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MINISTRIA E ZHVILLIMIT EKONOMIK
MINISTARSTVO EKONOMSKOG RAZVOJA
MINISTRY OF ECONOMIC DEVELOPMENT

Kosovo Energy Efficiency Agency

National Energy Efficiency Action Plan 2019-2021

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Abbreviations:

AI	Administrative Instruction
AKM	Association of Kosovo Municipalities
BU	Bottom Up
CHP	Combined Heat and Power
DH	District Heating
EE	Energy efficiency
EED	Energy Efficiency Directive
EEOS	Energy efficiency obligation scheme
EnCS	Energy Community Secretariat
EPBD	Directive on the Energy Performance of Buildings
ERA	Economic Reform Programme
ESA	Energy Service Agreement
ESCO	Energy Service Company
ESD	Energy Services Directive
ESIP	Energy Strategy Implementation Programme
EU	European Union
FEC	Final energy consumption
GDP	Gross Domestic Product
GIZ KEEP	Kosovo Energy Efficiency Project
GIZ ORF EE	Open Regional Fund for South-East Europe – Energy Efficiency
IPA	Instrument for Pre-Accession Assistance
KBRA	Kosovo Business Registration Agency
KEEA	Kosovo Agency for Energy Efficiency
KEEF	Kosovo Energy Efficiency Fund
KEEREP	Kosovo Energy Efficiency and Reneweable Energy Project
KIESA	Kosovo Investment and Enterprise Support Agency
NIC	National Investment Committee
Ktoe	Kilotonne of Oil Equivalent
MED	Ministry of Economic Development
MEEAP	Municipal Energy Effficiency Action Plan
MESP	Ministry of Environment and Spatial Planning
MEST	Ministry of Education Science and Technology
MVP	Monitoring and Verification Platform
NDS	National Development Strategy
NEEAP	National Energy Efficiency Action Plan
NPISAA	National Programme for Implementation of the Stabilisation and Association Agreement
NZEB	Nearly Zero Energy Buildings
PEC	Primary energy consumption
REEP	Regional Energy Efficiency Programme
RES	Reneweable Energy Source
SAA	Stabilisation and Association Agreement
SEE	South East Europe
SME	Small and medium-sized enterprise
TD	Top Down
ToT	Terms of Reference
TPP	Thermal Power Plant
USAID	The United States Agency for International Development
TSO	Transmission and System Operator of Kosovo
MoJ	Ministry of Justice
MPA	Ministry of Public Administration
MFK	Millenium Foundation of Kosova

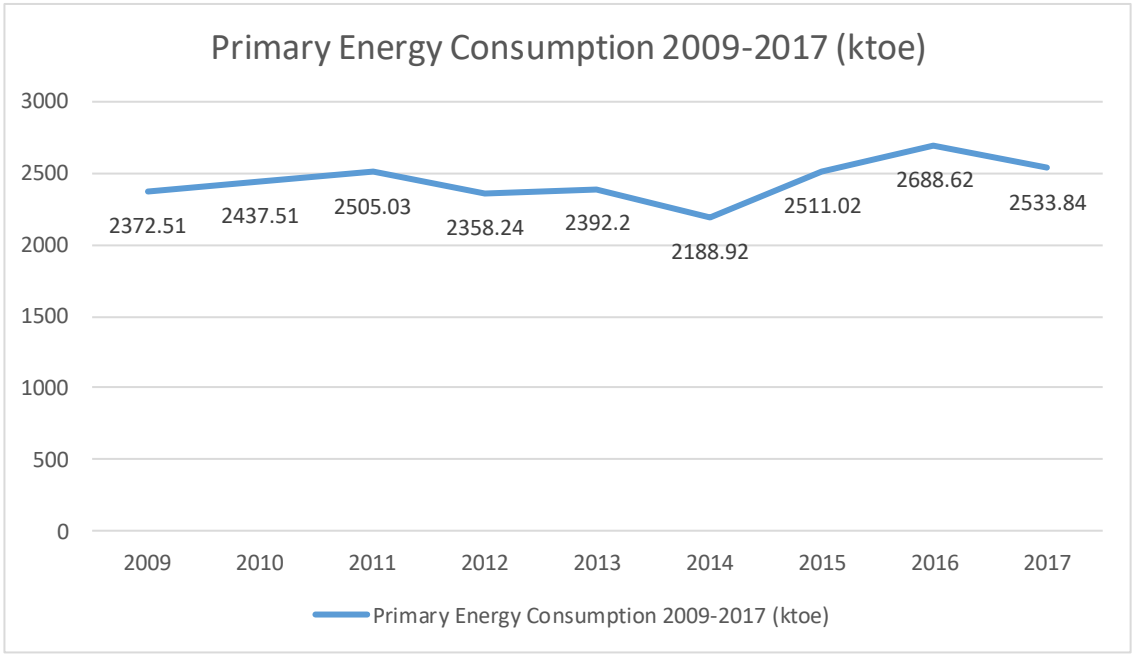
1. INTRODUCTION

Pursuant the obligations deriving from the Energy Community Treaty, Kosovo has drafted the Long-Term National Energy Efficiency Action Plan (NEEAP) 2010-2018, and three short-term plans covering periods 2010-2012, 2013-2015, and 2016-2018. This document constitutes the 4th NEEAP for Kosovo which convers period 2019-2021. The 4th NEEAP is the key document which defines and describes actions for achieving state policy objectives in the field of energy efficiency, including the energy efficiency obligations scheme, energy efficiency policy measures, energy savings achieved or planned to be achieved at the level of supply, transmission, distribution and final consumption of energy, in order to meet the national energy efficiency targets. This document also includes an evaluation of the implementation of the previous plan.

Energy Consumption, Energy Intensity and GDP Growth Rate

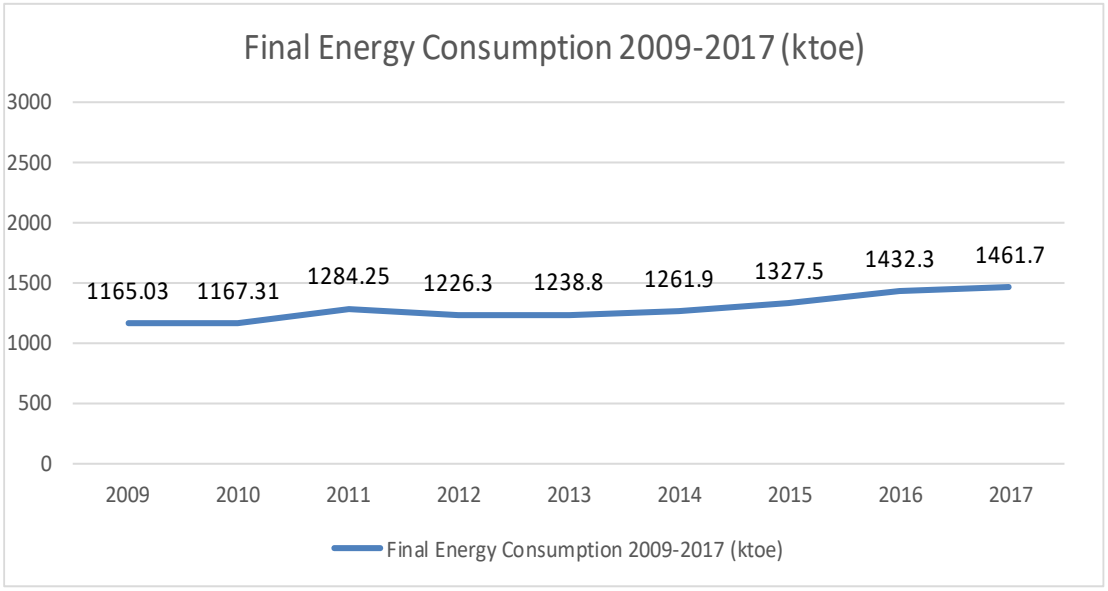
The following figures provide an overview of the energy consumption in Kosovo together with economic growth trends and energy intensity. As it can be seen, there was an increase in primary energy consumption in 2016 and this was mainly due to an increase of biomass concumption based on the Household Energy Consumption Study in 2016 for 2015. Final energy consumption for 2017 was 1461 ktoe. Residential sector remains the main consumer followed by Transport, Industry, Services and lastly Agriculture. Energy intensity expressed in toe/1000 EUR has showed a decrease from 0.66 in 2009 to 0.28 in 2017. GDP growth rate has remained positive.

Figure 1 Primary Energy Consumption 2009-2017 (ktoe)



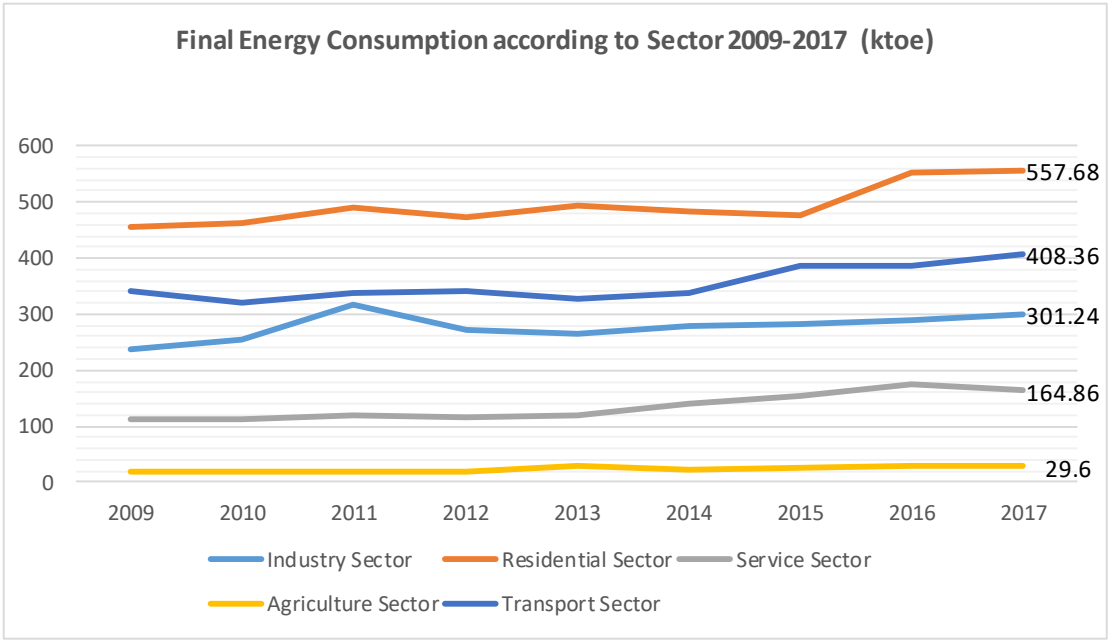
Source of information: Energy Balances from Kosovo Statistics Agency for 2014-2017 and from Ministry of Economic Development for 2010-2013

Figure 2 Final Energy Consumption 2009-2017 (ktoe)



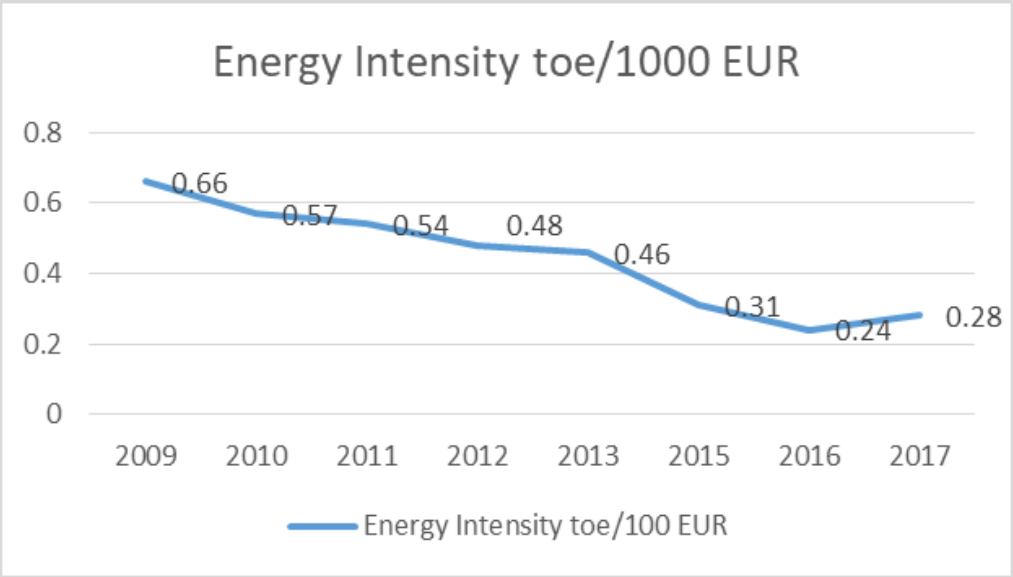
Source of information: Energy Balances from Kosovo Statistics Agency and Ministry of Economic Development

Figure 3 Final Energy Consumption according to Sector 2009-2017 (ktoe)



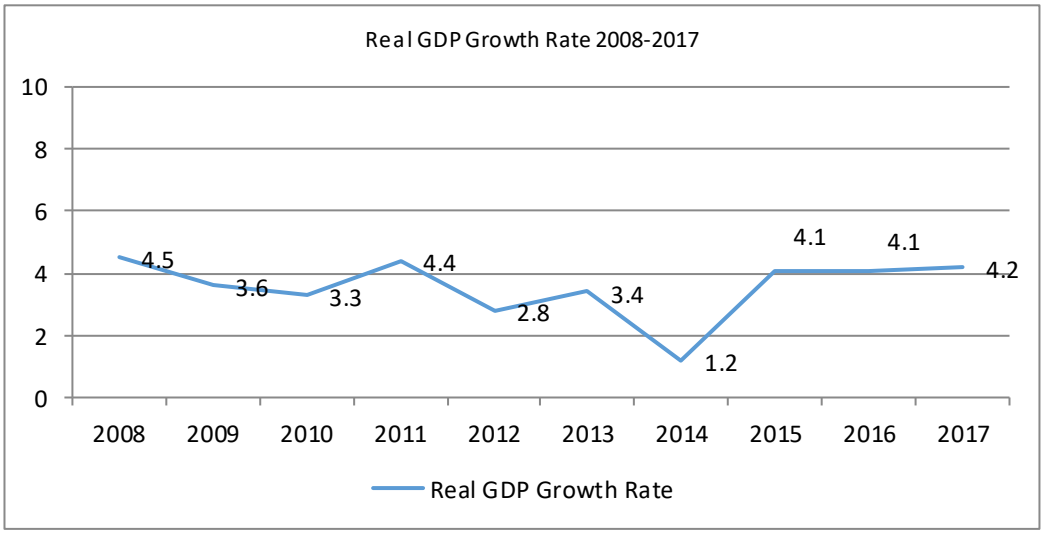
Source of information: Energy Balances from Kosovo Statistics Agency and Ministry of Economic Development

Figure 4 Energy Intensity toe/1000 EUR 2009-2017



Source of information: Energy Balances for 2009-2017 taken from Kosovo Statistics Agency and Ministry of Economic Development

Figure 5 Real GDP Growth Rate 2008-2017



Source of Information: Kosovo Statistics Agency

National Policy Context

Energy Efficiency in Kosovo, along with the need and effort to ensure sufficient energy from production from existing thermo power plants and other alternative sources, is considered by the Government as an essential component of the strategic and economic planning and the development of Kosovo. As a Contracting Party of the Energy Community and as a signatory of the Stabilization and Association Agreement (SAA), Kosovo is obliged to transpose and implement the Acquis Communautaire related to Energy Efficiency.

In addition to National Energy Efficiency Action Plans which serve as key planning documents, other national strategic planning documents which touch upon Energy Efficiency include: The National Development Strategy 2016-2021, the Government Programme 2017-2021, The Energy Strategy 2017-2026, the Energy Strategy Implementation Program (ESIP) 2018-2020, The National Programme for Implementation of the Stabilization and Association Agreement (NPISAA), and the European Reform Agenda (ERA).

The National Developmen Strategy (NDS) 2016-2021 aims to unlock the economic and social potential of the country through addressing key obstacles Kosovo faces in this process. Lack of reliable and affordable power supply is considered as one of the major hindrances for investment in Kosovo which has a detrimental impact on economic growth. The NDS seeks to solve this issue through:

- Construction of new generating capacity;
- Creation of open and competitive market in electricity;
- Reduction of energy consumption through energy efficiency measures and
- Rational use of renewable energy

The NDS considers energy efficiency as very important in helping decrease energy consumption and thus reduce the cost of doing business as well as reduce the overall environmental impact, both of which contribute to the sustainable development of Kosovo. NPISAA and ERA follow a similar approach considering improvement in energy efficiency as significant for helping the country improve its competitiveness pursuant to the obligations deriving from the SAA. The importance of energy efficiency in reducing GHG emissions is also referred to in the draft Climate Change Strategy 2019-2028 and Action Plan 2019-2021 which is in the process of elaboration.

The Energy Strategy which covers period 2017-2026 was developed in the light of the NDS as well as the obligations deriving from SAA. Taking into account the main challenges the country faces in the energy sector, the strategy has set the following five objectives:

- Security of a sustainable, high-quality, safe, and reliable electricity supply with adequate capacities for stable power system operation;
- Integration in the Regional Energy Market;
- Enhancement of existing thermal system capacities and construction of new capacities;
- Development of natural gas infrastructure;
- Fulfillment of targets and obligations in energy efficiency, renewable energy sources, and environmental protection.

In order to ensure the implementation of the Strategy, Kosovo has adopted Energy Strategy Implementation Plan (ESIP) 2018-2020 setting out specific objectives and detailed activities to be undertaken by the country in a two year period including here activities for ensuring the fulfilment of targets and obligations in energy efficiency. The objectives of the Energy Strategy are also reflected in the Governnment Programme 2017-2021.

In addressing the challenges faced in the energy sector as well as the obligations deriving from Energy Community Treaty as well as the SAA, during 2016-2018 Kosovo has made a considerable progress in terms of establishing the adequate legal framework becoming among the first Contracting Parties to transpose Directive 2017/27/EU. During this three year period, Kosovo has adopted the following laws and regulations:

- Law No. 05/L-101 on Energy Performance of Buildings which transposes Directive 2010/30/EU and which was adopted on 15.12.2016
    - Regulation (MESP) No.02/18 on National Calculation Methodology for Integrated Energy Performance of Buildings adopted on 07.12.2018

    - Regulation MESP No.03/18 of The Procedures on Energy Performance Certification of Building adopted on 10.12.2018
    - Regulation MESP No.04/18 for Minimum Requirements for The Energy Performance of Buildings adopted on 13.12.2018
    - Regulation MESP No. 01/2018 for Inspection of Heating and Air-Conditioning System adopted on 16.02.2018
- Law No.06/L –079 on Energy Efficiency which transposes the Directive 2012/27/EU and which was adopted on 07.11.2018.
- Administrative instruction (GRK) no. 09/ 2017 on Municipal Energy Offices

In addition to transposing EED, the new Law on Energy Efficiency also created the legal basis for the establishment of the first financial mechanism for Energy Efficiency, Kosovo Energy Efficiency Fund (KEEF). KEEF is expected to play an important role in financing energy efficiency measures in public institutions such as municipalities and ministries. Moreover, with a view towards 2030 targets, Kosovo has also established the Working Group for the elaboration of the first National Climate and Energy Plan.

The structure of NEEAP 2019-2021

NEEAP 2019-2021 is structured in three chapters: Introduction, Overview of National Energy Efficiency Targets and Savings, and Policy Measures in Implementing EED. The first chapter provides an overview of energy and macroeconomic factors followed by an overview of the national policy context. The second chapter provides an overview of 2020 targets, primary energy savings and final energy savings. The third chapter provides an overview of policy measures implementing EED with respect to specific articles describing the current situation as well as providing a roadmap for further implementation.

2. OVERVIEW OF NATIONAL ENERGY TARGETS AND ACHIEVED SAVINGS

Kosovo has set the indicative national energy efficiency targets for 2020 as required by Article 3(1) of the EED (EED Article 3(1), Annex XIV Part 2.1.).

2.1. Overview national 2020 energy efficiency targets

Kosovo as the Energy Community contracting party was obliged to transpose the EE Directive by October 2017. Due to the time-consuming legislative process, the Directive was fully transposed in December 2018 adopting the new Law on EE.

Kosovo's indicative national energy efficiency target is set in the Law on EE stipulating that the **final energy consumption should not exceed 1556 ktoe[1] in the year 2020**. The estimated national target can be expressed in the **primary energy consumption of 2847 ktoe**, based on primary energy coefficient - 1.83[2].

The indicative national energy efficiency target was set based on the long-term energy balance of Kosovo 2015-2024 that takes into account energy efficiency measures (scenario with EE

[1] *Article 4 of the Law on EE*

[2] *3 year (2015-2017) average conversion factor PEC/FEC*

measures). The long-term energy balance was elaborated taking into consideration main policy documents and other data that have direct impact on the energy use projections such as:

- Economic growth (GDP growth used for forecasting final energy consumption in 2020 was 4.0%)
- Number of households and
- Consumption of the three last years.

It also integrates measures related to rehabilitation of the electricity system and development of new capacities that are expected to result in diminishing technical losses and increasing system efficiency, in turn increasing the amount of electricity for final consumption generated from the same capacities on one side, and in ensuring a sustainable supply of electricity, thus enhancing supply reliability.

Estimates of energy consumption and consumption by sectors in 2020 are provided using data provided in the Long-term energy balance of Kosovo 2015-2024.

Table 1. Estimates of key national energy production and consumption figures in 2020

Estimate of energy consumption in 2020	Units
Total primary energy consumption in 2020	2847 ktoe
Electricity transformation input (thermal power generation)	576.88 ktoe
Electricity generation output (thermal power generation)	154.11 ktoe
CHP transformation input	792.14 ktoe
CHP transformation output – thermal	23.54 ktoe
CHP transformation output – electrical	277.26 ktoe
Energy distribution losses (all fuels)	96.23 ktoe
Total final energy consumption	1556.00 ktoe
Final energy consumption – Industry	463.01[3] ktoe
Final energy consumption - Transport	381.97 ktoe
Final energy consumption - Households	565.40 ktoe
Final energy consumption - Services	145.62 ktoe

2.2. Additional energy efficiency targets

Kosovo has also set its national energy savings target **in the final energy savings**. Target to be achieved by **2020** is **113.09 ktoe** and it was notified to the EnCS in the first annual report submitted under the EED. The final energy savings target was set based on the trajectory of energy savings achieved and taking into additional financial resources available for improving energy efficiency as well as commitments under Art 5 and Art 7 of the EED.

An overview of key activities in the Kosovo energy sector and also information on additional energy efficiency targets set by the Energy Strategy of Kosovo for the period 2017 – 2023 are provided in the table below.

[3] *Including agriculture*

Table 2. Overview of key activities in Kosovo energy sector in the period 2017 - 2023

	2017-2019	2020-2023
Generation capacities	Coal fired PP similar to 2016 RES capacity to increase for additional 65 MW, compared to 2016	TPP Kosovo A to be shutdown and replaced with the development of new capacities RES capacity to increase for 85 MW, compared to 2019
Reduction of total network losses	4.6% reduction of losses compared to 2016	6.2% reduction of losses compared to 2019
Heating surface area from thermal systems	1.620.539	1.955.539
RES Targets	23%	25%
EE targets	9% (92 ktoe)	According to new targets
Environmental targets	To resolve legal consequences in the facilities near TPPs	Defined targets as per ECT to be Completed
Long-term policy orientation document on the decarbonization	To be approved	

National targets for nearly Zero Energy Buildings

NZEB definition is integrated into the MESP Regulation No. 04/18 of Minimum energy performance requirements. Kosovo is in the process of drafting its first NZEB Plan which is expected to be adopted during 2019. Targets set in the draft NZEB 2019-2021 related to construction of new and renovation of existing buildings to NZEB are set as follows:

- From the date the corresponding legislation set comes into force (expected: end of Q1 2019 – beginning of Q2 2019) all **new public buildings** applying for construction permit shall be designed to be NZEB;

- Until the end of 2020 Pilot projects of **new** private buildings of NZEB standard will be implemented: at least three single-family houses, at least one multi-family building, at least one office building;

- Until the end of 2020 Pilot project of **renovation** of at least one public building to NZEB standard will be implemented: KEEF building;

- From 1st January 2021 on **all new buildings** applying for construction permit shall be designed to be NZEB.

In addition to drafting the NZEB Plan, Kosovo is also planning to convert two existing buildings into NZEB. This will be done through the implementation of Energy Efficiency (EE) and Renewable Energy measures at the Innovation and Training Park in Prizren (ITP). These buildings will be the first of this kind in Kosovo and they will serve as an example on how to go forward. The project is planned to start in 2019.

2.3. Overview of primary energy savings

The Energy Strategy of the Republic of Kosovo 2017 - 2026 is a basic ten-year document for the energy sector's development. It is based on the detailed energy sector analysis and defines five strategic objectives:

1. Security of a sustainable, high-quality, safe, and reliable electricity supply with adequate capacities for stable power system operation,
2. Integration in the Regional Energy Market,
3. Enhancement of existing thermal system capacities and construction of new capacities,
4. Development of natural gas infrastructure,
5. Fulfillment of targets and obligations in energy efficiency, renewable energy sources, and environmental protection.

For the realization of the Strategy's objectives, the team of experts has conducted different analyses of the energy sector, such as energy demand forecast based on the economic development forecasts according to the National Development Strategy 2016-2021 and the Economic Reform Program, **measures to reduce technical and commercial losses in the distribution system**, impact of thermal network expansion, use of renewable energy resources for sanitary water heating, energy efficiency measures, and market integration.

The Energy Strategy Implementation Program 2018-2020 is a document presenting the detailed activities for the implementation of measures provided for in the Energy Strategy of the Republic of Kosovo 2017-2026. The Energy Strategy Implementation Program 2018-2020 includes a list of 27 specific objectives and **97 activities envisaged to be undertaken for the development of the energy sector by 2020**. Key projects envisaged to be developed during this period are: start of construction of the new capacities; start of rehabilitation of TPP Kosova B; creation of a common market with the Republic of Albania as a step towards integration into the SEE market; **expansion of the district heating of Prishtina as well as Gjakova**; **undertaking of measures to reduce losses in the distribution network as well as a range of projects in the field energy efficiency,** renewable energy sources as well as environmental protection.

Projects implemented by KEK and Termokos were included in the report on primary energy savings achieved for 2016-2018. In total from these investments 51.01 ktoe were saved. Regarding 2019-2021 projects implemented by these two companies are expected to generate savings in the amount of 13.94 ktoe out of which 7.73 ktoe of primary energy savings are expected to be reached by the end of 2020.

The Transmission Operator stated that technical losses have achieved their minimum in 2015. Investments conducted from 2015 onwards were related to increasing the security of operation.

More detailed breakdown of energy efficiency measures implemented and planned in the supply side is provided in ANNEX III.

Table 3. Overview of the estimates of primary and final energy savings

	Primary energy savings (ktoe)	*Final energy savings (ktoe)*
2018 - Achieved	**165.09**	**62.34**
2020 - Forecast	**265.69**	**113.09**
2021 - Forecast	To be addressed in NECP 2021-2030	

The FEC savings achieved by 2018 are estimated using the "bottom-up" & "top-down" methods (more details in Annex I) and the corresponding primary energy savings are estimated using 3 year (2015-2017) average conversion factor PEC/FEC.

The projected FEC and PEC savings are estimated using the "bottom-up" & "top-down" methods (more detailes in Annex II and III) and the corresponding primary energy savings are estimated using 3 year (2015-2017) average conversion factor PEC/FEC.

2.4. Overview of final energy savings

According to Article 27(1) of the EED, Contracting Parties are required to comply with the requirements of Article 4(1) to (4) of the ESD concerning a general savings target of 9% in energy end-use by 2018. For Kosovo the **indicative target of 9%** for the time period of **2010-2018** corresponds to the amount of energy savings in energy end-use of **91,89 ktoe**.

Kosovo has already reported on the implementation of two 3 year NEEAPs covering time periods of 2010-2012 and 2013-2015. The report on the implementation of the 1st NEEAP showed that Kosovo has fulfilled mid-term target of 3%, but report on the 2nd period (2013-2015) showed non- achievement of intermediate energy savings target set. Nevertheless, it should be noted that to a great extent it was not due to a lack of interventions but mainly due to not yet properly functioning MVP and lack of statistical data, energy savings cannot be assessed and reported properly.

Preparing a report on the implementation of the 3rd NEEAP additional efforts were made to improve reporting on energy savings achieved, especialy in the household sector. A survey of suppliers of construction materials and household appliances was conducted to assess energy savings achieved implementing energy efficiency measures in the household sector. GIZ supported an assessment for the evaluation of energy savings achieved by EE measures implemented in the households sector, related to the reporting in the frame of NEEAP 2016-2018.

As stated in the third NEEAP, Kosovo aimed to reach total target of 9% of energy savings or 91.89 ktoe by 2018. Actual energy savings achieved by the end of 2018 are 62.34 ktoe or 6.11% of the target set.

A more detailed breakdown of energy savings reached implementing EE measures included in the 3rd NEEAP (2016-2018) and also a description of the methods used to calculate final energy savings is presented in Annex I.

An overview of final energy savings achieved under the ESD is provided in the table below.

Table 4. Overview of final energy savings (ktoe)

Sector	Total planned 2010-2018	Reported 2010-2012	Reported 2013-2015	Reported 2016-2018	Total achieved 2010-2018
Household	**30,64**	**28,06**	**3,42**	**15.91**	**47.39**
Transport	**12,28**			**0,80**	**0,80**
Services*	**24,84**	**3,86**	**4,71**	**3,71**	**12,28**
Industry**	**24,15**		**1,17**	**0,70**	**1.87**
TOTAL	**91,89**	**31,92**	**9,30**	**21.12**	**62.34**
Percentage (%)(compared to ESD reference consumption)	*9 %*	*3,13%*	*0,91%*	*2,07%*	*6,11%*

** - includes public services*
*** - includes agriculture*

3. POLICY MEASURES IMPLEMENTING EED

The Law on Energy Efficiency was adopted by the Parliament of Kosovo on 7 November 2018. This Law transposes the Energy Efficiency Directive and is applied by all public authorities and private sector, including providers of energy services and covers the whole energy chain including primary resources, production, storage, transport, distribution, supply and final energy consumption.

3.1. Horizontal measures

Most of arcticles of the Law on Energy Efficiency are at a rather early stage of implementation, good progress has been made on the implementation of Articles 12 and 17 - Consumer information programmes and training. MED has implemented promotional campaigns for energy efficiency and renewable energy sources each year during 2016-2018 and similar activities are planned for 2019-2021. Regarding article 16, trainers have been trained on energy audits in buildings, public street lighting and industry. This will enable the training of energy auditors in 2019 and in the future. Regarding article 8, the drafting the National Registry Model has been completed and work is ongoing related to the drafting of rerspective regulations on auditing. On article 18, a study on the assessment of barriers for the implementation of ESCO projects in Kosovo has been conducted and will be followed by futher actions to remove regulatory and non-regulatory barriers. Regarding article 9-11 work is ongoing in the drafting of the regulation on minimum requirements for billing and billing information based on actual consumption. As for articles 19-20, Kosovo Energy Efficiency Fund has been established and the first call for applications is planned to be announced in September 2019. In addition to that, work is ongoing related to the establishment of energy management systems in municipalities and other institutions at the central level. MVP is expected to be upgraded with new measures.

Regarding article 7, work has just started under REEP Plus project. More detailed information for the above mentioned articles is provided in the subsequent paragraphs.

3.1.1. Energy efficiency obligation scheme and alternative policy measures (Article 7)

Article 10 of the Law on EE sets the cumulative energy savings to be achived under the EEOS, obligated parties as well describes main principles and provisions for the elaboration of the program on implementation of the EEOS as well as parties/ instituions involved and their obligations.

Overall amount of energy savings that will be required over the obligation period

According to the Article 10 (4) the **KEEA shall determine the cumulative energy savings.** Making the calculations of cumulative energy savings the percentage values of 0,5% for the years 2017 and 2018 and 0,7% for the years 2019 and 2020 were used as it allowed by the EED.

The **cumulative amount of energy savings by 2020 is 51,2 ktoe**, which comes from the expected savings in 2017 and 2018 in the amount of 4,6 ktoe annually and 6,4 ktoe savings annually in 2019 and 2020.

Description of the implementation mechanism for Article 7

The Law of EE foresses EEOS's target shall be achieved with **a combination of implementation of alternative measures and by imposing EEOS to obligated parties**. The Law of EE also stipulates that **MED establishes EEOS** aiming at achieving cumulative energy saving target.

Article 10 (2) lists obliged parties - electricity and/or thermal energy system operators or retail energy sales companies and/ or liquid energy fuel distributors to retailers and/or direct supplying fuels to final consumers operating in Kosovo. The **Government shall define who shall contribute to the achievement of the energy efficiency obligation targets**.

Article 10 (6) of the Law on EE provides a list of the alterantive policy measures inclusing such potential measures as energy or CO_2 taxes that have the effect of reducing end-use energy consumption, financing schemes and instruments or fiscal incentives that lead to the application of energy-efficient technology or techniques and have the effect of reducing end-use energy consumption etc.

At the moment there is no decision taken regarding the EEOS implementation mechanism. According to the Article 10 (6) of the Law on EE **KEEA shall propose the policy measures, while the MED, in close collaboration with the Ministry of Finance and the Ministry for Trade and Industry shall submit the list of measures to the Government for approval**.

According to the Article 10 (10) and (11):

- **KEEA shall develop a three (3) year plan on the implementation of the EEOS** and submit it to MED. The plan can be revised every year as required. KEEA shall administer the EEOS, establish a control, reporting, measurement and verification system and report to the MED.
- MED, in collaboration with the Ministry of Finance and Ministry of Trade and Industry shall be responsible for the appropriate operation of the EEOS.

Artcile 10 (12) stipulates that the **Government shall approve secondary legislation defining at least**:

- the percentage of the cumulative target to be achieved through alternative measures and the percentage to be allocated to obligating parties;
- the list of obligated parties along with the cumulative target allocated in each obligated party;

- the selection of obligated parties bill be based on transparent and nondiscriminatory criteria including the volume of energy handled by each obligated party;
- the obligations of the obligated parties regarding reporting and facilitation of control, measurement and verification by KEEA;
- the procedures under which an obligated party can buy-out partly or fully its obligation by transferring to the KEEF the corresponding amount at a flat rate per ktoe defined by the Government;
- manner of control, measurement, verification and reporting by KEEA;
- actions and procedures to be undertaken by the responsible Ministries to ensure the Obligated Parties compensate the KEEF for energy savings non archived.

MED has reached an agreement with REEP Plus for the development of the policy approach for Article 7 of the EED. It is expected that the background studies will be finalized by the end of 2019.
It is planned that further elaboration of related secondary legislation will be done in Q1-2020 and it will be adopted by the Government in Q2-2020.

3.1.2. Energy audits and management systems (Article 8)

Article 11 (2) and (3) of the Law on EE stipulates that **enterprises that are not SMEs are subject to an energy audit** carried out in an independent and cost-effective manner by registered energy auditor or team of auditors as required, **by 5 November 2018** and at least every three (3) years from the date of the previous energy audit. Enterprises referred above are encouraged to **establish an energy and/or environmental management system** certified by an independent body according to the relevant European or International Standards. In this event those enterprises shall be **exempted from the requirement to conduct the energy audit**.

MED through secondary legislation **shall publish the list of** the above mentioned **enterprises** and shall **define the minimum requirements to be fulfilled by those enterprises regarding energy management procedures** and **the reporting requirements**. The list **shall be renewed annually by 31 May**.

According to Article 11 (1) KEEA **shall develop programs to inform about the benefits of energy management and encourage SMEs to undergo energy audits** and the subsequent implementation of recommendations from such audits.

Article 11 (6) foresses that the energy audits may **stand alone** or be **part of a broader environmental audit** and **where applicable the energy audit shall include** as a special part an **assessment of the technical and economic feasibility of connection to an existing or planned district heating or cooling network**.

Article 12 (2) stipulates that **KEEA shall be responsible for managing the entire energy auditing scheme** that will be designed by secondary legislation on energy auditors and energy auditing approved by Minister and will regulate at least the following:

- training requirements for qualification and/or certification or accreditation of energy auditors, including requirements and manner of holding the final exams;
- method and procedures to establish and maintain an electronic registry of energy audits and energy auditors;
- requirements and procedures for registration of qualified energy auditors in electronic register of KEEA;
- code of conduct of energy auditors;
- obligations of the auditors regarding the reporting to KEEA;

- methods and procedures for quality control of energy audit reports and energy auditors, based on the control of a sample of the energy audit reports they carry out;
- reasons and procedures for removal from the registry of auditors due to poor performance and/or violation of the code of conduct;

Article 12 (4) stipulates that for the purpose of guaranteeing the high quality of the energy audits and energy management systems, **MED shall establish transparent and non-discriminatory minimum criteria for energy audits based on secondary legislation** on templates, guides and other documents issued by KEEA as well as on specific requirements that may be issued by institutions that finance/support the relevant energy efficiency investments.

During 2016-2018 approximately 140 energy audits have been conducted under KEEREP. In addition the Regulation for the system of energy efficiency professionals and minimum criteria on energy auditing is under finalization by the MED Legal Department.

In order to fulfill the above mentioned obligations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of the EED Article 8 obligations.

Action plan for the implementation of the EED Article 8 obligations

Activity	Resposible party	Deadline	Comments
Energy audits in large enterprises			
List of large enterprises which are subject to a manadatory energy audit to be published	MED	Q3-2019	Respective regulation is under finalization by the MED Legal Department.
Regulation on minimum criteria for energy audits including those carried out as part of energy management systems: - Respective regulation is under finalization by the MED Legal Department. - Planned to be signed by the Minister, MED	MED	Q3-2018 Q4-2019	EU funded project provided draft (part related to EnMS)
Program to inform about the benefits of energy management and encourage SMEs to undergo energy audits	KEEA		
Entire energy auditing scheme			
Regulation on Minimum criteria for energy audits including those carried out as part of energy management systems: - Respective regulation is under finalization by the MED Legal Department. - Planned to be signed by the Minister, MED	MED	Q2-2019 Q4-2019	GIZ support (part related to energy audits)
- Regulation for the system of energy efficiency professionals and minimum criteria on energy auditing Regulation is under finalization by the MED Legal Department. - Planned to be adopted by the Government	MED	Q2-2019 Q4-2019	GIZ support

Drafting the National Registry Model - Database for: - Register of performance certificates - Record of inspection reports for heating and air conditioning systems - List of energy auditors, assesors and independent experts. - List of independent quality control	MESP-MED	Operational Q3-2019	EU funded project
Electronic register of energy auditors and energy audits operational	KEEA	Operational Q3-2019	EU funded project

3.1.3. Metering and billing (Articles 9-11)

Article 16 (1) of the Law on EE stipulates that the consumption of the final customers using electricity, natural gas or thermal energy shall be measured through individual meters that accurately reflect the actual energy consumption and provide information on actual time of use, in so far as it is technically feasible financially reasonable and proportionate to the energy savings. Above mentioned article also describes cases in which such meters shall always be installed at competitive prices, when:

- an existing meter is replaced;
- a new connection is made in a new building or a building undergoes major renovations as set forth in the Law on Energy Performance on Buildings.

According to Article 47 (1.7) **MED shall elaborate the Regulation on minimum requirements for billing and billing information based on actual consumption**.

In order to fulfill the above mentioned obligations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of the EED Articles 9-11 obligations.

Action plan for the implementation of the EED Article 9-11 obligations

Activity	Resposible party	Deadline	Comments
Regulation on minimum requirements for billing and billing information based on actual consumption: - drafted and submitted to MED - regulation is under finalization by the MED Legal Department. - planned to be signed by the Minister, MED	MED	 Q3-2018 Q3-2019 Q4-2019	 EU funded project

3.1.4. Consumer information programmes and training (Articles 12, 17).

Article 14 (1) of the Law on EE stipulates that **KEEA shall undertake appropriate actions** to promote and facilitate an efficient use of energy by small energy customers, including domestic customers.

MED has implemented promotional campaigns for energy efficiency and renewable energy sources each year during 2016-2018. These promotional campaigns aimed to raise awareness of all categories of energy consumers, reflecting the importance of the use of energy saving measures as well as the use of renewable energy sources. The campaigns included the placement of billboards as well as broadcasting of promotional advertisments in LED monitors in different cities in Kosovo and in different areas depending on the targeted sector. In 2016 the campaign focused on the industry sector highlighting the importance of energy efficiency measures as well as reneweable energy sourcess in this sector. In 2017 the focus was on the importance of EE and RES measures in the services sector (public and private), whereas in 2018, the focus was on the transport sector (public and private).

Similar activities are planned for 2019-2021 as well. In 2019 the campaign will focus in all sectors combined and it will aimaiming at raising awareness on the importance of EE and RES. Main activities will involve billboards, broadcastings, brochures as well as televised debates. In 2020 and 2021 the focus will be on the residential and industry sector.

3.1.5. Availability of qualification, accreditation and certification schemes (Article 16)

Article 13 of the Law on EE foresses that KEEA may adopt and define measures that promote availability of certification schemes for Energy Management Systems. Other relevant qualification, accreditation and certification schemes may be promoted including trainings to energy efficiency professionals, installers of energy-related building elements and other energy market stakeholders to increase capacities, make available reliable customer services and contribute to the achievement of national energy efficiency objectives.

Above mentioned schemes shall be made publicly available including appropriate awareness raising measures.

GIZ KEEP Project has supported the training of trainers on energy audits in buildings (24 trainers trained) and public street lighting (7 trainers trained, same trainers are included in the number 24 above) in the period 22.10.2018 – 09.11.2018, and the training of trainers in industry (13 trainers trainers) in the period 26.11.2018 – 14.12.2018. The training of energy auditors, supported by GIZ KEEP is planned to be done latest by December 2019.

GIZ KEEP also supported to the drafting of the the Regulation for the system of energy efficiency professionals and minimum criteria on energy auditing is under finalization by the MED Legal Department. In addition, thisRegulation will specifies the following processes:

- procedures for the selection of the Training Institution for the training of energy efficiency professionals;
- training program and related processes;
- application & selection criteria;
- the administration of the National Registry.
- Certification, licencing, code of conduct.

In order to fulfill the above mentioned obligations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of EED Articles 16 obligations.

Action plan for the implementation of the EED Article 16 obligations

Activity	Resposible party	Deadline	Comments
Regulation for the system of energy efficiency professionals and minimum criteria on energy auditing - regulation is under finalization by the MED Legal Department - planned to be adopted by the Government	MED	Q2-2019 Q3-2019 Q4-2019	GIZ support
Training program for qualification and certification of energy efficiency professionals	MED-AKEE	Q4-2019	GIZ support
Code of Practice for Energy Audits, Energy Performance Certificates and Inspection of HVAC Systems	MED-AKEE	Q3 2019	GIZ support Incuded within the Regulation.
Trainign of energy assessors to use iSBMXK software	MESP	Q3-2019	EU funded project

3.1.6. Energy Services (Article 18)

Article 15 (3) of the Law foresees that **KEEA shall publish** on its website:

- best practices for energy performance contracting, guidelines, sample contracts, including clauses to be included in such contracts to guarantee energy savings and end-consumer rights;
- the list of registered energy service providers that must be regularly updated;
- any available financial instruments, incentives, grants and loans to support energy efficiency service projects.

Article 15 (5) of the Law on EE stipulates that **MED, supported by KEEA shall identify the regulatory and non-regulatory barriers** that impede the uptake of energy performance contracting and other energy efficiency service models both for the public and private sectors. The **MED shall propose to the Government to adopt the necessary secondary legislation** aiming at removing these barriers and enable energy performance contracting, both in the private and the public sector.

REEP+ has supported a study on the assessment of barriers for the implementation of ESCO projects in Kosovo, now it should be followed by the respective amendments in legal acts. The study which is still a draft, has identified the following barriers:

Organizational Gaps:

- Lack of Statutory Models for Energy Performance- and Energy Supply Contracting
- Lack of Capacities and Coordination in the Public Sector
- Need for streamlining Multiple Jurisdictions for a Single Project Approval

Flexibility Gaps:

- Need for Identification of Obligatory and Flexible Elements in ESCO Models
- Need for clarifying the Scope of possible ESCO Agreements
- Need for clarifying the Method of determining the Project Value

Commercial Attractivity / Economic Viability Gaps:

- Need to clarify/ revise the Budget System Law concerning Multi-Annual Budgeting
- Need to clarify the Handling of Grants
- Need for Flexibility for Timing of Ownership-Transfer from Private to Public Partner
- Need to clarify the Timing of VAT Payments

Task has been included as a priority task to MED as well as related ministries & Energy Operators for 2019 in the Energy Strategy implementation program 2018-2020.
In order to fulfill the above mentioned obligations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of the EED Articles 18 obligations.

Action plan for the implementation of the EED Article 18 obligations

Activity	Resposible party	Deadline	Comments
Study on the main barriers for ESCO projects in Kosovo	MED	2018	Supported by REEP Plus
In Article 15 (3) listed information published on webpage	KEEA	Q3-2019	
Assessement of regulatory and non-regulatory barriers	MED/ KEEA	Q3-2019	
Secondary legislation elaborated and submitted to the Government for adoption	MED	Q4-2019	

3.1.7. Other energy efficiency measures of a horizontal nature (Articles 19 and 20)

1. Analysis of barriers for EE regulatory and non-regulatory barriers to energy efficiency

Nine (9) Home Owner Associations have been established with the support of KEEREP project. In addition, 9 detailed energy audits and 5 technical designs have been completed. This enables HOAs to apply to banks or grant schemes for implementing energy efficiency measures in multi-appartment buildings.

2. Setting-up the Kosovo Energy Efficiency National Fund (*EED Article 20*)

KEEF is established by the Law on EE as an independent, autonomous and sustainable entity to enable the Government of Kosovo to achieve its policy objectives on EE by promoting, supporting and or implementing energy efficiency measures, as well as attracting and managing financial resources in order to finance and implement investment projects in the area of EE in a sustainable manner.

KEEF is established by this Law as an independent, autonomous and sustainable non-profit legal entity, at the service of the public interest, with full legal personality and legal identity that is separate and distinct from the KEEF Board of Directors. CHAPTER VII of the Law on EE describes main prociples of its operations.

To ensure KEEF's sustainability it will operate under the revolving mechanism. Netvertheless, KEEF can maintain in parallel a non-revolving component to provide grants, partial guarantees and other non-revolving financing instruments, as well as to be used for repayment by the KEEF of funds provided by a funding institution under repayment conditions. Financial instruments and the related agreements may include but not limited to:

- Energy Service Agreements for projects to be fully implemented by the Fund in Public Entities,
- other types of agreements, combined or not with grants for projects to be financed by the KEEF for eligible residential customers and possibly other beneficiaries,
- other Financing Instruments and agreements targeting the public and/or the private sector energy consumers for the support and/or implementation of EE measures assigned to KEEF to archive energy efficiency targets stipulated by the Law on Energy Efficiency.

Sources of funding for KEEF include:

- initial capital of the Fund enabling its establishment and the initial years of operation until the Fund becomes fully self-sustainable. The initial capital can be used to cover operation expenses and shall be safeguarded under by the Ministry responsible for Finance. The initial capital can be provided either from the State Budget or donors assistance or from combination of both sources,
- capital contributions by the Government of Kosovo or donors in form of grant or subsidies,
- in kind contributions by the Government of Kosovo such as provision of office space and the like,
- revolved capital invested in the form of ESA Energy Saving Agreement and other products,
- income from investments in form of fees, charges and interests,
- the interest income from deposited capital and assets,
- capital contributions deriving from other sources as defined by provisions of this Law such as the Energy Efficiency Obligation Scheme,
- borrowings.

It is planned that KEEF will be fully staffed and operational by mid-2019.

3. Additional horizontal measure – Upgraded version of the MVP

Meetings with different stakeholders held during the process of the elaboration of the 4th NEEAP re-confirmed that the current system of data gathering is not working properly. Many stakeholders that are providing financing/ support to the implementation of projects that are not directly targeted on energy savings but have them as a side effect are not aware of the obligation to report on energy savings achieved.

At the same time, many stakeholders expressed a readiness to integrate such monitoring parameter but it should be done at the beginning of the design of the support scheme. Otherwise, it would take too much time and human resources to go back and analyze on the case-by-case basis.

GIZ-KEEP Project is supporting 13 municipalities (Prishtina, Prizren, Podujevë, Gjakovë, Mitrovica South, Drenas/Gllogoc, Rahovec, Kllokot, Partesh, Viti, Shtime, Klinë and Istog) on establishing the Municipal Energy Management System. For supporting all 13 municipalities, the GIZ KEEP has engaged the consultancy and the support consists on:

- Inventarization of all public owned municipal buildings by collection of the detailed data for each municipal owned building (surfaces and condition of each envelope building element, heating and cooling systems in the buildings, as well as the lighting system) and data for the current condition of the public street lighting: These data have to be collected based on the questionary appropriate for the IT tool for energy management.
- Collecting the energy consumption data for each municipal owned building (data for heat energy consumption, data for electricity consumption and data for water consumption).
- Collecting the electricity consumption data for public street lighting.
- Provide and installation of the IT tool for Municipal Energy Management - ENMASOFT.
- Training of the municipal officers for the use of the ENMASOFT.
- Training of the management and technical staff for the municipal energy management topic and energy planing

- Providing on-the-job training to municipal staff for Inserting the collected data for municipal owned building and public street ligting to the ENMASOFT for Municipal Energy Management.
- Processing the data and drafting the MEEAPs.

The IT tool for municipal energy management ENMASOFT is provided by GIZ-KEEP with the approval of KEEA in 2017, based on the experiences of the GIZ in Bosnia and Herzegovina (BiH) after the Study vizit in BiH in 2017 of the delegation composed by officials of the KEEA, MED, GIZ-KEEP, Association of Kosovo Municipalities and EE Comission of the Public Services Collegia.

Activities realized up to date:

- **Installation of ENMASOFT**: the testing version of ENMASOFT is installed and functionalized in 13 above mentioned municipalities and KEEA. By the cooperation with EU project, the GIZ-KEEP has installed ENMASOFT in 36 out of 38 municipalities. In the remaining 2 municipalities ENMASOFT is not installed due to political reasons .
- **Capacity building** of the municipalities in regard to municipal energy management and energy planning: in cooperation with the AKM, GIZ-KEEP has provided the three day training for all Kosovo municipalities in April and September 2018.
- **Training on the use of ENMASOFT:** the first 3 days training for KEEA, several ministries and 6 municipalities was done in January 2018 by GIZ-KEEP, the second 3 days training for 7 municipalities and KEEA new staff was organized in October 2018, the third and fourth 3 days training was provided to the rest 25 municipalities by GIZ KEEP in cooperation with EU financed project implemented from the consortium led by GFA, trainings were held in June and July 2019.
- **Data collection** is done for the municipalities of: Prizren, Drenas/Gllogoc, Podujevë, Mitrovica South, Prishtina, Gjakova, Shtime, Partesh, Viti, Rahovec, Kllokot, Istog and Klina. The collected data are inserted in the ENMASOFT by the first six municipalities, Prizren, Drenas/Gllogoc, Podujevë, Mitrovica South, Prishtina, Gjakova, with on-the-job training support of GIZ-KEEP. For the rest 7 municipalities (Rahovec, Kllokot, Partesh, Viti, Shtime, Klinë and Istog) the insertion of the data into the software with on-the-job training support of GIZ-KEEP is in process of finalization.

The ToT training for the use of MVP as well as the upgraded version of MVP with new measures will be provided by GIZ ORF EE during 2019. The training for ministries and municipalities will be facilitated and supported by GIZ-KEEP.

Action plan for the improving the M&V process

Activity	Resposible party	Deadline	Comments
Administrative Instruction on energy content of selected fuels for end use: - AI is under finalization by the MED Legal Department - planned to be signed by the Minister, MED	MED	 Q3-2018 Q4-2019	 EU funded project provided draft regulation
Administrative Instruction on common methods and principles for calculating theimpact of	MED		

energy efficiency: - AI is under finalization by the MED Legal Department - planned to be signed by the Minister, MED		Q3-2018 Q4-2019	EU funded project provided draft regulation
Guidelines on the general framework for reporting on the progress achieved in the - National Energy Efficiency Action Plan: drafting process to be completed - planned to be signed by the Minister, MED	MED	Q3-2019 Q4 2019	

3.2. Energy efficiency measures in buildings

The significantly big potential for the implementation of EE measures which includes increasing energy savings, improving the quality of life for citizens, creating new jobs, and developing local businesses in the field of EE, is an indicator of the importance of having a strategy that focuses on strategic and investment planning in the building sector.

Work on the elaboration of the strategy for mobilizing investment in the renovation of the residential and commercial buildings, both public and private has started under REEP Plus project. Regarding EPBD implementation, 4 main regulations have been approved and NZEB Plan is in the final stage of elaboration. More information regarding the above mentioned articles is provided in the subsequent paragraphs.

3.2.1. Addressing the requirements of the recast EPBD (2010/31/EU)

Regarding the progress made towards fulfilling the obligations of EPBD, Article 5 par. 2, Article 10 par. 2, Article 14 par. 4, and Article 15 par 4, are not transposed in the Law on Energy Performance in Buildings. Despite this, there has been progress related to the following aspects:

- Calculation of cost optimal levels of minimum energy performance (EPBD Article 5(2)).
  - Cost optimal level standards of minimum energy performance in existing residential buildings are included in the building typology of the residential sector. The typology is expected to be approved by mid-June 2019.
- Alternative measures for heating and air conditioning systems (EPBD Article 14(4), Article 15(4))
  - Regulation MESP No. 01/2018 for Inspection of Heating and Air-Conditioning System has been adopted on 16.02.2018.

In addition to this during 2016-2018, Kosovo has adopted the following laws and regulations:

- Law No. 05/L-101 on Energy Performance of Buildings which transposes Directive 2010/30/EU and which was adopted on 15.12.2016.
  - Regulation (MESP) No.02/18 on National Calculation Methodology for Integrated Energy Performance of Buildings adopted on 07.12.2018;
  - Regulation MESP No.03/18 of The Procedures on Energy Performance Certification of Building adopted on 10.12.2018;
  - Regulation MESP No.04/18 for Minimum Requirements for The Energy Performance of Buildings adopted on 13.12.2018;

- Regulation MESP No. 01/2018 for Inspection of Heating and Air-Conditioning System has been adopted on 16.02.2018.

Currently, there is ongoing work related to:

- The functionalization of the ISBEM software for the calculation of energy performance in buildings. The softare is expected to be finalized during 2019;
- Building typology for the residential sector in Kosovo which is expected to be finalized by mid-June 2019;
- The guideline for implementing minimal energy performance requirements in buildings which is expected to be approved during 2019;
- Drafting of the National Registry Model- Database[4] expected to be finalized during 2019;
- Drafting of the NZEB Plan[5] expected to be finalized and approved during 2019.

3.2.2. Building renovation strategy (Article 4)

Accordign to the Article 7 (1), **MED supported by KEEA, and in collaboration MESP, shall develop a long-term Strategy for mobilizing investments in the renovation of the residential and commercial buildings, both public and private**. MED shall submit the Draft Strategy to the Government for approval no later than **six (6) months after entry into force of this Law**, as a separate document.

MED has reached an agreement with REEP Plus for support in drafting the Building Renovation Strategy (BRS). The expected date for the completion of this assignment is 31st December 2019. It is planned that the BRS will be adopted adopted by the Government in Q1-2020.

3.2.3. Additional measures addressing energy efficiency in buildings and appliances

The EBRD Green Economy Financing Facility (GEFF) has been operational in Kosovo since 2018. GEFF provides finance for green economy investments in the residential sector as well as to businesses who provide energy efficiency and renewable energy products and services to households.

3.3. Energy efficiency measures in public bodies (Articles 5 and 6)

Significant progress has been made in the implementation of Article 5, the inventory of central government buildings has been published and the draft programme for renovation of central government buildings has been elaborated. Progress has been made on the drafting of Municipal Energy Efficiency Action Plans which are nearly completed. In addition, work is ongoing related to the drafting of the Administrative Instruction on Energy Efficiency requirements for purchasing products, services and buildings by central government under article 6. More information regarding the above mentioned articles is provided in the subsequent paragraphs.

[4] More detailed information has been provided under article 8

[5] More information has been provided under section 2.2 “Additional energy efficiency targets”

3.3.1. Central government buildings (Article 5)

Article 8 (7) of the Law on EE stipulates that by **31 July 2019, KEEA, in collaboration with the line Ministry responsible for management of public buildings, shall prepare and make publicly available an inventory of central government buildings**. This inventory shall at least contain the following data:

- the floor area in m2;
- the energy performance of each building or relevant energy data.

Article 8(8) stipulates that **MED, supported by KEEA and KEEF, shall prepare and submit to the Government for approval secondary legislation on the three (3) year renovation plan of central government buildings** that shall define, at least:

- the list of buildings owned and occupied by the central government to be renovated each year, the main energy efficiency measures and estimated investment costs;
- implementation arrangements for the renovation of buildings including the option to transfer this responsibility to KEEF;
- sources and methods of financing the investments including project preparation, tendering, implementation of supplies and works and post implementation verification;
- method of reporting to KEEA on the progress of implementation of the renovation plan.

KEEA shall be responsible for the establishment and administration of a scheme to achieve a minimum energy performance requirements in renovated buildings and annually, by 31 May, in collaboration with KEEF as required, shall prepare and present to the Ministry report including information on necessary amendments to the three (3) year buildings renovation plan of the central government institutions, if required, the number of contracts concluded during the previous year, the annual renovation rate of buildings, energy efficiency measures and total expenditure incurred, verification results and energy savings achieved over the previous year, as well as other relevant information. The report shall be published on the official websites of MED.

KEEA supported by the EU funded project "Support on Implementing the 3rd Energy Package with focus on Energy Efficiency and Reneweables" has been working on gathering data for the inventory of the Central Government Buildings as well as on drafting the three (3) year renovation plan of central government buildings.

Inventory of central government builidngs has been published on the web-page of MED:
http://qzk.komtelpe.net/NREPB/en/PublicReports/CentralGovBuildings

Inventory of central government buildings includes **385 buildings** with the **total floor area of 881 694 m²**. Overall target that needs to be achieved with measures and conditions listed in the draft plan for renovation of central government buildings is the renovation of at least 1% annually of the total floor area of central government buildings, starting with December 2017 to end of 2021, which represent 4,08 % or CGB Inventory or **36,017 m²**.

In order to fulfil the above metioned obligatations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of the EED Article 5 obligations.

Action plan for the implementation of the EED Article 5 obligations

Activity	Resposible party	Deadline	Comments
An inventory of central government buildings made publicly available	KEEA/ Ministry of Public Administration	Q2-2019	EU funded project
The calculation of the renovation obligation	MED/ KEEA & KEEF	Q2-2019	EU funded project
Three (3) year renovation plan central government buildings - drafted and submitted to KEEA/ MED - drafting process to be compteted - planned to be signed by the Minister, MED	MED/ KEEA & KEEF	 Q1-2019 Q2-2019 Q4-2019	 EU funded project

3.3.2. Buildings of other public bodies (Article 5)

Article 8 (11) stipulates that the Government shall encourage other public bodies not belonging to the government institutions of central level, including regional and local level bodies, as well as other bodies governed by public Law, to implement plans for renovation of buildings owned and occupied by them, following the exemplary role of the government institutions of central level.
Article 6 (1) of the Law on EE states that starting from 28 February 2019 and every three (3) years, municipalities shall prepare and submit to KEEA draft Municipal Energy Efficiency Action Plans that shall include proposed energy efficiency policy and energy efficiency improvement measures covering all sectors operating at the municipal level, including municipal buildings.

Article 6 (3) stipulates that the plan shall, among other, envisage the establishment and operation of municipal energy management and monitoring system and, where appropriate, individual energy management systems, including energy auditing for large energy consuming buildings and/or municipal companies, as well as for renovation of public buildings to meet the minimum energy performance standards set by the Law on Energy Performance of Buildings, and other energy efficiency measures undertaken in facilities under the control of municipalities.

Municipal Energy Efficiency Action Plans are in the process of development for all 38 municipalities of Kosovo and will be completed during 2019. This activity is being supported by the EU funded project "Support on Implementing the 3rd Energy Package with focus on Reneweables and Energy Efficiency" and by Kosovo Energy Efficiency Project (KEEP) implemented by GIZ. Development of MEEAPs will enable municipalities to apply to Kosovo Energy Efficiency Fund as well as to other donors so as to implement EE measures and reduce energy consumption.

Through implementing EE measures in public buildings during 2016-2018 3.67 ktoes have been saved.

3.3.3. Purchasing by public bodies (Article 6)

Article 9 of the Law on EE stipulates that central and local administration authorities, as well as all other public authorities or entities that apply the Law on Public Procurements and or the KEEF shall purchase only products, services and buildings with high energy-efficiency performance.

When tendering service contracts with significant energy content, above mentioned authorities and bodies shall assess the possibility of concluding long- term energy performance contracts that provide long-term energy savings.

The above mentioned principle shall also be applied to private legal persons in the event of contracting procurements of works, supplies or services financed and or subsidized at least fifty percent (50%) by public funds or through KEEF financial support.

In order to fulfil the above mentioned obligations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of EED Article 6 obligations.

Action plan for the implementation of the EED Article 6 obligations

Activity	Resposible party	Deadline	Comments
Administrative Instruction on Energy efficiency requirements for purchasing products, services and buildings by central government: - AI is under finalization by the MED Legal Department - planned to be signed by the Minister, MED	MED	Q3- 2018 Q4-2019	EU funded project provided draft

3.4. Energy efficiency measures in industry

The industry sector is the third largest energy consumer in Kosovo. KBRA data shows that about 98% of enterprises are micro[6]. The small number of small and medium sized enterprises is a serious obstacle to SMEs to become competitive against significantly larger companies from abroad. The lack of scaling up is the cumulative effect of company's inability to significantly increase sales, lack of investment in upgrading to modern facilities to improve quality.

Private Sector Development Strategy 2018-2022 aims to develop and implement industrial and SME policies **to raise private sector productivity**, to increase investments in industry and enterprise, to improve access to quality infrastructure and the implementation of trade policies needed to integrate Kosovo businesses into international markets, and to ensure industrial property rights that will protect investment in innovation, encourage the development high-value products and provide assurance to foreign entrants into the Kosovo market that their rights are protected.

According to the latest report on industrial development in Kosovo, food processing sector is the sector with the highest number of enterprises, followed by fabricated metals products sector and rubber and plastics product production sector. In terms of annual turnover and number of employees, food processing sector ranks first and is followed by the production of non-metal minerals products sector. **The National Development Strategy sets out the main interventions for the development of the industry for 2016-2021**. Development of industry is seen as key for the prosperity of the country and main areas of interventions include:

- Increased access to funding for Kosovar enterprises;
- Support networking of enterprises in similar industrial groupings;
- Improved quality of standards and move to activities with higher added value;
- Increased Foreign Direct Investments and Diaspora Investments;

[6] *Private Sector Development Strategy 2018-2022*

- Address the issue of fragmented agricultural land;
- Facilitate utilization of Kosovo's mining potential at the service of economic development;
- Full revitalization of Trepça mine;
- Increased effectiveness of state-owned companies;
- Invest Privatization Funds into strategic economic assets.

3.4.1. Main policy measures addressing energy efficiency in industry

Support instruments in the industry sector are mainly focussed on increasing productivity and expansion of production capacities. Therefore energy savings achieved are mostly seen as a positive side effect rather than the main focus for the investments made. In most of the support instruments energy savings haven't been yet integrated as an indicator that should be assessed and monitored therefore at the stage of reporting it is difficult to capture savings achieved.

Main support instrumemts to facilitate implementation of EE measures in industry are as follows:

KIESA

- Kosovo Investment and Enterprise Support Agency (KIESA) provides support to SMEs in the form of grants for purchasing and replacing production equipments. In addition, KIESA also provides support in the form of subisidies for consultancy as well as in helping SMEs to certify their products so as to enable them to increase their exports.

USAID EMPOWER

- EMPOWER is a project which supports private sector and has been operating since 2014. The project works closely with producers and service providers with the potential to serve a larger market. Support includes: expanding buyer connections and creating new market linkages, increasing and improving production, addressing skills needs through specific training and internship programs, and facilitating finance.

Kosovo SME Competitiveness Support Programme

- Kosovo SME Competitiveness Support Programme is an EBRD-EU Programme the purpose of which is to increase the capability of SMEs in Kosovo to access and face competition on the European Union ('EU') market, through supporting the implementation of the EU standards at SME level in the field of environmental protection, occupational health and safety and product quality and safety. The programme has been operating since 2018 and is implemented via commercial banks. To date, €25 million has been allocated to two partner commercial banks, Banka per Biznes and Procredit Bank Kosovo, which will be coupled with a dedicated package of technical assistance and incentive grants in excess of €5 million from the EU national Instrument for pre-Accession funding (IPA).

MFK Reliable Energy Landscape Project

- Under Reliable Energy Landscape Project implemented by Millenium Foundation Kosova businesses run by women will be supported in implementing EE measures via the provision of grants during 2019-2021.

First two support instrument were implemented in the reporting period and implementation to be continued in the 4th NEEAP. Kosovo SME Competitiveness Support Programme and MFK Reliable Energy Landscape project are two new support instruments.

3.4.2. Savings arising from industry measures

Implementing EE measures in the industry sector energy savings totalling to the amount of 0.7 ktoe have been reached in the reporting period and it is planned that continuing implementation of EE measures - 0.9 ktoe of energy savings will be reached in the next period.

Energy savings achieved implementing EE measures in the industry sector in the reporting period and planned for the next period are provided in Annex I and II (sub-tables on Energy efficiency measures in industry).

3.5. Energy efficiency measures in transport

Given that Kosovo is a landlocked country and it does not have a fully fuctional railway network, the main mode of transportation for both passangers and goods is road based transport. According to the information extracted from Ministry of Infrastructure, in total there are 6,937.00 km of roads (local and regional combined) and 333.00 km of unelectrified railway network a part of which if out of function. In addition to the road network and railway, Kosovo also contains three airports: Prishtina International Airport "Adem Jashari", Gjakova Airport, and one airport in Dumosh which is considered as a sports airport. However, only the first airport is functional.

The **Transportation Strategy 2015-2025** developed by Ministry of Infrastructure, lays out the main objectives for the development of the transport sector in the country. In the period between 2015-2025 Kosovo aims to:

- Connect with pan-european corridors;
- Improve the quality of services;
- Improvement of the security in traffic;
- Cooperation with international organizations;
- Building of a functional structure.

Among the large number of interventions planned for each of the above mentioned objectives, the strategy foresees a considerable number of activities in the railway sector. These activities are mainly related to the modernization and rehabilitation of existing railway lines as well as to the drafting of feasibility studies for the construction of new railway lines. Rehabilitation of railway line 10 will be done during 2019-2021. In addition to railway, the strategy also foresees activities related to road infrastructure, aviation, and sea ports. Interventions in road infrastructure are mainly related to the construction of new roads as well as on the maintenance of the existing ones. Whereas, in aviation, the strategy foresees the renovation of the airport in Dumosh.

Main policy measures addressing energy efficiency in transport

In 2017, Kosovo adopted the Law on Vehicles which prohibited the import of cars older than 10 years. However, there is no assessment regarding potential efficiency gains which might have resulted from such ban. Other interventions in transport sector are limited to municipal investment projects replacing old fleet in public transport. For instance, during 2016-2018 Municipality of Prishtina supported by EBRD has implemented the project for public transport

through which 51 new buses were purchased. These buses consume less fuel as compared to the previous ones.

3.5.1. Savings arising from transport measures

Implementing EE measures in the transport sector energy savings totalling to the amount of 0.8 ktoe have been reached in the reporting period

Energy savings achieved implementing EE measures in the transport sector and planned for the next period are provided in Annex I and II (sub-tables on Energy efficiency measures transport sector).

3.6. Promotion of efficient heating and cooling (Article 14)

The thermal energy sector in the country consists of four systems: DH Termokos - Prishtina, DH Gjakova - Gjakova, DH Termomit- Mitrovica and DH in Zvecan. Thermal energy sector fulfils only 3%-5% of the heating demand in Kosovo. The use of electricity for heating purposes represents a great burden for electricity supply, therefore, the development of district heating systems and improvement of the performance of existing district heating facilities aims to diminish use of electricity for heating purposes. The Energy Strategy of the Republic of Kosovo 2017-2026 underlines the importance of the district heating.

According to the Energy Strategy of Kosovo 2017-2026 the Government will implement the following measures to achieve objectives set with regard to the further expansion of district heating,:

- Expansion of the TERMOKOS network in line with the existing Master Plan for expansion, connecting municipalities neighboring Prishtina to optimize use of co-generation capacities provided by TPP Kosovo B and new capacities
- Construction of a new thermal energy generation plant in the existing Djakova City network, together with strengthening the existing network for optimal usage of new planned thermal energy capacity,
- Upgrades to the thermal energy systems in the cities of Mitrovica and Zvecan,
- Reduction of the technical losses up to 8% in 2026 in all networks,
- Preparation of conditions for the start of construction of thermal energy systems in large municipalities of Kosovo (Peja, Prizren, Gjilan, Ferizaj). It is based on the project approved by NIC, subject to pre-feasibility and feasibility studies that will be conducted prior to this measure,
- Feasibility study on the use of existing systems for the provision of other thermal energy products (in addition to space heating),
- Reduction in energy losses arising from technological processes of production of foundries by the utilization of heat produced by smelting for space heating of buildings in local urban areas,
- Carrying out of a comprehensive study for the energy sector through to 2050, which will encompass district heating in details.

In recent years, considerable investments have been made or are in the preparatory phase in DH Termokos. These investments are mainly related to the rehabilitation and expansion of network, installing and rehabilitation of thermal substations, and installing of regulating valves. In addition, thermal energy meters are expected to be provided for the customers of DH Termokos under the Reliable Energy Landscape Project which is implemented by Millenium

Foundation Kosova. This will transform billing into consumption based and is expected to lead to more efficient thermal energy use. Moreover, in 2017 the Master Plan for development of DH Termokos network/system has been prepared, whereby thoroughly elaborating the development of DH Termokos network.

As for DH Gjakova, a new district heating based on biomass is in the process of being constructed. The project is financed under IPA and its main components are:

- 2 units generating only thermal energy: with capacity 7 MWTH and 2 MWTH;
- The third unit is foreseen to be a cogeneration of thermal energy and electricity, with a capacity of 8 MWTH and 1.57 MWEL;
- Installations of relevant equipment of new district heating and connection to the distribution network of thermal energy, namely electricity.

The two figures below provide a depiction of the performance of thermal energy sector during seasons 2016/2017 and 2015/2016.

Table 5 Energy Performance of thermal energy sector 2016/2017 season

Thermal Energy Sector - 2016/2017 season				
Description	Unit	DH Termokos	DH Gjakova	Total
Thermal energy gross production	[MWh_{th}]	225,438	6,700	232,138
Losses in transport network	[MWh_{th}]	4,380	0	4,380
Losses in percentage in transport network	[%]	1.94	0.00	1.94
Own consumption	[MWh_{th}]	950	450	1,400
Thermal energy net production	[MWh_{th}]	220,108	6,250	226,358
Quantitative losses in distribution network	[MWh_{th}]	23,646	1,562	25,208
Losses in percentage in distribution network	[%]	10.74	25.00	11.14
Customers supply with thermal energy	[MWh_{th}]	196,462	4,687	201,149

Source of Information: Energy Regulatory Office, Annual Report 2017

Table 6 Energy performance of thermal energy sector 2015/2016 season

Thermal Energy Sector - Season 2015/2016				
Description	Unit	DH Termokos	DH Gjakova	Total
Thermal energy gross production	[MWh_{th}]	198,696	6,265	204,961
Losses in transport network	[MWh_{th}]	3,417	0	3,417
Losses in percentage in transport network	[%]	1.72	0.00	-
Own-consumption	[MWh_{th}]	3,000	450	3,450
Thermal energy net production	[MWh_{th}]	192,279	5,815	198,094
Losses in distribution network	[MWh_{th}]	27,390	1,454	28,844
Losses in percentage in distribution network	[%]	14.24	25.00	-
Customers supply with thermal energy	[MWh_{th}]	164,969.0	4,361.0	169,330

Source of Information: Energy Regulatory Office, Annual Report 2016

Article 19 (1) of the Law on EE stipulates in order to promote energy efficiency in heating and cooling, including high-efficiency cogeneration, **MED shall carry out a comprehensive assessment of the potential for application of high-efficiency cogeneration and efficient heating and cooling by 30 November 2018**. The elements and requirements of such assessment will be described in secondary legislation – Administrative instruction on potential for efficiency in heating and cooling.

The above mentioned assessment will be based on the cost-benefit analysis that shall take into consideration the climate conditions, economic feasibility and technical suitability in order to identify cost-efficient solutions to meeting heating and cooling needs. MED **will prepare a methodology** for cost benefit analyzes that complies with requirements of secondary legislation - Administrative instruction on general conditions for cost-benefit analysis which will be elaborated **within three (3) months upon entry into force of this Law**.

MED conducted a study in 2012 which analyzed financing options for the construction of thermal power systems in several developed cities in Kosovo. Cases of the cities of Peja, Prizren, Gjilan, and Ferizaj have proven their cost-effectiveness. The Energy Strategy 2017-2026 therefore supports its development. In order to limit the burden on the public purse, the projects will be undertaken with the involvement of private capital through public-private partnerships.

Recently, MED has submitted to WBIF a request for supporting a feasibility study and ESIA for district heating systems in Kosovo in regions of Ferizaj, Gjilan, Peja, Prizren, Mitrovica and in Drenas and Obiliq/Kastriot municipalities. If support is to be granted, this feasibility study is expected to deliver the following:

- Assessment of heating demand;
- Assessment of cogeneration, renewables, gas and other fuel used for heating;
- Assessment of heating potential – heat load intensity for each city;
- Identify the urban city areas appropriate for district heating system;
- Assessment of investment cost of district heating infrastructure;
- Identify fuel options (cogeneration, renewable, gas, biomass);
- Identify best locations for heat generation plants;
- Cost-benefit analysis of the financial and economic factors relating to new DH systems, and upgrade of existing DHs (including fuel switching and network expansion in the context of specific investment costs, and reduced operational costs);
- Environmental and Social impact assessment for each identified location for heat generation plants in municipalities and impact on whole municipality region.

In order to fulfil the obligatations further steps to be taken by main institutions involved are reflected in the Action plan for the implementation of Article 14 of EED obligations.

Action plan for the implementation of Article 14 of EED obligations

Activity	Resposible party	Deadline	Comments
Administrative Instruction on General conditions for cost-benefit analysis: - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q2-2019 Q4-2019	 EU funded project

Administrative Instruction on potential for efficiency in heating and cooling: - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q2-2019 Q4-2019	 EU funded project
A comprehensive assessment of the potential for application of high-efficiency cogeneration and efficient heating and cooling	MED		Reqeust has been sent to WBIF for a feasibility study and ESIA for district heating systems in Kosovo in regions of Ferizaj, Gjilan, Peja, Prizren, Mitrovica and in Drenas and Obiliq/Kastriot municipalities
Administration Instruction on the Methodology for determining the efficiency of the cogeneration process - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q2-2019 Q4-2019	 EU funded project
Administrative Instruction on calculation of electricity from cogeneration - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q3-2019 Q4-2019	 EU funded project
Administrative Instruction on Certificate/Guarantee of origin for electricity produced from high-efficiency cogeneration: - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q3-2019 Q4-2019	 EU funded project

3.7. Energy transformation, transmission, distribution, and demand response (Article 15)

3.7.1. Energy efficiency criteria in network tariffs and regulations

Kosovo has made significant progress in implementing the obligations arising from the Third Energy Package, including transposition through the legal framework, developing the Transmission Network at the European level, with a minimum level of losses, while achieving improvement towards the Distribution Network, though not yet at a satisfactory level. In 2017,

the Regulator has designated the supplier with universal services, as well as the suppliers with final opportunity. Another important step is the deregulation of prices for generating and licensing for a considerable number of new suppliers in the market.

A very important aspect that promotes generating energy from renewable energy sources is the BRE support scheme. Through it, the Regulator has guaranteed subsidy (support) for all the projects that have new generating capacity from BRE with prices that cover investment and operating cost as well as allowing reasonable profit. In addition, in order for the system to benefit from the diversification and the efficient exploitation of resources, the Regulator, through the Support Scheme Rule, has prioritized the dispatching of all of BRE's generators, and has guaranteed the sale of energy with incentive tariffs for a considerable time period (10-12 years). Also, this scheme regulated the aspect of the generators for self-consumption, which includes the application of net metering for all household and small commercials, so they may take the incentive to produce their own electrical energy for self-consumption.

As a consequence of political problems, OST (KOSTT) has substantial problems with contracting ancillary services and interconnection capacities, by not being a full member of ENTSO-E and an area/block regulator. Thus even balancing the electricity system in Kosovo remains a challenge and obstacle that needs to be resolved urgently.

Seeing how the transmission and distribution network are regulated, it is the responsibility of the Regulator to set up incentive mechanisms to reduce losses. The regulator has developed efficient secondary legislation which regulates all aspects of improvement for energy infrastructure and the exploitation of energy efficiency overall. The Regulator approves 10 year network development plans as well as 5 year investment plans of the Transmission and Distribution Network which aim to improve security of supply, reducing the level of losses in the grid, integrating Renewable Energy Sources and encouraging the saving of energy to the end consumers.

One of the mechanism for network operators is to set targets for medium or long term periods for the reduction of losses. The purpose of loss reduction targets is based on the basic regulatory principle that the consumers are offered efficient service with minimal cost and for operators to benefit from their improved performance. So, if realized losses are smaller than the allowed losses, savings will remain with the licensee, whereas in the event that the level of loss reduction is not reached, the full cost of not achieving the target will be covered by the licensee.

ZRRE sets the allowable loss curve and the loss reduction targets in the Transmission and Distribution Network for a period of 5 years. In the second regulatory period 2018-2022 the net loss curve was as follows:

Table 7 - Allowed Network Losses for the Second Regulatory Period (2018-2022)

Allowed losses	Unit	2018	2019	2020	2021	2022
Allowing Losses for OST	%	1.78	1.78	1.78	1.78	1.78
Loss reduction target	%	-	-	-	-	-
Allowed losses for OSSH	%	18.80	18.80	17.60	16.40	15.10
Loss reduction target	%	-	-	1.20	1.20	1.30

Since losses in the transmission level have reached the optimal level of reduction during the first regulatory period (2013-2017), the Regulator has not set a target for further reduction, but has

set the maximum level of allowed losses to 1.78% and OST will not be compensated for exceeding this level for over a period of 5 years.

3.7.2. Facilitate and promote demand response

By March 2017, the Regulator has applied a tariff structure which incorporates many elements to promote electricity efficiency and transposition of consumption from peak time to off-peak. Thus, the tariff structure for household customers was divided into two seasons: winter (high season) and summer (low season); then split into two consumption times: daytime (high rates) and nighttime (low rates); and in three tariff blocks, applying higher tariffs for each higher level of consumption (level 0 to 200 kWh, level 200 kWh to 600 kWh and level above 600 kWh). This was aimed for energy efficiency and protecting low-income consumers.
The tariff structure for commercial customers was a bit simpler with no tariff blocks based on the consumer level.

In March 2017, the board of ZRRE approved a new tariff structure with substantial changes, by eliminating seasonal tariffs and tariff blocks and by applying average tariffs according to the different consumer categories. Even in the new tariff structure, tariffs based on consumption time (day and night) are maintained, which promote efficient energy consumption and promote the shift of consumption from peak to off-peak times.

Since distribution does not yet have smart meters installed for consumers at the 0.4kV level, especially for households, the Regulator finds it very difficult to impose tariffs that would reflect the real-time cost of consumption. Consequently, the Regulator has requested the OSSH to conduct a study that would demonstrate the technical and economic justification of installing smart meters for all end-consumers, including households. To this end, the OSSH is also implementing a pilot project that would assist in the study in question. This study will be developed throughout 2019 with the tendency that in 2020, the project in question will be begin to be implemented, If proven to be feasible. In addition, the Regulator has allowed tools for the operators to raise consumer awareness of energy efficiency. Thus network operators and Universal Service Providers are constantly encouraging consumers through various campaigns to save energy and make efforts to educate them on how to save energy. However, in the future, supported by numerous technological advancements, consumer awareness and the potential for energy savings will be much greater.

3.7.3. Energy efficiency in network design and operation

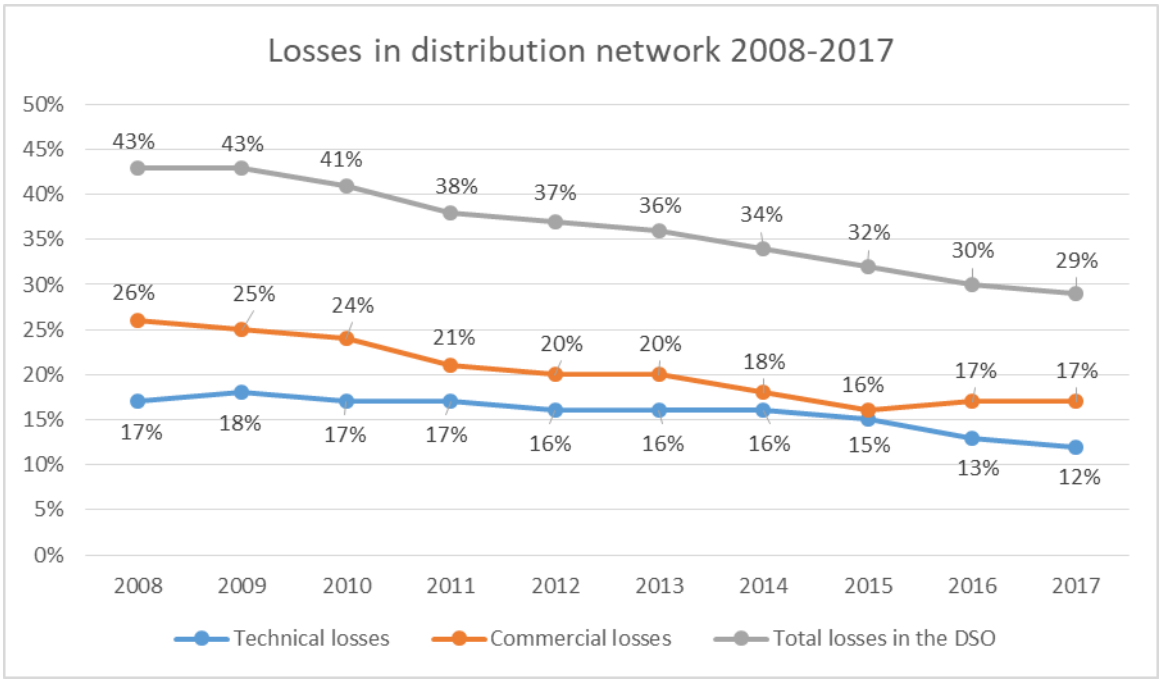
The overall length of transmission lines (400 kV, 220 kV and 110 kV) is 1,353.1 km. According to ERO, losses in Kosovo transmission network are nearly in the same level as losses in the regional and European transmission networks. The figure below presents transmission network losses in percentage compared to the overall demand of Kosovo energy system.

Table 6 Losses in transmission network against consumption 2008-2017

Source of Information: ERO Annual Report 2017

Regarding distribution network, the total length of lines is 26,646 km. According to ERO annual reports, during 2016 the investments performed in the distribution network were mainly emergency investments and focused in the network of low voltage and overloaded transformers, without neglecting other necessary investments. Whereas in 2017, EUR 23.4 million have been ivested in the distribution network, in medium and low level voltages. Such investments also played a role in reducing technical as well as commercial losses. Nevertheless, losses continue to be considerably high. In 2018, technical losses in the distribution system were 647,178 MWh and commericla losses were 755,239 MWh. The figure below represents technical as well as commercial losses in the distribution sector for 2008-2017.

Figure 7 Losses in the distribution network 2008-2017



Source of Information: ERO Annual Report 2017

Article 20 (3) of the Law on EE stipulates that the Transmission System Operator shall ensure, by **no later than 31 December 2018**, that:

- an assessment is undertaken of the energy efficiency potentials of the gas and electricity infrastructure, in particular regarding transmission, distribution, load management and interoperability, and connection to energy generating installations, including access for micro generators; and
- concrete measures and investments are identified for the introduction of cost-effective energy efficiency improvements in the network infrastructure, with a timetable for their introduction.

Action plan for the implementation of the EED Article 15 obligations

Activity	Resposible party	Deadline	Comments
Administrative Instruction on Energy efficiency requirements for transmission system operators and distribution system operators: - drafted and submitted to MED - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2018 Q3-2019 Q4-2019	EU funded project
Administrative Instruction on Energy efficiency criteria for energy network regulation and for electricity network tariffs: - drafting process to be completed - planned to be signed by the Minister, MED	MED	 Q3-2019 Q4-2019	
Assessment undertaken on the energy efficiency potentials of the electricity infrastructure		Q4-2019	

ANNEX I OVERVIEW OF FINAL ENERGY SAVINGS REACHED IMPLEMENTING 3RD NEEAP

The 3rd NEEAP included ten (10) sectoral energy efficiency (EE) measures:

- One (1) EE measure in Household sector,
- One (1) EE meaasure in Transport sector,
- Seven (7) EE meaasures in Services sector,
- One (1) EE meaasure in Industry sector

and three (9) Horizontal intersectoral EE measures.

Final energy savings were determined essentially in accordance with guidelines according to the methodology recommended earlier by the Commission. Consequently, both top-down (TD) and bottom-up (BU) indicators were used everywhere that was possible.

For investment projects, energy savings achieved were determined on the basis of available technical documentation (BU method).

In case of some state support schemes, like grant support schemes provided by the Kosovo Investment and Enterprises support Agency (KIESA), in case of some investment projects where data was missing, and in case of loans granted by the commercial banks to the household and industrial sectors when monitoring of the energy savings wasn't included in the monitoring system at a very beginning of the design/ implementation of the above-mentioned support schemes/ loans a program based approach was used to assess expected energy savings. In these cases, average numbers of investments needed to reach energy savings of 1 ktoe in the respective sectors were applied.

Household sector				
ID	Measure	Energy savings reached in 2016 - 2018	Financing of EE measures in Household sector	Comments
R1	EE improvement through the implementation of EE measures in the households sector	15,91 ktoe	GEFF through commercial banks 1.6 mill EUR	TD and BU methods were used to calculate energy savings Evaluation of energy savings by EE measures implemented in the households sector, related to reporting in the frame of NEEAP 2016-2018
	TOTAL	**15,91 ktoe**		
Transport sector				
ID	Measure	Energy savings reached in 2016 - 2018	Financing of EE measures in Transport sector	Comments
T1	Improvement of the public transport system in Pristina city	0.8 ktoe	EBRD provided loan 10 mill EUR to Pristina city to buy 51 new buses 12 of which consisted of replacement of old buses.	BU method was used to calculate energy savings
	TOTAL	**0.8 ktoe**		

Services sector				
ID	Measure	Energy savings reached in 2016 - 2018	Financing of EE measures in Servoces sector	Comments
S1	EE improvement in public institution buildings at the central level (WB project)	For measures S1, S2, S3, S4, S6, and S7, total achieved savings for 2016-2018 are 3.67 ktoe	S1- KEEREP - WB provided loan 5.76 million EUR to renovate 32 public builidngs S2- 1.9 million EUR were provided to renovate 5 public builidngs by MED	BU and TD method were used to calculate energy savings.
S2	EE improvement in public institution buildings in five facilities of the central level (MED)			
S3	EE improvement in public institution buildings at the central level (MPA, MoJ, CHCK, MIA and UP)			
S4	EE improvement in public institution buildings at the central level, in the lighting sector			
S5	EE improvement in public institution buildings at the local level (four municipalities, KfW project)			
S6	EE improvement in public institution buildings at the local level (MTEF)			
S7	EE improvement in public lighting at the local level			
	TOTAL	**3.67 ktoe**		

Services sector				
ID	Measure	Energy savings reached in 2016 - 2018	Financing of EE measures in Servoces sector	Comments
	Water related projects	0.04 ktoe.	Swiss Government through CDI - DORSCH 0.25 mill EUR	
	TOTAL	**0.04 ktoe**		

Industry sector*

ID	Measure	Energy savings reached in 2016 - 2018	Financing of EE measures in Industry sector	Comments
I1	EE improvement through the implementation of energy efficiency measures in SMEs	0.7 ktoe	KIESA invested 0.7 milion EUR (State budget resources) EMPOWER invested 0.62 milion EUR (USAID, Own resources and other donors)	TD method was used to calculate energy savings
	TOTAL	**0.7 ktoe**		

** - Agriculture is included in the sector of industry*

Horizontal measures**				
ID	Measure	Energy savings reached in 2016 - 2018	Financing of Horizontal EE measures	Comments
H1	Review of existing Energy Efficiency Law			
H2	Green public procurement implementation			
H3	Improving minimum energy efficiency requirements in new buildings and in existing buildings that are to be reconstructed according to the Law on Energy Performance of Buildings			
	Awareness raising campaign		126,980 EUR invested by MED	

*** - In order to avoid duplication, the results of intersectoral Horizontal measures were not included separately, as their effects are already included in sectoral results*

ANNEX II END-USE ENERGY EFICIENCY MEASURES PLANNED

Energy efficiency measures in buildings				
ID	Measure	Energy savings planned 2019 - 2021	Financing of EE measures in buildings	Comments
Savings arising from measures addressing energy efficiency in buildings and (Art4)				
B1	EE improvement through the implementation of EE measures in the households sector	**7.9 ktoe**	Millenium Foundation Kosovo through Reliable Energy Landscape Project will invest 17.6 milion EUR in residential building retrofits and 9.7 milion EUR in metering. KEEA will invest 2 milion in EE measures in residential buildings About 10 million EUR will be invested via GEFF, GGF however share of investments into EE measures is not clear. Expected energy savings have not been calculated.	
Savings arising from measures in central government (Art 5)				
B2	Renovation of Central Government Buildings	**0.36 ktoe**		
Savings arising from measures in other public bodies (Art 5)				
B3	EE improvement in public institution buildings at the central level (KEEREP project)	**3.24 ktoe**	KEEREP will invest 11.52 milion EUR in public buildings at the central level	
B4	EE improvement in public institution buildings and in public lighting at the central level and (MoJ, TSO, MPA)	**0.3 ktoe**	MoJ, TSO and MPA will invest 1.41 million EUR in building renovation and lighting renovation.	
B5	EE improvement in public institution buildings at the local level (four municipalities, KfW project)	**1.5 ktoe**	KfW will invest 7.5 mill euro	
B6	EE improvement in public institution buildings at the local level	**7.4 ktoe**	18 milion EUR will be invested by Kosovo Energy Efficiency Fund 9.95 million EUR will be	

			invested by Ministry for Local Government Administration 4.26 million EUR are expected to be invested by Municipalities through their own financing 1.58 million will be invested by MED through the support programme energy auditing of buildings and other obligated enterprises 0.9 milion EUR will be invested by KEEA through "Implementing EE measures Programme" and through Implementing EE and RES measures in Digital Excelence Centre ITP Prizren 1.46 million will be invested by MEST in school renovations	
	TOTAL	**20.7 ktoe**		

Energy efficiency measures in industry*				
ID	Measure	Energy savings planned 2019 - 2021	Financing of EE measures in industry	Comments
I1	EE improvement through the implementation of energy efficiency measures in SMEs	**0.9 ktoe**	0.7 milion EUR will be invested by KIESA 0.15 milion EUR will be invested by USAID EMPOWER 0.88 milion EUR will be invested by MFK through Reliable Energy Landscape Project Above 20 million EUR will be invested via GEFF and Kosovo SME Competitiveness Support Programme, however share of investments into EE measures is not clear. Expected energy savings have not been calculated.	
	TOTAL	**0.9 ktoe**		

** - Agriculture is included in the sector of industry*

Energy efficiency measures in transport				
ID	Measure	Energy savings planned 2019 - 2021	Financing of EE measures in transport	Comments
T1				
	TOTAL			

Horizontal measures**				
ID	Measure	Energy savings planned in 2019-2021	Financing of Horizontal EE measures	Comments
H1	Awarenss raising campaign (Art 12)		0.15 mill EUR will be invested by MED	
H2	Secondary legislation elaborated (Article 7)			Supported by REEP Plus
H3	Secondary legislation on energy auditing (article 8 and 16)			Supported by EU funded project and GIZ KEEP
H4	Regulation on minimum requirements for billing and billing information based on actual consumption			Supported by EU funded project
H5	Secondary legislation to remove regulatory and non-regulatory barriers for ESCOs			
H6	Extension of MVP (including Enmasoft)			Supported by GIZ
H7	KEEF operational			Supported by the EU funded project
	TOTAL			

*** - Expected energy savings and planned financing for the implementation of EE measures related to other Horizontal measures are included in sectors related decription and aren't repeated in this table to avoid duplication*

ANNEX III OVERVIEW OF SYPPLY-SIDE ENERGY EFFICIENCY MEASURES IMPLEMENTED AND PLANNED

Supply-side EE measures implemented				
ID	Measure	Energy savings achieved 2016 - 2018	Financing of supply-side EE measures	Comments
SM 1	Supply Pumps and Dam Pumps and Reducer (Voith) to Supply Pumps Block A3 / A4 (2018)	**2.75 ktoe**	4.2 million EUR	Savings: Cost reduction: 1.5%. Reduction of unplanned falls of units A3&A4 Saving: 16,000 MWh / Year per Block, = 2x16,000 MWh = 32,000 MWh
SM 2	Capital repair of the steam turbine and electric generator of B2 unit in TPP Kosovo B (2017-2018)	**7.73 ktoe**	12 million EUR	From the current average of power which is around 285 MW/el, the unit is expected to have the power of about 300 MW/el. This way, an increase of 5% of electrical energy is reached. The annual growth value of the Power Generation is: 90,000 MWh. Annual Power Generation: 90,000 MWh / Year
SM 3	Replacement of the SMT collector for the B1 boiler in TPP Kosovo B (2017)	**1.71 ktoe**	0.21 million EUR	The annual electricity energy savings should be around : 20,000 MWh / Year
SM 4	Capital repair of the steam turbine and electric generator of B1 unit in TPP Kosovo B (2017-2018)	**7.73 ktoe**	11.5 million EUR	It is expected that the efficiency of the turbine together with the generator will be increased by: 5%. At the current average power of the unit which is around 285 MW /el, the unit is expected to have the power of about 300 MW /el With this we have an increase in electricity production by: 5%. The growth value is 90,000 MWh / Year The Annual savings: 90,000 MWh / Year
SM 5	Modernization of the transmission system of lignite mills in units B1 & B2, of TPP Kosova B (2017-2018).	**26.74 ktoe**	2 million EUR	It is expected that the Mazut consumption savings will be: 150 ÷ 200 tonnes / year (same energy production with fewer fuels). Annual savings: 311,000 MWh / Year
SM 6	Replacement of RBT and RHT steam over-heaters in unit B1, at TPP Kosova B (2018)	**3.52 ktoe**		The annual eletricity energy savings should be around 41,000 MWh/Year
SM 7	Rehabilitation of distribution network (Tender N0.4)	**0.83 ktoe**		Power losses from: 33,598.55 MWh / Year were reduced to: 23,876.25 MWh / Year Saving: 9722 MWh / Year
	TOTAL	**51.01 ktoe**		
Supply-side EE measures planned				
ID	Measure	Energy savings planned 2019 - 2021	Financing of supply-side EE measures	Comments
SM 1	Overhaul of turbine and electric generator in Block A3 (2019	**7.73 ktoe**	5.5 million EUR	Turbine efficiency along with the generator will be increased: 6%. Current power average is around: 285 MW / el, unit is expected to have power: 300 MW /

				el Increase in electricity production by 5% Saving: It is expected that after overhaul we will have an annual savings of around 90,000 MWh / Year
SM 2	Modernization of 5 cooling tower domains in blocks (A3 or A4 or A5) carried over from 2017	**1.71 ktoe**	3.4 million EUR	Savings: - Reduction of Decarbonated Water, - Increase of production power of Unit A4 by 4 MWh or 3.4%, - Unit A4 operates 5000 working hours per year, So 5000 x 4 MWh = 20,000 MWh additional output for one year. The annual electricity saving is about: 20,000 MWh / Year
SM 3	Project for rehabilitation, expansion and densification of the thermal energy distribution network (2019-2021)	**1.73 ktoe**		Reduced losses are estimated at 16,000 MWh / year thermal energy, Total Saved Value. Energy (water) losses of 11% are expected to fall to 8% per year
SM 4	Replacement of RBT and RHT steam over-heaters in unit B2, at TPP Kosova B (2019-2021)	**1.71 ktoe**	2.5 million EUR	It is expected that the cost savings due to the eventual reduction of leaks from this area will be around: 40,000 MWh / Year. The annual electricity saving is about: 40,000 MWh / Year
SM 5	Project for the rehabilitation and expansion of the distribution of Thermal Energy (2019-2021)	**1.074 ktoe**		Reduced losses are estimated at 12,500 MWh / year thermal energy saved value of the total. Energy (water) losses of 11% are expected to fall to 8% per year
	TOTAL	**13.94 ktoe**		