requires North Macedonia to approve the Law on Renewable Energy Sources and amend the Law on Energy Efficiency. Regarding thermal energy, this report specifies that measures are lacking for the integration of renewable sources into the district heating system of Skopje and that billing based on thermal energy consumption is not being implemented.

Based on the presented situation for North Macedonia, regarding the legal framework, it can be said that the Republic of Kosovo stands better, as the spectrum of energy dimensions regulated by law is significantly broader, and in this way, the transposition of relevant aspects from EU directives is more complete.

Croatia - As an EU member state but which can also be considered a regional country, Croatia's energy system is characterized by a consolidated and comprehensive legal framework. Such a framework consists of updated basic laws and numerous sub-legal acts. The existing legal acts are dedicated in a special way to each of the current energy policy dimensions, thus providing a modern legal basis for addressing them in line with the European Union's policies and according to the needs of the country's energy system. The list of such laws is as follows[28]:

- Energy Act;
- Electricity Market Act;
- Gas Market Act;
- Liquefied Natural Gas Terminal Act;
- Thermal Energy Market Act;
- Oil and Oil Products Market Act;
- Biofuels for Transport Act;

[25] https://www.erc.org.mk/odluki/2Zakon_ener_efikasnost_36_2020_AL.pdf
[26] https://www.erc.org.mk/page_al.aspx?id=316
[27] https://www.energy-community.org/dam/jcr:f0c98e19-9500-4b08-981e-c41a1d7827fe/EnC_IR2023_North_Macedonia.pdf
[28] https://www.hera.hr/hr/html/zakoni.html

- Regulation of Energy Activities Act;
- Renewable Energy Sources and High-Efficiency Cogeneration Act;
- Energy Efficiency Act.

Each of these laws is supplemented by the respective sub-legal acts. Due to the importance related to the focus of the current document, some relevant aspects characterizing the legal basis regulating the thermal energy market are presented below.

The thermal energy sector in Croatia is quite developed and plays a significant role in the country's energy stability. Thermal energy produced in district heating systems accounts for about 10% of the total thermal energy used in this country[29] and aligns with the average in the European Union[30]. Although a version of the thermal energy law in Croatia dates back to 2005, the Thermal Energy Market Act with its current name was first adopted in 2013, and until the latest version of 2019, it has undergone five amendments[31].

In order to implement the Thermal Energy Market Act, a total of 8 sub-legal acts have been approved[32]. Through such sub-legal acts, among other things, specific regulation is made of aspects dealing with cost-benefit analysis, the method of determining the tariff for connection to the heating distribution network and for increasing the connection capacity, the method of distributing and calculating costs for delivered thermal energy, general conditions for thermal energy supply, network rules for thermal energy distribution, general conditions for thermal energy distribution, the amount and method of payment of the concession fee for thermal energy distribution and the concession for the construction of energy facilities for thermal energy distribution.

The presented analysis of Croatia's legal basis shows that this country has adopted and implements the respective laws for all relevant dimensions of the energy sector. All such laws are accompanied by respective sub-legal acts, which make it possible to regulate the energy sector in line with all EU strategic orientations and initiatives. On the other hand, Kosovo, despite the progress demonstrated year after year, still has an incomplete legal framework regarding the energy sector. Even in the case of timely updating of the respective laws, or approving new laws such as the Law on the Promotion of RES and the Law on Energy Performance in Buildings, drafting the respective sub-legal acts will take considerable time. On the other hand, the legal basis regulating the thermal energy sector in Kosovo is significantly poorer and outdated compared to Croatia's legal basis. Such a situation has resulted from the lack of updating the Thermal Energy Law since 2015, while Croatia has been very active in updating the respective legal basis and thus has actively promoted the further development of this sector.

[29] https://keepwarmeurope.eu/countries-in-focus/croatia/english/#:~:text=Current%20district%20heating%20systems%20in,through%20combined%20heat%20and%20power

[30] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001

[31] https://www.zakon.hr/z/606/Zakon-o-tr%C5%BEi%C5%A1tu-toplinske-energije

[32] https://www.iusinfo.hr/zakonodavstvo/pretraga/podzakonski-propisi/ZA2013B80A1655

Chapter 2: Purpose and objectives

The purpose of the current Concept Paper is to create a comprehensive, modern legal basis, in compliance with EU policies, which addresses the current challenges and future needs of the thermal energy sector in Kosovo. In this context, it aims to regulate the following aspects:

- Creation of a new legal basis with the aim of effectively regulating the aspects of production, distribution and supply as well as clearly addressing the responsibility of operators in the thermal energy sector, which would increase the reliability of supply and transparency within the sector;
- Creating a sustainable legal basis to support the development of the thermal energy sector with a focus on establishing new cogeneration units based on the use of RES, diversification of resources and innovative technology, which would practically result in reducing Kosovo's dependence on lignite and facilitate the decarbonization of the energy sector as foreseen in Objective 2 of the Energy Strategy of the Republic of Kosovo 2022-2031;
- Building Kosovo's legal framework for thermal energy in full compliance with the latest EU directives and international standards to improve energy efficiency and reduce environmental impacts. This would demonstrate Kosovo's commitment to international obligations in the energy sector and thus enhance its reputation and ability to attract green investments;
- Eliminating existing legal uncertainties in order to increase the level of implementation of the legal framework related to thermal energy. This would improve the monitoring and reporting process, increase transparency and create mechanisms for the effective handling of disputes between consumers and operators, ensuring timely and fair resolution of disputed issues;
- Establishing a clear, transparent regulatory framework for metering, billing and communication with consumers. This will reduce disputes, ensure fair treatment and improve the level of customer satisfaction and trust with the quality of service provided related to thermal energy;
- Creating a legal framework that would effectively support the introduction of new technologies and alternative energy solutions and thus contribute to increasing the security and reliability of thermal energy supply. Such a legal framework would practically result in an efficient, well-regulated and structured sector in a way that would enable the fulfillment of current and future thermal energy demands;

As presented below, the described purpose is consistent with the strategic objectives according to the Energy Strategy of the Republic of Kosovo 2022-2031 and the respective specific objectives in function of achieving the strategic objectives.

Strategic objectives:

- Promoting more efficient and cleaner systems for individual and/or district heating considering RES (e.g., biomass, geothermal heating and heat pumps (Strategic objective 2: Decarbonization and promoting renewable energy, Energy Strategy 2022 - 2031)
- Diversification of the technology of the existing DH system of Prishtina by 2025, in order to include solar heating of at least 50 MW_{th} (Strategic objective 2: Decarbonization and promoting renewable energy, Energy Strategy 2022 - 2031)
- Supporting energy-efficient and environmentally friendly technologies such as heat pumps and solar thermal systems (Strategic objective 3: Increasing energy efficiency, Energy Strategy 2022 - 2031)
- Promoting efficient district heating systems by doubling the existing cogeneration capacity (Strategic objective 2: Decarbonization and promoting renewable energy, Energy Strategy 2022 - 2031)

Specific objectives:

- Drafting the new Law on Thermal Energy as the main legal document that integrates and replaces fragmented provisions across multiple documents, focusing on thermal energy for heating/cooling, and ensuring clarity and adequate treatment of aspects related to the regulation of generation, distribution, and supply of thermal energy;
- Establishing legal provisions that support the expansion of cogeneration capacities and the integration of renewable energy sources, as well as alternative and proven energy technologies, with the aim of reducing dependence on electricity;
- Creating a clear framework for metering, billing, and informing consumers specifically related to thermal energy for heating/cooling;
- Establishing a legal framework that clearly defines the roles and responsibilities of municipal authorities, central institutions, and thermal energy operators to facilitate better coordination and alignment of activities related to planning and management of investments in the field of thermal energy;
- Clarifying and further advancing monitoring and reporting mechanisms, to guarantee transparency, progress monitoring, and efficient addressing of any disputes, thereby improving overall governance and accountability within the sector.

By achieving these strategic and specific objectives, the new Law on Thermal Energy will address the limitations of the current legal framework, support the development of the sector, and contribute to Kosovo's broader energy and environmental goals. Considering that thermal energy is a specific form of energy that must also be addressed in the context of improving energy efficiency and integrating RES, the objectives elaborated above are in line with other existing government documents of the Republic of Kosovo. Such an interconnection is presented in the following table.

Table 4: Relevant Government Objectives

Relevant objective	Name of the relevant planning document (source)
• Promoting more efficient and cleaner systems for individual and/or district heating considering RES; • Diversifying the technology of the existing district heating system in Prishtina through solar heating; • Supporting energy-efficient and environmentally friendly technologies such as heat pumps and solar thermal systems; • Promoting efficient district heating systems by doubling the existing cogeneration capacity.	Energy Strategy of the Republic of Kosovo 2022-2031
Promoting sustainable use of renewable energy in heating	Medium-Term Expenditure Framework 2025-2027
List of priorities, Priority 2.2. Work towards meeting energy efficiency and renewable energy targets	European Reform Agenda (ERA 2)
Reform measure 5: Developing EE and RES policies in view of the green transition	Economic Reform Programme (ERP) 2022-2024

Chapter 3: Options

As analyzed in the description of the current situation (Section 1.6) and the main problem (Section 1.7.1), the thermal energy sector in Kosovo has long been regulated and managed based on the Law on Thermal Energy of 2015 and provisions scattered in other legal documents. Although the existing Law on Thermal Energy was drafted to specifically address thermal energy, it has not been supplemented/amended in the meantime to address the demands of the last decade resulting either from EU Directives or from practical developments within this sector. As a result, such a legal basis is insufficient to accommodate the current objectives of the sector related to generation, diversification of sources, and improvement of efficiency through the expansion of energy cogeneration. Moreover, such a situation manifests with uncertainties and undefined circumstances that are reflected in the quality of monitoring, reporting, and management of this sector. In the context of the described state of the legal basis for thermal energy and in terms of the way it is addressed, in principle, one of the three methods or options elaborated below can be selected.

Option 1 – Maintaining the Status Quo (no change)

Choosing this option implies the continuation of the current situation without making any amending or supplementing to the legal basis. Specifically, such an option means that the thermal energy sector will continue to be addressed through the existing Law on Thermal Energy and the three current laws related to energy efficiency, renewable energy sources, and energy performance of buildings. Due to the limitations of the Law on Thermal Energy regarding addressing the method of metering and billing in certain cases, the method of using thermal energy for heating sanitary water, uncertainties regarding the method of handling various disputes with consumers, the method and level of contribution of local authorities to the expansion of cogeneration capacities, the possibility of broader inclusion of RES in the thermal energy sector, the application of new technologies, diversification of sources, but also due to the need for better harmonization of the legal basis with that of the EU, the current legal framework regulating the thermal energy sector needs to be significantly supplemented, updated and completed. Therefore, the determination of the option of maintaining the Status Quo would result in the continuation and deepening of the already mentioned problems that characterize this sector, would constrain current developments and would risk the fulfillment of the strategic objectives related to this sector in the Energy Strategy 2022-2031. In practical terms, this would mean the continuation of the extensive use of electricity for heating needs, the continuation of the heavy dependence on lignite, the continuation of CO2 emissions and environmental pollution, the dissatisfaction of citizens with the services provided and the risk of fulfilling obligations as a state in relation to international institutions. Consequently, based on the arguments provided, the working group does not recommend the selection of this option.

Option 2

Selecting this option implies that the relevant provisions of the existing Law on Thermal Energy are supplemented or amended, and new provisions are added, in order to address the shortcomings

identified as obstacles to the development of the sector. In the case of opting for such an option, the necessary supplements/amendments can be of the following categories:

- Regulation and supplementation of existing provisions in the current Law on Thermal Energy;
- Inclusion of new provisions that are not included in any of the other energy-related laws;
- Inclusion of provisions as supplementations to existing provisions in other energy laws.

If all the necessary supplementations/amendments are successfully carried out, the adapted law would formally provide the basis needed by the energy sector. However, in such a case, the process of supplementation/amendment itself would be complicated, while its practical implementation would not be easy. This is because:

- The number of existing provisions that need to be regulated and supplemented is considerable;
- The process would require the inclusion and active cooperation of many institutions as sponsors of other energy laws, whose provisions need to be supplemented/amended;
- Confusion regarding which laws to refer to in the practical implementation of various aspects related to thermal energy would continue to hinder its implementation and complicate monitoring and reporting on the level of implementation;
- Promotion of broader inclusion of RES and other new technologies in the thermal energy sector is less effective compared to drafting a new law.

Consequently, the working group considers that institutions should not opt for this option unless there are concrete reasons that outweigh the counter-arguments listed above.

Option 3 – Drafting a new Law on Thermal Energy

As suggested by its title, the essence of this option consists of planning and implementation of the necessary institutional activities that would result in drafting and adopting a new Law on Thermal Energy. The ultimate goal is to draft an adequate legal basis that aligns with the developments of the last decade in the thermal energy sector both at the EU level and within Kosovo, and which is in line with the commitment under the Green Agenda for the Western Balkans[33] to review any relevant law as necessary to support the progressive decarbonization of the energy sector. In this way, not only would the necessary legal basis for achieving strategic targets in this sector be created, but further promotion of improving energy efficiency and greater integration of RES in the residential and commercial building sector could also be made. Moreover, through drafting a new, modern, and comprehensive law for the thermal energy sector, a solid legal basis integrated into a single document would be created, which would serve the implementation of renovation schemes for private and public buildings and contribute to reducing energy poverty. Some of the concrete aspects that would be addressed through the new Law on Thermal Energy are as follows:

[33] https://www.rcc.int/download/docs/Leaders%20Declaration%20on%20the%20Green%20Agenda%20for%20the%20WB.pdf/196c92cf0534f629d43c460079809b20.pdf

- Alignment of national legislation with that of the EU, consisting of the transposition of relevant aspects currently not addressed, such as:
    - The method of determining heating and cooling costs in multi-apartment buildings or buildings with multiple purposes;
    - The method of measuring energy consumed for heating sanitary water in these buildings;
    - Determination of the period for installing smart meters;
    - Addressing the minimum quantities of energy from RES for new buildings and those undergoing substantial renovation.
- Timely planning of sanitary water heating;
- Contribution of local authorities for integrating and expanding the use of RES and for planning infrastructure related to district heating/cooling;
- Addressing concession procedures for providing thermal energy by private companies;
- Addressing responsibilities and procedures of expropriation and easements;
- Clarification of energy services and entities that can provide such services;
- Clear determination of the dividing boundary between internal installation and installation under the management of the heating company;
- Clarification of responsibility for installing devices for distribution and metering of energy in the secondary part of complex buildings with units that operate independently;
- Method of managing and reporting interventions/modifications in internal installations;
- Addressing the method of maintenance and categorization of maintenance of the internal network;
- Updating and supplementing cases where punitive measures can be applied against enterprises providing thermal services, and addressing cases where such measures can also be applied to end consumers;
- Specification of sub-legal acts that need to be drafted, responsible institutions, and deadlines for their drafting.

Of course, within the new law, provisions of the existing law would also be included, but amended and supplemented in the essence of the necessary changes presented above. In this way, the determination of this option would pave the way for the drafting and approval of the new Law on Thermal Energy. The implementation and full integration of such a law into the legal framework, except the benefits listed above, would also result in other long-term benefits such as those related to the stability of the energy system of Kosovo, economic growth and creation of new jobs, increased energy independence, increased competition within the thermal energy sector, improved public health, positive environmental impact, improved well-being of citizens, improved regional and international cooperation, promotion of technological innovation, increased social equity and inclusion, and increased affordability and cost stability related to thermal energy.

Chapter 4: Identification and assessment of future impacts

In terms of actions to be undertaken based on this Concept Paper, institutions can, in principle, decide to opt for one of the options presented in the previous chapter. However, from such a selection, the effects or impacts that will be reflected in different categories – which may be economic, social, and environmental – will depend.

Impacts related to Option 1 – Maintaining the Status Quo (no change)

If institutions opt for **Option 1** (which is not recommended), then the situation in the thermal energy sector would remain unchanged. Specifically, this would mean that regulation of this sector continues based on the provisions of the existing law and three other related laws. Consequently, the possibility of eliminating existing legal limitations would not be created, which would jeopardize the current trend of development and expansion of heating services, as well as the trend of reducing environmental pollution. The respective impacts, depending on the category, are presented in the following table.

*Table 5: Main identified impacts in case of opting for **Option 1***

Impact categories	Identified relevant impact
Economic impact	High cost for thermal energy for household consumers, institutions, and enterprises, low quality of service, reduction of investment opportunities, lack of competition, limitation of the possibility of creating new jobs.
Social impact	Reduction of the possibility of reducing energy poverty, increase in health problems due to the lack of thermal comfort in living, educational, work, and service spaces, but also due to local air pollution as a result of using inefficient and environmentally unfriendly heating methods, and social dissatisfaction due to the lack of equal opportunity for access to the public district heating system.
Environmental impact	Continued environmental degradation due to the extensive use of electricity for space heating and sanitary water heating, risk of not achieving greenhouse gas emission reduction targets, limitation of opportunities for integrating RES and other alternative environmentally friendly technologies.
Impact on fundamental rights	Limited and unequal access to heating/cooling services, limited right to full and transparent information, limitation of the possibility to participate in the transformation of the energy sector.
Gender impact	No direct impact; however, opting for this option would reduce the possibility of creating new jobs, and thus the possibility of employing women.

Social equality impact	No direct impact.
Impact on youth	No direct impact; however, an unupdated and incomplete legal framework would limit investment opportunities in the thermal energy sector, and thus the possibilities of creating new jobs for young people.
Impact on administrative burden	No direct impact.
Impact on SMEs	Direct impact on the operations of SMEs due to the high cost of energy for space heating and sanitary water heating if not provided by district heating; reduction of investment opportunities in service modernization; limitation of opportunities to increase production capacities and improve product quality.

Impact related to Option 2

This option essentially implies addressing the shortcomings of the existing legal framework through supplementation/amendment of the provisions of the existing law. Although at first glance it may be attractive in terms of resources to be engaged and time to be invested, opting for this option does not ensure that the required and complete legal basis for regulating the thermal energy sector would be created. Especially problematic may be the necessary interventions from different actors, due to the complex interconnection of the thermal energy sector with other energy sectors. Even in the best case, which implies fully addressing current needs both in relation to EU directives and practical implementation needs and the sector's development perspective, the legal basis created in this way would not avoid the current confusion of legal provisions scattered across multiple documents. Consequently, current difficulties in terms of implementation responsibilities, monitoring, reporting, and planning of sector development would not be fully addressed.

Table 6: Main identified impact in case of opting for Option 2

Impact categories	**Identified relevant impacts**
Economic impact	Opting for this option would result in a reduction of the cost for thermal energy consumption for consumers and enterprises, due to increased access to the public district heating network, improvement in the quality and security of thermal energy supply, increased investment opportunities, increased possibility of creating new jobs and enhancing competition in the sector by enabling the establishment of new enterprises for generation, distribution, and supply of thermal energy.

Social impact	Improvement of the existing legal basis would reflect in reducing poverty, decreasing health problems, improving living, education, and work conditions, improving air quality, and increasing consumer satisfaction with the thermal energy service.
Environmental impact	Expansion of the thermal energy network results in a direct reduction of cases using electricity for space heating and sanitary water heating. Consequently, environmental pollution would significantly decrease, considering that electricity in Kosovo is still produced about 94% from lignite. Increasing the possibility of greater integration of RES and other alternative technologies would have an additional effect on improving the environmental situation.
Impact on fundamental rights	Increased equality in access to heating/cooling services, improvement in information dissemination; increased transparency regarding energy services, enabling citizens to be more actively involved in developments within the thermal energy sector.
Gender impact	Improvement of the legal infrastructure would impact the development of the sector and increase opportunities for opening new jobs. This would enhance opportunities for employing women, who are currently part of various professional training programs.
Social equality impact	Development of the sector would increase the possibility of network access, thus offering the opportunity to receive heating services even for financially disadvantaged groups. This would enhance social equality and reduce energy poverty.
Impact on youth	Expansion of thermal energy capacities and improvement of service quality would significantly enhance study conditions and increase job creation, thereby positively impacting younger generations directly.
Impact on administrative burden	Administrative burdens may arise from the need to improve services and from procedures related to licensing various activities for providing thermal energy and connecting a larger number of consumers.
Impact on SMEs	Development of the thermal energy sector would positively reflect in reducing SMEs' costs for space heating and sanitary water heating, thereby increasing financial sustainability, investment opportunities, production capacities, improving product quality, enhancing competitiveness, improving services, and increasing employment.

Impact related to Option 3 – Drafting a new Law on Thermal Energy

Opting for this option implies the determination of institutions to draft a consolidated primary legal basis in line with all current development trends in the thermal energy sector at the EU level and within the country. This would enable further alignment of Kosovo's legislation with that of the EU, ensure the regulatory framework for activities towards achieving strategic objectives, and pave the way for setting new, more ambitious targets. Development plans for expanding cogeneration capacities and building new capacities supported by the use of RES and new technologies such as heat pumps and systems for utilizing wasted thermal energy from other technological processes would be strongly promoted. Through the new legal basis, a more extensive heating of sanitary water via the district heating network would also be promoted, and for the first time, innovative developments in providing cooling through central thermal systems would be encouraged. This would pave the way for increasing new generation capacities, ensure more significant inclusion of local authorities and citizens in sector development, improve service quality, and enhance transparency and accountability of relevant entities involved in the implementation and monitoring of the law. The new law would generally provide the necessary legal basis in the thermal energy sector, not only for the development and transformation of this sector but also for increasing the overall energy sustainability of the country and significantly reducing greenhouse gas emissions, including mitigating local air pollution issues.

*Table 7: Main identified impact in case of opting for **Option 3***

Impact categories	Identified relevant impacts
Economic impact	Positive impact would result from the clarity of provisions, facilitating implementation in favor of business development, easier promotion of technologies and practices that stimulate investments, possibility of easier approval of economically efficient policies, creation of a more favorable business climate, easier attraction of domestic and foreign investments, and increasing businesses' competitiveness in the domestic and global market.
Social impact	Besides reducing poverty, decreasing health problems, improving living, education, and work conditions, improving air quality, and increasing consumer satisfaction with the thermal energy service, the adoption of the new law would manifest positively in greater inclusion of local, regional, and central levels of social organization, strengthen community resilience, and encourage partnerships between institutions, the private sector, and NGOs.
Environmental impact	Establishing of the new legal basis provides the possibility of setting higher environmental protection standards, specifically addressing ecosystem protection from emissions resulting from thermal energy generation, encouraging circular economy practices, and establishing clear monitoring and reporting mechanisms regarding environmental protection.

Impact on fundamental rights	Through the approval of the new law, explicit provisions can be foreseen for recognizing and protecting fundamental rights related to equal access to sustainable and affordable thermal energy supply, correctly addressing possible inequalities, fair treatment of marginalized groups, promoting consensus within social groups, and more active inclusion of different social levels in discussing and drafting thermal energy policies.
Gender impact	The new legal basis would enable specific treatment of gender equality in the thermal energy sector, promotion of active inclusion of women in decision-making, employment, and entrepreneurship, fostering the development of technologies promoting gender equality, and supporting training programs related to gender equality in the thermal energy sector.
Social equality impact	Increasing the possibility of specifically addressing social equality objectives to tackle inequality in access and service affordability, giving voice to marginalized communities in the decision-making process, and addressing the need to support vulnerable households.
Impact on youth	The new legal framework can effectively promote innovative technologies and solutions related to thermal energy, aiming to activate entrepreneurial initiatives among youth, increase opportunities for new jobs in the field of RES, research and development, develop new initiatives for education and professional training, and encourage active participation of youth in developments related to and within the thermal energy sector.
Impact on administrative burden	In the context of usual administrative burdens resulting from the need to improve services and procedures related to licensing activities for providing thermal energy and connecting more consumers, the new legal basis can foresee flexible taxation provisions and administrative facilitations to encourage the development of the thermal energy sector.
Impact on Small and Medium Enterprises (SMEs)	In addition to the impacts discussed regarding the previous option, drafting the new law would address the possibility of creating facilitating mechanisms for SMEs, encouraging them to apply innovative solutions related to thermal energy, helping them to be competitive and sustainable, involving SMEs at the local level for providing energy services, and supporting partnerships between SMEs, government agencies, and public companies.

Data collection

The data used for drafting this Concept Paper comprise legal, regulatory, professional, and statistical information that are part of the public documentation of the involved ministries, respective agencies, and public enterprises providing thermal energy services. For assessing demands and the situation related to thermal energy at the EU level, information was collected from various legal documents and relevant studies, publicly accessible at the respective web addresses, and supplemented with data from public sources of regional countries. The collection of relevant materials for this Concept Paper has also been supported by members of the working group.

Chapter 5: Communication and consulting

The communication and consultation process for the drafting of this Concept Paper has been carried out through communication with key responsible officials at the Ministry of Economy, responsible officials of other central and local state institutions, companies providing energy services in the thermal energy sector, and consultations with independent experts. During the drafting phase of the Concept Paper, relevant communication and consultation were conducted either through direct meetings within the working group or through meetings in the respective offices. Alongside the consultation and communication of the Ministry of Economy with other state institutions, within the public consultation, the opportunity was given for other relevant actors in the thermal energy sector to be involved in the process, such as:

- Civil society;
- Customer Protection Agency;
- Kosovo Chamber of Commerce, including other chambers for the protection of business interests;
- RES and EE Associations;
- Agency for Environmental Protection;
- Industry – companies involved in major activities;
- SMEs;
- Industry associations;
- Academic institutions;
- Donors:
- Media;
- Others

A summary of the communications and consultations carried out during the drafting of this Concept Paper is presented in the following table.

Table 8: Summary of communication and consultation activities conducted (To be completed after the preliminary and public consultation phase)

Main purpose	Target group	Activity	Communication/Notification	Indicative deadline	Required budget	Responsible Person

Chapter 6: Comparison of options

The comparison of the options discussed within this Concept Paper can be made based on the following fundamental criteria:

- Level of sector regulation;
- Degree of compliance with the EU legal framework;
- Potential for promoting sector development.

Observed from the aspect of such criteria, and based on the discussion presented in the relevant section, it can be said that Option (I) – maintaining the existing situation, is the option that does not adequately fulfill any of the 3 criteria. This is justified by the fact that this option would specifically imply the continuation of applying the existing law, and thus, the continuation of not addressing relevant issues required by the current legal framework at the EU level. Even more problematic would be the inability to provide the necessary legal framework in line with the potential and current development trends of this sector. Consequently, opting for this option would manifest as a restraining factor for the development and modernization of the heating sector as well as for achieving the country's energy and environmental objectives. The long-term impacts would be the continuation of the strong dependence on lignite, insufficient capacity, insecurity of service, environmental pollution and failure to achieve strategic objectives. As a result, the opportunity for economic progress through increased enterprise stability and the creation of new jobs would be lost, new investments in the field of RES and EE related to thermal energy would be prevented, social inequality in terms of access to thermal energy services would continue, and the negative environmental impact and harm to the health of the population would continue.

Option (II) would mark some progress regarding the legal regulation of the thermal energy sector but would certainly not fully address the current shortcomings already elaborated within this document. The need for active interaction of various institutions and the relatively large number of provisions that need to be supplemented/amended, as well as entirely new provisions that need to be included, are factors that would significantly complicate and hinder the successful implementation of this option. On the other hand, the promotional effect needed by the thermal energy sector would not be at the adequate level, while the implementation process would also hardly be efficient due to the continued treatment of different aspects within different legal documents, for the implementation and monitoring of which different governing instances are responsible. In this way, even through Option II, it would not be possible to achieve the desired level of development of the thermal energy sector, which would also be reflected in moderate progress in terms of improving EE, greater inclusion of RES, the quality of the offered service, and mitigating the negative impact on the environment. In the long term, this would limit the possibility of economic progress, attracting foreign investment, increasing security of supply, improving public health, social equality, and citizen satisfaction.

Option (III), which implies drafting and preparing the new Law on Thermal Energy, is the option recommended by the working group. This is because the drafting process itself would have its advantages in terms of the carrying responsibility for the implementation of the process and in the

flexibility of including all aspects needed by the sector and which would ensure full compliance with the relevant EU framework. In this way, a modern, sustainable, and supportive legal basis of current developments and plans would be ensured, but also promotional in terms of new investment plans. The new law, carefully drafted and in line with current trends characterizing this sector at the EU level, would serve as an efficient catalyst for further improvement of EE, especially in the heating sector and in the diversification of energy sources of this sector. The new legal basis would eliminate uncertainties and undefined situations between consumers and heating companies, which would create opportunities for offering better services and for expanding supply capacities. Such a development of the sector would reflect positively not only in the social and environmental context (reduction of energy poverty, reduction of health problems, and reduction of dependence on lignite, respectively reduction of environmental pollution) but the effect would also be noticed in the context of a greater economic process (increasing the profitability of SMEs and creating new jobs), through promoting competition, increasing international cooperation and attracting foreign investment.

6.1. Comparison table with all three options

To facilitate easier comparison and assessment of the mutual advantages/disadvantages of the elaborated options, the respective comparative table is presented below.

Table 9: Comparison of options

Comparison aspects	**Compared options**		
	Option 1: No change	Option 2: Supplementing/amending of the existing legislation	Option 3: Drafting new legal acts
Positive relevant impacts			
Legal regulation of the thermal energy sector	No	partially	completely
Easier implementation and efficient monitoring/reporting	No	No	Yes
Promotion of investments in the sector	No	partially	completely
Diversification of energy resources	No	partially	completely

and promotion of RES in the sector									
Alignment with the EU Acquis	No			partially			completely		
Negative relevant impacts	Inadequate sector regulation, lack of promotion of EE and RES within the sector, lack of diversification of energy sources, and incomplete alignment with EU policies			Full implementation difficult to achieve, inability to address all legal gaps, inadequate promotion of EE and RES			None		
Cost	None			Cost associated with the implementation of the supplemented/amended provisions			Cost associated with drafting new sub-legal acts and with the implementation of the new law		
Unsustainable results									
Relevant costs									
Assessment of expected budgetary impact	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
Conclusion									

6.2. Implementation plan for the recommended option

Below is presented the draft implementation plan for the option recommended by the working group, namely for Option 3.

Table 10: Implementation plan for Option 3 (the Recommended option)

Purpose of the policy	Significant improvement of energy efficiency, increase of supply security, and reduction of environmental pollution in the residential and tertiary building sector	

									Expected cost figure
Strategic objective	Updating and consolidating the legal framework for thermal energy in accordance with current needs and developmental projections of the sector, in line with EU directives and international standards, and in function of expanding capacities and diversifying existing sources								
	Results, activities, year, and responsible organization/department								
Specific objective 1 Drafting a new Law on Thermal Energy	Outcome 1.1								
			Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Responsible Institution / Department	
		<u>Activity 1.1.1</u> Drafting a new Law on Thermal Energy	X					Ministry of Economy	No additional cost
		<u>Activity 1.1.2</u> Public consultation and addressing comments of all parties	X					Ministry of Economy	No additional cost
		<u>Activity 1.1.3</u> Adoption of the new Law on Thermal Energy by the Government	X					Government	No additional cost

		Activity 1.1.4 Adoption of the new Law on Thermal Energy by the Assembly	X					Assembly	No additional cost
		Activity 1.1.5 Informing the stakeholders about the new law via communication channels	X					Ministry of Economy	No additional cost
	Product 1.2	Drafting and adopting sub-legal acts in compliance with the new Law on Thermal Energy							
			Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Responsible Institution / Department	
		Activity 1.2.1 Drafting sub-legal acts		X	X			OPM, ME, ERO	
Specific objective 2: Doubling the existing cogeneration capacity and	Outcome 2.1	Doubling the cogeneration capacities of Termokos/KEK enterprises							In the process of implementation by Termokos

establishing new cogeneration capacities in municipalities where there are technical and economic possibilities for implementation				X	X			Ministry of Economy, Termokos	
	Outcome 2.2	Construction of new cogeneration capacities							Costs for implementation of new cogeneration systems in municipalities
				X	X	X	X		

Chapter 7: Conclusions and next steps

7.1. Current challenges, optimal option, and expected results

Strategic planning related to the thermal energy sector, which includes the expansion of existing cogeneration capacities, inclusion of RES as energy sources in the thermal energy sector, and the increase of new capacities based on respective feasibility studies, imposes the need to update and complete the respective legal basis. The current legal basis, consisting of the Law on Thermal Energy of 2015 and a series of respective sub-legal acts, does not meet the current needs and the dynamics foreseen for the development of this sector. As a result, the current situation is characterized by numerous challenges for the proper functioning of the respective companies that provide thermal energy services, which is manifested in limited services in terms of quality but also in terms of their quantity. On the other hand, the high consumption of electricity to cover the great needs for thermal energy during the winter continues to burden the stable supply of electricity, which imposes the immediate need for improving energy efficiency in this sector. The most practical and proven form in this aspect is the development of cogeneration capacities for which more active and concrete cooperation of local authorities is needed in order to build such capacities within their territory and thus improve energy efficiency at the country level. The development of the thermal energy sector, besides improving the quality of service, would also affect the reduction of energy poverty, improvement of conditions for SMEs and increase their business operations, creation of new jobs, and reduction of problems related to environmental pollution. Naturally, the creation of the new legal basis would also reflect positively in terms of the country's progress towards the EU, respectively the further approximation of the current legal framework with the EU legal framework. Consequently, the working group has analyzed 3 possible options for addressing the challenges described within this document, and based on such analysis, has concluded that the best option would be the one that implies drafting and approving the new Law on Thermal Energy (Option 3) and the respective sub-legal acts. Supporting this option and its implementation would result in a modern, complete legal basis in line with EU principles regarding the thermal energy sector. Moreover, the new law would stimulate respective investments and would ensure a sustainable basis for the development of this sector, which would reflect in stable energy supply, economic progress, and citizens' welfare. Such developments would be in full alignment with the country's obligations in relation to the Energy Community and the Green Agenda for the Western Balkans, which would ensure a correct path for the country towards energy transition and a greenhouse gas emissions-neutral economy.

7.2. Monitoring and evaluation provisions

In principle, as for any other sector, in the thermal energy sector as well, monitoring is an essential process for the efficient implementation of policies regulating this sector. The more sustainable and complete the legal basis is, the easier the monitoring and respective evaluation process regarding its implementation will be. Consequently, one of the objectives of creating the new legal basis is also the improvement of monitoring mechanisms through the establishment of a compact legal basis and the avoidance of confusion resulting from the treatment of different aspects of thermal energy in many other documents. Also, the respective decision resulting from this Concept

Paper should be monitored from the aspect of the level of implementation. Some of the main indicative targets that will be used during the monitoring and evaluation of this Concept Paper are:

- Implementation of policies and legal requirements;
- Need for training and/or additional personnel;
- Socio-economic impact;
- Environmental impact;
- Inter-institutional and public consultations;
- Communication of possible changes with the targeted audience, etc.

Annex 1: Economic impact assessment form

Economic impact category	Main impact	Is this impact expected to occur?		Number of organizations, companies, and/or individuals affected	Expected benefit or cost of the impact	Preferred level of analysis
		Yes	No	High/Low	High/Low	
Jobs[34]	Will the current number of jobs increase?	Yes		High	High	
	Will the current number of jobs be decreased?		No	Low	Low	
	Will it affect the level of payment?	Yes		High	High	
	Will it affect the ease of finding a job?	Yes		High	High	
Doing Business	Will it affect access to finance for businesses?	Yes		High	High	
	Will certain products be removed from the market?		No	Low	Low	However, inefficient technologies for thermal energy will be eliminated
	Will certain products be allowed on the market?	Yes		High	High	Efficient products and alternative technologies for thermal energy will be promoted

[34]When it affects jobs, there will also be social impact.

	Will businesses be forced to close?		No	Low	Low	
	Will new businesses be created?	Yes		High	High	
Administrative burden	Will businesses be forced to fulfill the obligations of providing new information?	Yes		High	High	
	Have the obligations of providing information for businesses been simplified?	No		Low	Low	
Trade	Are current import flows expected to change?	Yes		High	High	
	Are current export flows expected to change?	No		Low	Low	
Transportation	Will it affect the method of transportation of passengers and/or goods?	N/A				
	Will there be any difference in the time required to transport passengers and/or goods?	N/A				
Investments	Are companies expected to invest in new activities?	Yes		High	High	
	Are companies expected to cancel or postpone investments?		No	Low	Low	

	Will investments from the diaspora increase?	Yes		High	High	
	Will investments from the diaspora decrease?		No	Low	Low	
	Will foreign direct investments increase?	Yes		High	High	
	Will foreign direct investments decrease?		No	Low	Low	
Competitiveness	Will the price of business inputs, such as electricity, increase?		No	Low	Low	
	Will the price of business inputs, such as electricity, decrease?		No	Low	Low	
	Is innovation and research likely to be promoted?	Yes		High	High	
	Is innovation and research likely to be hindered?		No	Low	Low	
Impact on SMEs	Are the affected companies mainly SMEs?	Yes		High	High	
Prices and competition	Will the number of goods and services available to businesses or consumers increase?	Yes		High	High	

	Will the number of goods and services available to businesses or consumers decrease?		No	Low	Low	
	Will the prices of existing goods and services increase?		No	Low	Low	
	Will the prices of existing goods and services decrease?		No	Low	Low	
Economic regional impact	Will any particular business sector be affected?	Yes		High	High	
	Is this sector concentrated in a certain region?		No	High	High	Organizations/individuals that will benefit are spread throughout Kosovo and the impact will be high
General economic development	Will future economic growth be affected?	Yes		High	High	
	Could it have any effect on the inflation rate?		No	Low	Low	

Annex 2: Social impact assessment form

Social impact category	Main impact	Is this impact expected to occur?		Number of organizations, companies, and/or individuals affected	Expected benefit or cost of the impact	Preferred level of analysis
		Yes	No	High/Low	High/Low	
Jobs[35]	Will the current number of jobs increase?	Yes		High	High	
	Will the current number of jobs be decreased?		No	Low	Low	
	Will the jobs of a particular business sector be affected?	Yes		High	High	
	Will there be any impact on the level of payment?	Yes		High	High	
	Will it affect the ease of finding a job?	Yes		High	High	
Social regional impact	Is societal impact concentrated in a particular region or city?		No	Low	Low	
Working Conditions	Are workers' rights affected?	Yes		High	High	Improving the quality of services related to thermal energy has an impact on the right of workers to better working conditions

[35]The impact on jobs is also reflected in economic impact.

	Are standards for working in hazardous conditions provided for or repealed?		No	Low	Low	
	Will it affect the way of developing the social dialogue between employees and employers?		No	Low	Low	
Social inclusion	Will it have an impact on poverty?	Yes		High	High	
	Will it have an impact on social protection schemes?		No	Low	Low	
	Will the prices of basic goods and services change?		No	Low	Low	
	Will it have an impact on the financing or organization of social protection schemes?		No	Low	Low	
Education	Will it have an impact on primary education?		No			
	Will it have an impact on secondary education?	Yes		High	High	Efficient and environmentally friendly thermal energy systems should be promoted in school curricula
	Will it have an impact on high education?	Yes		High	High	Efficient and environmentally friendly thermal energy systems should be promoted in school curricula

	Will it have an impact on vocational education?	Yes		High	High	Efficient and environmentally friendly thermal energy systems should be promoted in vocational education programs
	Will it have an impact on education of workers and lifelong learning?	Yes		High	High	Efficient and environmentally friendly thermal energy systems should be promoted in continuing education programs
	Will it have an impact on the organization or structure of the education system?	Yes		High	High	Efficient and environmentally friendly thermal energy systems should be promoted in academic curricula
	Will it have an impact on academic freedom and self-governance?		No	Low	Low	
Culture	Does the option have an impact on cultural diversity?	N/A				
	Does the option have an impact on the funding of cultural organizations?	Yes		High	High	Increasing the thermal energy capacity lowers the cost of heating
	Does the option have an impact on opportunities of persons benefiting from or participate in cultural activities?	Yes		High	High	Improving the thermal energy service increases the opportunity to benefit

	Does the option have an impact on cultural heritage?	N/A				
Governance	Does the option have an impact on the ability of citizens to participate in the democratic process?	Yes		High	High	
	Is every person treated equally?	Yes		High	High	
	Will the public be better informed about certain issues?	Yes		High	High	
	Does the option have any impact on the way political parties operate?	N/A				
	Will there be any impact on the civil society?	Yes		High	High	
Public health and safety[36]	Will it have any impact on people's lives, such as life expectancy or mortality rate?	Yes		High	High	
	Will it have an impact on the quality of food?	Yes		High	High	
	Will health risk increase or decrease due to harmful substances?	Yes		High	High	Improving EE and using RES reduces health risk
	Will there be health effects due to changes in noise levels or air, water and/or soil quality?	Yes		High	High	

[36] Impact on health is related to environmental impact

	Will there be health effects due to changes in use of energy?	Yes		High	High	
	Will there be health effects due to changes in waste disposal?	Yes		High	High	
	Will there be any impact on people's lifestyles, such as levels of interest in sport, changes in nutrition, or changes in use of tobacco or alcohol?	Yes		High	High	
	Are there particular groups that face much higher risks than others (defined by factors such as age, gender, disability, social group or region)?	No		Low	Low	Increasing the possibility of access to thermal energy does not negatively affect any particular group
Crime and security	Does it affect the likelihood of catching criminals?	N/A				
	Does it have any impact on potential profit from crime?	N/A				
	Does it affect the level of corruption?	N/A				
	Does it affect the law enforcement capacity?	N/A				
	Does it have any effect on the rights and safety of crime victims?	N/A				

Annex 3: Environmental impact assessment form

Environmental impact category	Main impact	Is this impact expected to occur?		Number of organizations, companies, and/or individuals affected	Expected benefit or cost of the impact	Preferred level of analysis
		Yes	No	High/Low	High/Low	
Sustainable climate and environment	Will it have any impact on the emission of greenhouse gases (carbon dioxide, methane, etc.)?	Yes		High	High	
	Will fuel consumption be affected?	Yes		High	High	
	Will the variety of resources used to generate energy change?	Yes		High	High	
	Will there be any change in price for environmentally friendly products?	Yes		High	High	The increase in demand will affect the decrease in price of such products
	Will certain activities become less polluting?	Yes		High	High	
Air quality	Will it have an impact on the emission of the air pollutants?		Yes	High	High	
Water quality	Does the option have any impact on freshwater quality?		No	Low	Low	
	Does the option have any impact on groundwater?		No	Low	Low	

	Does the option have any impact on drinking water?		No	Low	Low	
Soil quality and land use	Will there be an impact on soil quality (regarding acidification, pollution, use of pesticides or herbicides)?		No	Low	Low	
	Will it have an impact on the erosion of land?		No	Low	Low	
	Will land be lost (through construction, etc.)?	Yes		Low	Low	There may be limited loss of land from network expansion and construction of new generation units
	Will land be gained (through construction, etc.)?		No	Low	Low	
	Will there be any change in land use (e.g., from forest use to agricultural or urban use)?		No	Low	Low	
Waste and recycling	Will the amount of waste generated change?	Yes		High	High	
	Will the ways in which waste is handled change?	Yes		High	High	
	Will it have an impact on the possibilities for waste recycling?	Yes		High	High	

Use of resources	Does the option have any impact on the use of renewable resources (fish reserves, hydro power plants, solar energy, etc.)?		No	Low	Low	Types of RES promoted do not include hydropower
	Does the option have any impact on the use of non-renewable resources (groundwater, minerals, coal, etc.)?		No	Low	Low	
The degree of environmental hazards	Will there be any impact on the likelihood of hazards, such as fires, explosions or accidents?		No	Low	Low	
	Will it have any impact in readiness in case of natural disasters?		No	Low	Low	
	Does it have any impact on protection of society from natural disasters?		No	Low	Low	
Biodiversity, flora and fauna	Will it have any impact on protected or endangered species or the areas where they live?		No	Low	Low	
	Will it have any impact on the size or connections between nature areas?		No	Low	Low	
	Will it have any impact on the number of species in a certain area?		No	Low	Low	
Animal welfare	Will it have any impact on animal treatment?		No	Low	Low	

	Will it have any impact on animal health?		No	Low	Low	
	Will it have any impact on the quality and safety of animal food?		No	Low	Low	

Annex 4: Fundamental rights impact assessment form

Fundamental rights impact category	Main impact	Is this impact expected to occur?		Number of organizations, companies, and/or individuals affected	Expected benefit or cost of the impact	Preferred level of analysis
		Yes	No	High/Low	High/Low	
Dignity	Does the option have any impact on people's dignity, their right to life or a person's integrity?		No	Low	Low	
Freedom	Does the option have any impact on the freedom of individuals?		No	Low	Low	
	Does the option have any impact on the right of a person to privacy?		No	Low	Low	
	Does the option have any impact on the right to marry or create a family?		No	Low	Low	
	Does the option have any impact on the legal, economic or social protection of individuals or families?		No	Low	Low	
	Does the option have any impact on the freedom of thought, conscience or religion?		No	Low	Low	
	Does the option have any impact on the freedom of speech?		No	Low	Low	

	Does the option have any impact on the freedom of assembly or association?		No	Low	Low	
Personal details	Does the option include the processing of personal data?		No	Low	Low	
	Are the individual's rights of access, rectification and objection guaranteed?		No	Low	Low	
	Is the way in which personal data is processed clear and well protected?		No	Low	Low	
Asylum	Does this option have any impact on the right to asylum?		No	Low	Low	
Property rights	Are the property rights affected?		No	Low	Low	
	Does the option have any impact on the freedom to conduct a business?		No	Low	Low	
Equal treatment[37]	Does the option protect the principle of equality before the law?	Yes		Low	Low	
	Is it likely that certain groups will be harmed directly or indirectly by discrimination (e.g., any discrimination based on gender, race, colour, ethnicity, political or other opinion, age or sexual orientation)?		No	Low	Low	

[37] Gender equality is addressed in the Gender Impact Assessment

	Does the option have any impact on the rights of persons with disabilities?		No	Low	Low	
Rights of the child	Does the option have any impact on the rights of the child?		No	Low	Low	
Good administration	Will administrative procedures become more complicated?		No	Low	Low	
	Does the option have any impact on the manner in which the administration makes decisions (transparency, procedural deadline, right of access to a file, etc.)?		No	Low	Low	
	On criminal law and the prescribed punishments: are the rights of the defendant affected?		No	Low	Low	
	Does it have any impact on the access to justice?		No	Low	Low	