

Fourth Annual Report under the Energy Efficiency Directive

BOSNIA AND HERZEGOVINA

**Prepared by: Ministry of Foreign Trade and Economic
Relations of Bosnia and Herzegovina**

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A. Key statistics and indicators

This is the Fourth Annual Report under the Energy Efficiency Directive prepared by Bosnia and Herzegovina, based on the Template proposed by the Energy Community Secretariat and fully consistent with the requirements of the Energy Efficiency Directive - EED (2012/27/EU). Explanations for all numbers provided in the following table are given below, including the sources of information.

Estimation of key statistics and indicators in 2018	Value	Unit
Total primary energy consumption (*)	7.470,6	ktoe
Total final energy consumption (*)	4.211,9	ktoe
Final energy consumption – Transport (*)	1.238,3	ktoe
Final Energy consumption – Industry (*)	863,5	ktoe
Final energy consumption – Households (*)	1.719,4	ktoe
Final energy consumption – Services (*)	348,5	ktoe
Gross value added by sector – Industry (**) ¹	3.495	mil. EUR
Gross value added by sector – Services (**) ¹	3.192	mil. EUR
Disposable income of households (**)	-	mil. EUR
Gross domestic product (GDP) (**) ¹	17.099,69	mil. EUR
Electricity generation from thermal power plants (*)	1.020	ktoe
Electricity generation from combined heat and power (*)	18,7	ktoe
Heat generation from thermal power generation (*)	137,6	ktoe
Heat generation from combined heat and power plants, incl. ind. waste heat (*)	42	ktoe
Fuel input for thermal power generation (*)	3.062	ktoe
Passenger kilometres (pkm) (**) ²	1.755.282	thous. pkm
Tonne kilometres (tkm) (**)	5.530.896	thous. tkm
Combined transport kilometres (pkm + tkm), in case that separate values for pkm and tkm are not available (**)	7.286.178	
Population (**) ³	3.500,3	millions

Table 1: Main scenario parameters

(*) Energy statistics: EUROSTAT data Energy balance for BiH / Agency for Statistics of BiH

(**) Agency for Statistics of BiH

Note: In the previous, 3rd BiH Annual Report under the Energy Efficiency Directive data for only Road passenger and Tonne kilometres were given. Within this Report, in Table1 above, in Passengers and Tonne kilometres, both data for Road and Railway Transport are provided.

¹ http://bhas.gov.ba/data/Publikacije/Bilteni/2020/NUM_00_2019_TB_0_EN.pdf

² http://bhas.gov.ba/data/Publikacije/Bilteni/2020/TRA_00_2019_TB_00_BS.pdf

³ http://bhas.gov.ba/data/Publikacije/Bilteni/2020/NUM_00_2019_TB_0_EN.pdf

B. Overview of energy consumption trends

The Energy Efficiency Action Plan in Bosnia and Herzegovina (NEEAP 2019-2021, drafted) defines national targets for reducing final and primary energy consumption for the three-year period 2019-2021. The goals are defined based on the trajectories of final (TFEC) and primary (TPES) energy, which are the result of the official LEAP model (Long-range Energy Alternatives Planning) of the energy sector in Bosnia and Herzegovina. The model ensures continuity in planning until 2030 and is the basis for integrated energy and climate planning, defined by the National Energy and Climate Plan (NECP).

Energy statistics

A key step in determining all the objectives towards the sustainable generation, transmission and use of energy is the development of reference TPES and TFEC trajectories for the baseline scenario for the period from 2015 to 2030 without projecting energy efficiency measures, and TPES and TFEC trajectories for several scenarios containing different levels of ambition in terms of increasing energy efficiency in the sectors of transformation, transmission and distribution, and final energy consumption. In this regard, various statistical and other available data sources were used to determine demographic, economic and energy values for the base year 2015 and relevant trends within different scenarios.

The achieved values of energy consumption for BiH are here given for years 2014-2018. In that sense, the energy balances provided by BHAS for 2018 is used, for other years (2014-2017) data from LEAP software model are used. TFEC/TPES values for the period 2014-2018, as well as the TFEC structure by sectors of energy consumption, are shown in the following diagram:

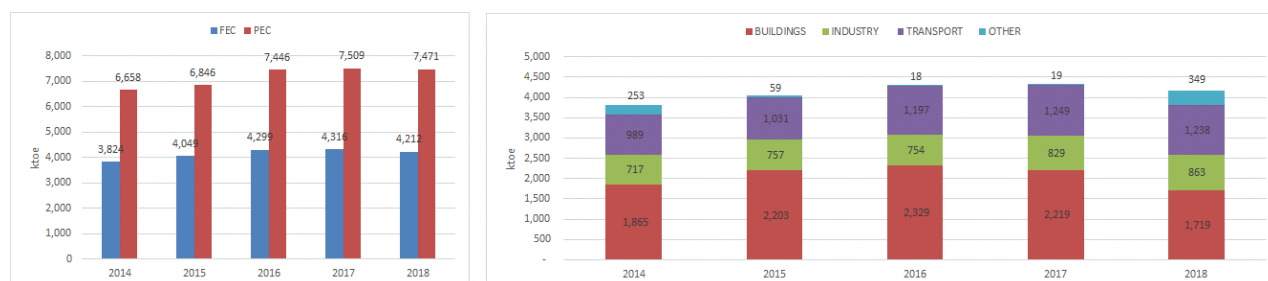


Figure 1: Actual Final and Primary energy consumption (left) and final energy consumption per sectors (right) in 2014 – 2018

The difference in the values between BHAS energy balance and those from LEAP, for period 2014-2017 are due to the different values of biomass consumption in households that affected the overall TFEC / TPES image. BHAS corrected biomass data in its new energy balance for 2018. As a next step, revision of BHAS energy balances for period 2014-2017 is expected, and it will be in line with the actual TFEC/TPES values given in Figure 1.

Reference scenario

Trajectory modelling for all considered scenarios was performed using the LEAP software model, which considers all areas of the energy sector - final consumption, transformation, and primary energy production. The reference TPES and TFEC trajectories have a dynamic character. They are constantly subject to changes, depending on the official energy statistics, which once a year publish the energy balance for Bosnia and Herzegovina, and which presents the main energy indicators that define the given trajectories. TPES and TFEC reference trajectories extend through the period 2015-2030. This

period is modelled and predicts the movement of the values of these two main energy indicators. What characterises the reference trajectories is the so-called "Business as usual" scenario. This scenario that does not involve the implementation of policies and measures in all areas of energy efficiency. The reference trajectories, as a result of the model used, are shown in the following diagram.

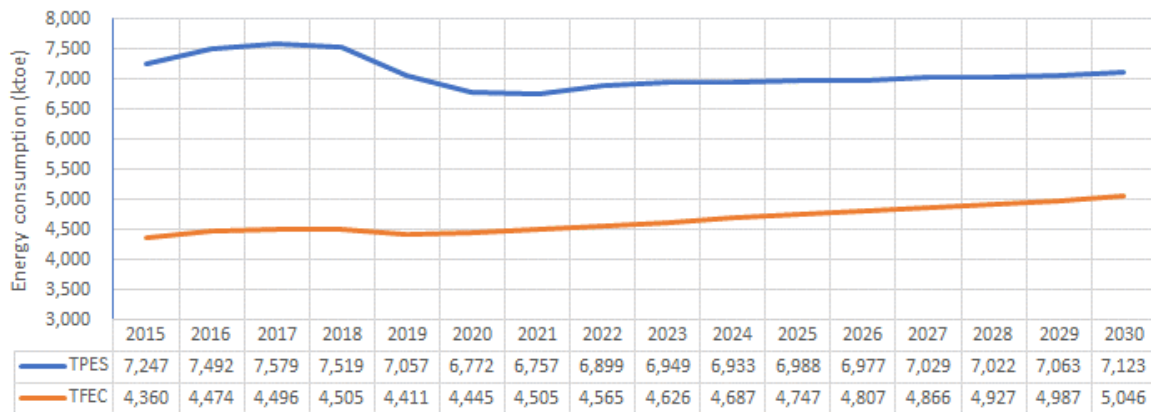


Figure 2: Final and Primary energy reference trajectories, 2015-20130

Since the reference scenarios do not envisage the implementation of measures to reduce energy consumption in the planning period, the growth of the value of indicators is noticeable. This growth is caused by the development of society, both demographically and its economic power, which is included in the initial conditions of the model.

Scenarios

In relation to the reference scenario without the implementation of energy efficiency measures, in the process of setting indicative energy efficiency targets for 2020, 2021 and 2030, three scenarios were first considered that represent different levels of ambition and opportunities to increase energy efficiency in certain sectors of primary consumption and final energy in Bosnia and Herzegovina. These are:

1. Light scenario,
2. Moderate scenario; and
3. Ambitious scenario.

The TPES and TFEC trajectories by scenarios are shown in the following diagrams.

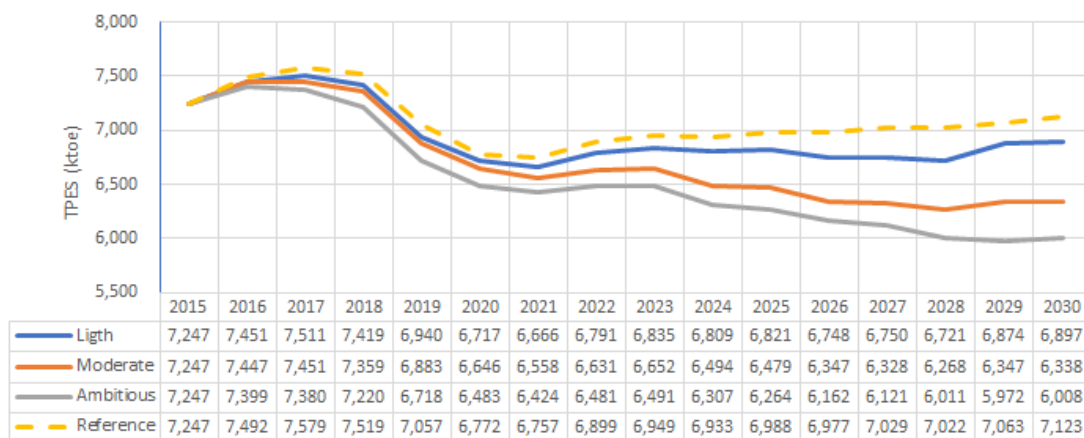


Figure 3: TPES scenarios trajectories, 2015-20130

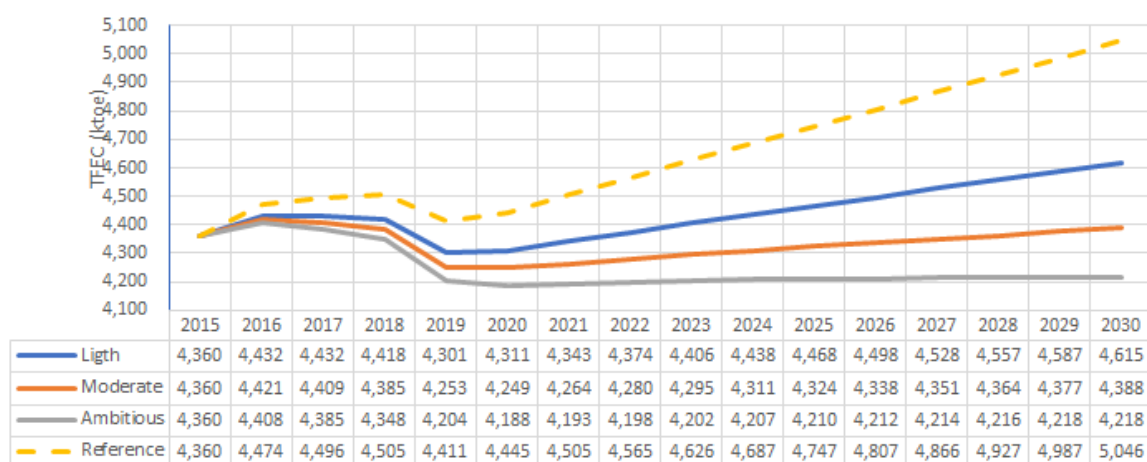


Figure 4: T FEC scenarios trajectories, 2015-2030

The table 2. provides an overview of the key parameters in determining the scenarios:

Scenario	Buildings (residential and non-residential)	Transport	Industry	Generation ⁴
Lighth	Average building renovation rate 1%; Average renovation depth 58%.	Reduction of energy intensity ⁵ : 1.5% per year for passenger traffic; 1.1% per year for freight transport.	Reduction of energy consumption through EE measures in industry compared to the baseline scenario by 5% in 2030.	Increase of RES (Wind and Solar) capacity from 1 MW in 2015 to 109MW in 2020 and to 860MW in 2030.
Moderate	Average renovation rate of buildings 2.2%; Average depth of renovation 61%.	Reduction of energy intensity ⁶ : 1.8% per year for passenger traffic; 1.5% per year for freight transport.	Reduction of energy consumption through EE measures in industry compared to the baseline scenario by 10% in 2030.	Increase of RES (Wind and Solar) capacity from 1 MW in 2015 to 109MW in 2020 and to 1084MW in 2030.
Ambitious	Average renovation rate of buildings 2.8%; Average depth of renovation 63%.	Reduction of energy intensity ⁷ : 2.1% per year for passenger traffic; 1.9% per year for freight transport.	Reduction of energy consumption through EE measures in industry compared to the baseline scenario by 15% in 2030.	Increase of RES (Wind and Solar) capacity from 1 MW in 2015 to 109MW in 2020 and to 1202MW in 2030.

Table 2: Main scenario parameters

The selection of the most favorable scenario, using certain optimisation criteria, determines the main goals of reducing energy consumption, as well as additional energy efficiency goals.

⁴ All scenarios imply a reduction in distribution losses (electricity from 11.6% to 10.26%, heat in district heating systems from 7% to 6.97% and gas from 1.8 to 1.73% in the period 2015-2030).

⁵ Energy intensity is made in liters of fuel per kilometer per passenger

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TFEC sectors

The LEAP model used implies separate modeling of individual sectors of final energy consumption and brings them into correlation with the overall TPES and TFEC trajectories and consumption reduction targets. The following table and the accompanying figure show the projections of final energy consumption by individual sectors for the selected (moderate) scenario.

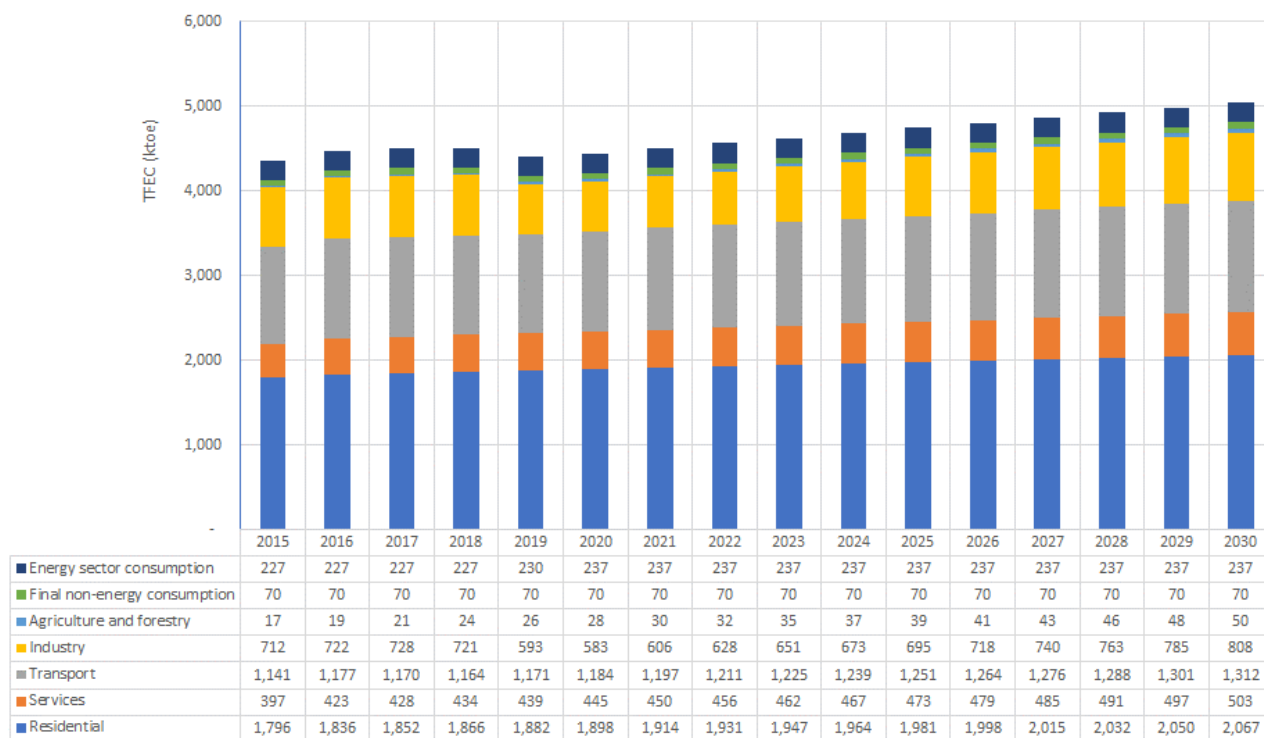


Figure 3: TFEC trajectories of sectors of energy consumption for moderate scenario, 2015-2030

C. National energy efficiency targets

Based on the analysis of the results obtained by considering different scenarios for increasing energy efficiency, the moderate scenario has been proposed for determining the indicative targets of Bosnia and Herzegovina for energy savings by increasing energy efficiency. The following decisive factors were considered in making this decision:

- i. The nature, scope and intensity of the implementation of energy efficiency measures envisaged for the considered scenarios within individual sectors of primary and final energy consumption; and
- ii. Real organisational and financial capacity of Bosnia and Herzegovina to implement energy efficiency measures required to achieve certain scenarios.

Main EE targets

In defining the proposed **moderate scenario**, special attention is paid to the participation of renewable energy sources in 2030, and the goal that the quota of 49.6% from renewable energy sources must be met. This specifically means that the moderate scenario for 2030 envisages the total installed capacity of 1,602 MW of renewable energy sources (1,300 MW for electricity generation, 224.08 for heat production, and 77.92 MW in cogeneration), which represents 22% of total installed capacity for electricity generation, heat generation, and cogeneration. If an amount of 2,454 MW of installed capacity of hydropower capacity was considered, the moderate scenario for 2030 envisages the capacity of the total installed capacity of 4,056 MW of renewable energy sources, which represents a total of 55.16% of the total installed capacity.

Based on these considerations, the indicative targets of Bosnia and Herzegovina for savings in energy consumption through the application of energy efficiency measures are defined as follows:

Target year		Indicative goal of Bosnia and Herzegovina for energy saving by increasing energy efficiency
2020	Primary	Reduction of primary energy consumption by the end of 2020 by 1.86% in relation to consumption projections without energy efficiency measures, which in relation to the projected primary energy consumption of 6,772 ktoe without the application of energy efficiency measures amounts to 6,646 ktoe with the application of planned energy efficiency measures, that is, a reduction in primary energy consumption in the absolute amount of 126 ktoe .
	Final	At the same time, final energy consumption is expected to decrease by 4.4% by the end of 2020 compared to the projections of consumption without energy efficiency measures, which in relation to the projected final energy consumption of 4,445 ktoe without energy efficiency measures is 4,249 ktoe with the planned measures. energy efficiency or reducing unmetered final energy consumption in absolute amount of 196 ktoe .
2021	Primary	Reduction of primary energy consumption by the end of 2021 by 2.94% in relation to consumption projections without energy efficiency measures, which in relation to the projected primary energy consumption of 6,757 ktoe without the application of energy efficiency measures amounts to 6,558 ktoe with the application of planned energy efficiency measures, that is, a reduction in primary energy consumption in the absolute amount of 199 ktoe .
	Final	At the same time, final energy consumption is expected to decrease by 5.3% by the end of 2021 in relation to consumption projections without energy efficiency measures, which in relation to the projected final energy consumption of 4,505 ktoe without energy efficiency measures is 4,264 ktoe with the planned measures. energy efficiency or reducing unmetered final energy consumption in absolute amount of 241 ktoe .

2030	Primary	Reduction of primary energy consumption by the end of 2030 by 11.02% in relation to consumption projections without energy efficiency measures, which in relation to the projected primary energy consumption of 7,123 ktoe without the application of energy efficiency measures amounts to 6,338 ktoe with the application of planned energy efficiency measures, that is, a reduction in primary energy consumption in the absolute amount of 785 ktoe .
	Final	At the same time, final energy consumption is expected to decrease by 13.04% by the end of 2030 in relation to consumption projections without energy efficiency measures, which in relation to the projected final energy consumption of 5,046 ktoe without energy efficiency measures is 4,388 ktoe with the application of planned measures. energy efficiency or reducing unmetered final energy consumption in absolute amount of 656 ktoe .

Table 3: Overview of indicative targets for Bosnia and Herzegovina

Additional targets

Additional energy efficiency targets are an integral part of the NEEAP framework and are included in the main targets for reducing energy consumption. Areas for determining additional objectives arise from the developed strategic documents of Bosnia and Herzegovina, which, among other things, contain objectives related to energy efficiency, and objectives for individual articles of Directive 2012/27 / EU on energy efficiency (EED).

The following table provides an overview of the relevant adopted additional energy efficiency targets in Bosnia and Herzegovina.

Additional targets	Scope of objectives
Goals from the Framework Energy Strategy of Bosnia and Herzegovina until 2035	<p>Indicative scenarios for the development of the production mix in Bosnia and Herzegovina:</p> <ol style="list-style-type: none"> Entity Working Group Scenario; Scenario based on the Indicative Plan 2017-2026 with projection by 2035; Cost optimised scenario; and Moderate renewable scenario that encourages greater participation of renewable energy sources with the encouragement of energy efficiency measures, which was used as a basis for modeling the proposed scenario in the development of APEE BiH 2019-2021
Objectives from the Strategy for the Renovation of Buildings in Bosnia and Herzegovina for the period until 2050.	<p>The strategy considers the following building renovation scenarios:</p> <ol style="list-style-type: none"> Light - average annual renewal rate: 1.00%, average renewal depth: 58%; 30% of the renewed fund of heated areas by 2050; Ambitious - average annual renewal rate: 2.2%, average renewal depth: 61%; 66% of the renewed fund of heated areas by 2050; Highly ambitious - average annual renewal rate: 2.8%, average renewal depth: 63%; 84% of the renewed fund of heated areas by 2050. <p>Building renovation scenarios were the subject of an economic impact analysis, the results of which were incorporated into the selection of the optimal scenario from the TPES / TFEC model, which determines the main energy efficiency objectives presented above, according to Article 3 of the EED.</p>
Objectives from the obligation to renovate central government buildings (Article 5 EED)	<p>In accordance with Article 5 of the EED, Bosnia and Herzegovina have drafted the objectives of the building renovation under the authority of the central government. The objectives are an integral part of NEEAP BiH 2019-2021 and the corresponding entity action plans. The goals are as follows:</p> <ul style="list-style-type: none"> ▪ State level of BiH: 43 buildings, 1% target 2,450 m² ▪ Federation of BiH: 26 buildings, 1% target 716 m² ▪ Republika Srpska: 6 buildings, 1% target 600 m² ▪ Brcko District: 17 buildings, 1% target 196 m² ▪ Total: 92 buildings, 1% target 3,962 m²

Additional targets	Scope of objectives
Targets for reduction of energy consumption implemented through obligation schemes for energy efficiency (Article 7 of the EED)	By introducing the mechanism of Coverage Schemes for the collection of fees and distribution of incentives for the implementation of energy efficiency measures, primarily in the residential sector, the goals of reducing final energy consumption should be realised, according to the following target schedule and scope: <ul style="list-style-type: none"> ▪ Year 1: 15.99 ktoe ▪ Year 2: 30.94 ktoe (cumulative) ▪ Year 3: 52.58 ktoe (cumulative) ▪ Year 4: 77.33 ktoe (cumulative)
Targets for nearly zero energy buildings for 2020 and 2021	The issue of construction of buildings with almost zero energy consumption has not been addressed in the NEEAP process in BiH, because the conditions for the development of an appropriate strategy and associated action plan have not yet been created. This primarily refers to providing the necessary input data to perform the appropriate analysis. Therefore, targets for buildings with almost zero energy consumption have not yet been set in the planning framework for energy efficiency in Bosnia and Herzegovina.

Table 4: Additional energy efficiency targets in Bosnia and Herzegovina

NEEAP indicators

Also, the following table shows the indicative values of key parameters of energy production and consumption in 2020, 2021 and 2030, which are the main indicators for monitoring the implementation of the objectives defined by the NEEAP.

Indicator	Unit	2020	2021	2030	
Indicator 1	Total primary energy consumption	ktoe	6,772	6,757	7,123
Indicator 2	Energy transformation - input (electricity production in thermal power plants)	ktoe	2,421	2,320	2,109
Indicator 3	Electricity transformation - output (electricity production in thermal power plants)	ktoe	1333	1,322	1,631
Indicator 4	Energy transformation - output (production of thermal energy in thermal power plants)	ktoe	62.7	60.2	71.3
Indicator 5	Energy transformation - input (cogeneration plants)	ktoe	257	254	322
Indicator 6	Energy transformation - output (heat production in cogeneration plants)	ktoe	18.9	19.4	35.6
Indicator 7	Energy transformation - output (electricity production in cogeneration plants)	ktoe	36.6	37	49.1
Indicator 8	Transmission and distribution losses (aggregate for all energy sources)	ktoe	125.6	126.2	124.6
Indicator 9	Total final energy consumption	ktoe	4,249.3	4,264.5	4,388.1
Indicator 10	Final energy consumption - residential sector	ktoe	1,753.1	1,739.1	1,605.1
Indicator 11	Final energy consumption - services sector	ktoe	421	422.5	432.3
Indicator 12	Final energy consumption - industry	ktoe	574.8	595.5	781.1
Indicator 13	Final energy consumption - transport	ktoe	1,165.2	1,170.2	1,212.6

Indicator		Unit	2020	2021	2030
Indicator 14	Final energy consumption - other (agriculture and forestry) consumption)	ktoe	28	30.2	50
Indicator 15	Final energy consumption - other (final non-energy consumption)	ktoe	70	70	70
Indicator 16	Final energy consumption - other (own consumption of the energy sector)	ktoe	237	237	237

Table 5: Target values of the main NEEAP indicators

Final energy savings

NEEAP BiH 2019-2021 practically concludes the first nine-year planning period in the field of energy efficiency in Bosnia and Herzegovina, and whose goals were defined by the framework given by the Directive 2006/32/EC on energy services (ESD). According to the ESD, it was necessary to reduce final energy consumption by 9% compared to the baseline defined for the period before 2010. This plan brings the final report on the implementation of the mentioned goals for the period 2010-2018. year.

The following table summarises the planned and achieved savings in final energy consumption in Bosnia and Herzegovina:

Period	Indicative target of saving final energy		Achieved savings			
			Estimation by TD method		Assessment based on the implementation of measures	
	Absolute amount (PJ)	% (relative to ESD reference consumption)	Absolute amount (PJ)	% (relative to ESD reference consumption)	Absolute amount (PJ)	% (relative to ESD reference consumption)
2012	0.67	0.49%	-	-	-	-
2015	4.63	3.24%	-	-	5.32	3.84%
2018	12.47	9.00%	-	-	8.22	5.93%

Table 6: Overview of the realisation of energy efficiency goals for the period 2010-2018

Moreover, the following table shows the cumulative savings of final energy in individual sectors of final consumption, achieved in the period so far through the implementation of measures planned in NEEAP BiH 2016-2018.

Indicative target for final energy savings in 2021 (PJ), in final consumption sectors (according to APEE BiH 2019–2021)				15.28 PJ							
Indicative target for final energy savings in 2018 (PJ), in final consumption sectors (according to APEE BiH 2016–2018)				12.47 PJ							
Indicative target for final energy savings in 2015 (PJ), in the final consumption sectors (according to the Final Draft of the EEAP BiH 2010–2018)				4.63 PJ							
Sector	Sectoral objectives (PJ)			Cumulative							
				Energy savings achieved in 2015 (PJ)		Expected energy savings in 2018 (PJ) (according to APEE BiH 2016–2018)		Achieved energy savings in 2018 (PJ)		Expected energy savings in 2021 (PJ) (according to APEE BiH 2019–2021)	
	2015	2018.	2020th	Total (TD)	From measures (BU)	Total (TD)	From measures (BU)	Total (TD)	From measures (BU)	Total (TD)	From measures (BU)
Housing sector	on	5.1910	6.3446	-	2.11	-	5.25	-	4.62	-	9.44
Services	on	4.6189	5.6453	-	2.51	-	1.62	-	2.95	-	3.67
Industry	on	1.8690	2.2843	-	0.34	-	4.79	-	0.38	-	0.77
Traffic	on	0.7900	0.9656	-	0.27	-	0.81	-	0.27	-	1.4
Total (PJ)	on	12.4689	15.2400	-	5.23	-	12.47	-	8.22	-	15.28
% (Of the refer. Consumption of 138.56 PJ)	on	9.00%	11.00%	-	3.78%	-	9.00%	-	5.93%	-	11.03%

Table 7: Overview of the implementation of energy efficiency targets, by final consumption sectors, for the period 2010-2018, with expected targets in 2021

As in the case of collecting data on savings in the process of drafting the NEEAP BiH 2016-2018, here given the problems related to data collection using TD budget indicators, a market analysis was performed. This analysis was performed using the BU methodology according to the "Recommendations for measurement and verification methods within the Directive 2006/32 / EC on Energy end- use efficiency and energy services - European Commission, Directorate General for Energy " to verify savings based on data collected analysis.

The following table presents a summary of planned and expected final energy savings, by final consumption sectors in Bosnia and Herzegovina and within individual measures to save final energy, and an overview of the methodologies used for their calculation.

Final energy consumption sector	Individual EE measures included	Final energy saving calculation methodology	Achieved savings, period 2010-2015. (PJ)	Achieved savings, period 2016-2018. (PJ)	Achieved savings, period 2010-2018. (PJ)	Savings projection, period 2010-2021. (PJ)
			Cumulative			
Residential sector	Measures R1-R5	BU market analysis based on distributed equipment and materials by years 2016–2018.	2.11	2.51	4.62	9.44
	R1: Renovation of the cladding of existing residential buildings and family houses in order to improve their energy performance		0.99	1.01	2.00	3.96
	R2: Improvement of energy performance of existing and installation of energy efficient technical systems in residential buildings and family houses		1.11	1.41	2.52	5.04
	R3: Production of energy from renewable sources in households		0.012	0.01389	0.02589	0.05152

Final energy consumption sector	Individual EE measures included	Final energy saving calculation methodology	Achieved savings, period 2010-2015. (PJ)	Achieved savings, period 2016-2018. (PJ)	Achieved savings, period 2010-2018. (PJ)	Savings projection, period 2010-2021. (PJ)
			Cumulative			
	R4: Construction of new residential buildings and family houses of prescribed energy characteristics		-	-	-	-
	R5: Procurement and use of energy efficient electrical appliances for households		0,00000011	0.06812	0.06812	0.9525
Public and Commercial Services Sector	Measures U1-U7	BU MVP + analysis of the market of distributed equipment and materials by years 2016-2018	2.51	0.44	2.95	3.67
	U1: Renovation of the envelope of existing non-residential buildings in the public and commercial sector in order to improve their energy performance		1.074	0.039	1.113	1.492
	U2: Improving the energy performance of existing and installing new energy efficient technical systems in buildings		1.07	0.11	1.18	1.437
	U3: Renewable energy production in the public and commercial sector		0.356	0.146	0.502	0.473
	U4: Construction of new buildings with prescribed energy characteristics in the public and commercial sector		-	-	-	-
	U5: Procurement and use of energy efficient electrical appliances and lighting in the public and commercial sector		0.000	-	-	-
	U6: Improving the energy efficiency of water supply and wastewater treatment systems in the public and commercial sectors		0.000	-	-	-
	U7: Improving the energy efficiency of street lighting systems		0.0065	0.145	0.1515	0.27
Industry sector	Measures I1-I4	Loan programs with verified measures and analysis of installed HVAC equipment in BiH	0.344	0.04	0.384	0.776
	I1: Increasing the energy efficiency of industrial processes		0.178	0.015	0.193	0.340
	I2: Improving the energy performance of buildings in the industrial sector		-	0.010	0.010	0.108
	I3: Application of cogeneration and trigeneration in industry		0.014	0.0075	0.0215	0.095
	I4: Renewable energy production in the industrial sector		0.152	0.0075	0.1595	0.233
Transport sector	Measures S1-S2	There is no verified tracking method	0.272	-	0.272	1.406
	S1: Use of energy efficient vehicles in road and city traffic		-	-	-	1.021
	S2: Infrastructure measures on the road network with the effects of energy savings		0.272	-	0.272	0.385

Final energy consumption sector	Individual EE measures included	Final energy saving calculation methodology	Achieved savings, period 2010-2015. (PJ)	Achieved savings, period 2016-2018. (PJ)	Achieved savings, period 2010-2018. (PJ)	Savings projection, period 2010-2021. (PJ)
			Cumulative			
Horizontal measures	Measures H1-H13	There is no reliable way to verify savings for these measures	-	-	-	-
SUM			5,236	2,990	8,226	15,292

Table 8: Summary of planned and expected final energy savings, by final consumption sectors in Bosnia and Herzegovina and within individual final energy saving measures

D. Update of measures implemented in last year

The assessment of the progress of achieving savings in final energy consumption in Bosnia and Herzegovina, according to NEEAP targets, is carried out every three years. Therefore, the latest progress assessment was done for the period 2010-2018, as presented in the previous chapter of the report.

On the other hand, the report provides an overview of energy efficiency activities carried out in 2019-2020, with special emphasis on legislative measures, as well as other measures that contribute to the realisation of the set goals. It should be emphasised that due to the COVID 19 lock down period in Bosnia and Herzegovina, which lasts most of the mentioned period, there were no significant activities in this segment.

A progress overview of the individual horizontal and cross-sectoral measures implemented in 2019-2020 and is given as follows:

Legislative measures

H.1 Development and application of the legislative and regulatory framework for energy efficiency in final energy consumption

The objective of this measure is further development of the legislative and regulatory framework in order to create important preconditions necessary to meet the set energy savings targets. The measure includes the following activities:

1. Finalisation of transposition of Directive 2012/27/EU on energy efficiency, Directive 2010/31/EU on energy performance of buildings and Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy, into the legislation of BiH, RS, FBiH, cantons and Brčko District BiH;
2. Drafting of regulations to embed energy efficiency considerations in the transport sector;
3. Adoption of laws and by-laws to establish horizontal and vertical coordination mechanisms for implementation of EEAP BiH

The progress with the implementation of the measure H1 is given as follows:

- **The Law on Energy Efficiency of the Federation of Bosnia and Herzegovina** (Official Gazette of FBiH no. 22/17) in the Federation of Bosnia and Herzegovina and the **Law on Energy Efficiency** (Official Gazette of RS, no. 59/13) and the **Law on Spatial Planning and Construction** (Official Gazette of RS, no. 40/13, 106/15, 84/19) in Republika Srpska are the main governing laws in this regard in Bosnia and Herzegovina.
- **Law on Spatial Planning and Construction of RS underwent a procedure of amendments to transpose requirements of article 5 of Directive 2012/27/EU on energy efficiency. Adopted** (Official Gazette of RS, no. 40/13, 106/15, 84/19).

- At the level of the **state of Bosnia and Herzegovina** there were no progress made in 2020.
- In the **Federation of Bosnia and Herzegovina**, a series of activities are being carried out to supplement the regulatory framework in the field of energy efficiency, as follows:
 - No progress with the preparation of the amendments to the Energy Efficiency Law and necessary secondary legislation to include the Energy Efficiency Obligation Scheme mechanism into the legislative and regulatory framework.
 - Rulebook on minimum requirements for energy performance of buildings:
Adopted, Official Gazette FBiH 81/19
 - Rulebook on energy audits in large enterprises and industry:
Final draft – to be adopted by the Federation Ministry of Energy, Mining and Industry. No progress in 2020.
 - Rulebooks on regular inspections of heating and air conditioning systems:
Adopted, Official Gazette FBiH 81/19
 - Rulebook on Methodology for calculation of minimum requirements for energy performance of buildings based on cost-optimal criteria:
No progress. Final draft, currently pending for the adoption at the Federal Ministry of Physical Planning. No progress in 2020.
 - Methodology for the implementation of analysis of the use of alternative energy systems when issuing building permits for buildings:
No progress. Final draft, currently pending for the adoption at the Federation Ministry of Energy, Mining and Industry. No progress in 2020.
 - Amendments to the **Law on Spatial Planning and Land Use in the Federation BiH** (Official Gazette of the Federation BiH, no. 02/06, 72/07, 42/08, 04/10, 13/10, 54/10) introducing energy efficiency criteria in construction of new and reconstruction of existing buildings under jurisdiction of FBiH:
No progress. Final draft, currently pending for the adoption by the Federal Ministry of Physical Planning. Not possible to launch prior to the adoption of Rulebook on minimum requirements for energy performance of buildings. No progress in 2020.

Amendments to 10 cantonal laws on construction, introducing energy efficiency criteria in construction of new and reconstruction of existing buildings under jurisdiction of cantons and municipalities:
Final draft – to be adopted by 10 respected cantonal ministries. Not possible to launch prior to the adoption of Rulebook on minimum requirements for energy performance of buildings.

- Guidelines for establishment of public sector energy management in FBiH:
Work in progress
- In **Republika Srpska**, a series of activities are being carried out to supplement the regulatory framework in the field of energy efficiency, as follows:
 - **Amendments to the Law on Spatial Planning and Construction** (Official Gazette of RS, no. 40/13, 106/15) introducing the update of the article 5 of Directive 2012/27/EU on energy efficiency:
Adopted (Official Gazette of RS, no. 40/13, 106/15, 84/19).
 - Preparation of the amendments to the Energy Efficiency Law and necessary secondary legislation to include the Energy Efficiency Obligation Scheme mechanism into the legislative and regulatory framework. **No progress in 2020.**
 - Rulebook on energy management system:
Final draft. Currently pending for the adoption at the Ministry of Construction, Civil Engineering and Ecology of Republika Srpska. No progress in 2020. No progress in 2020.
 - Rulebook on implementation of training for energy management system:
Final draft. Currently pending for the adoption at the Ministry of Construction, Civil Engineering and Ecology of Republika Srpska. No progress in 2020.
 - Rulebook on energy efficiency information system:
Final draft. Currently pending for the adoption at the Ministry of Construction, Civil Engineering and Ecology of Republika Srpska. No progress in 2020.
 - Rulebook on minimum requirements for energy performance of buildings:
Update, work in progress.
 - Rulebook on carrying out energy audits and energy certification of buildings:
Update, work in progress.
 - Regulation on the content of technical documentation for construction permit
Update, work in progress.
 - Methodology for the calculation of minimum requirements for energy performance of buildings based on cost-optimal criteria:
Update, work in progress.
 - Rulebooks on regular inspections of heating and air conditioning systems:
Update, work in progress.
- In **Brčko District**, with the technical assistance provided by the Energy Community Secretariat, in 2019 activities related to the preparation of Law

on Energy Efficiency of the BD started. The final draft of Law on Energy Efficiency of the BD has been prepared and in May 2020 submitted to the Government of the BD for comments. Pending for adoption.

H.2 Drafting and adoption of strategic and planning documents on energy efficiency

The measure includes the following activities:

1. Adoption of: EEAP BiH inclusive of BD, RS and FBiH; Operating plans for EE improvements in the institutions of BiH, RS, BD, and FBiH and its cantons; Municipal EEAPs, cantonal EEAPs and energy efficiency plans and programmes for LSGUs and major energy consumers;
2. Drafting and adoption of the following strategic and planning documents: a. Building Renovation Strategy for BiH, FBiH, RS and BD BiH; b. Strategy for EE information, professional development and education in BiH, RS, FBiH and BD BiH; c. Assessment of potentials for EE improvements in the transport sector

The progress with the implementation of the measure H1 is given as follows:

- The **BiH's framework energy strategy** is consisted of the Framework energy strategy of the FBiH, up to 2035, and the updated Energy Strategy of Republika Srpska. ***It was adopted by the Council of Ministers of BiH on 29th August 2018.*** The strategy introduces energy efficiency as one of the main pillars of the energy sector in BiH.
- The House of Representatives of the Parliamentary Assembly of BiH ***issued Recommendations for energy sector reform in July 2018.*** These recommendations as one of the priorities define the commitment to energy efficiency as a key element of the energy transition and the role of regulatory bodies in the implementation of this policy needs to be defined.
- The **National energy efficiency action plan 2016-2018 (NEEAP)** is also consisted of the entity action plans and parts related to the level of BiH institutions and District Brčko. ***It was adopted by the Council of Ministers of BiH in December 2017.***

In preparation:

- At the level of the **state of Bosnia and Herzegovina** there were activities to complement the strategic and planning frameworks of energy efficiency, as follows:
 - Building renovation strategy of BiH: ***drafted***
 - NEEAP 2019-2021: ***drafted***
 - NECP BiH - preliminary draft prepared in June 2020.
- In the **Federation of Bosnia and Herzegovina**, a series of processes have been launched in order to complement the strategic and planning frameworks of energy efficiency, as follows:
 - Building renovation strategy of FBiH: ***drafted***

- EEAP FBiH 2019/2021: **drafted**.
 - 8(10) cantonal Energy Efficiency action plans:
Final draft approved by the Federation Ministry of Energy, Mining and Industry. To be sent further to respective cantonal adoption procedures. No progress in 2020.
 - 27(79) Municipal Energy Efficiency improvement programs:
Work in progress, to be sent to cantonal authorities for no objection and further to respective municipal authorities for adoption. No progress in 2020.
- In **Republika Srpska**, a series of processes have been launched in order to complement the strategic and planning frameworks of energy efficiency, as follows:
 - Building renovation strategy of RS: **drafted**
 - 29(63) Municipal Energy Efficiency action plans: **adopted**
 - In **Brčko District**, there hasn't any progress with the drafting and adoption of strategic and planning documents on energy efficiency made in 2019. The only strategic document in this regard is the Sustainable Energy Action Plan (SEAP) of Brčko District from 2015.

Non-legislative measures

H.3 Establishment, application and development of the energy efficiency information system in all final energy consumption sectors

The objective of this measure is to ensure adequate and reliable data required for efficient energy management, development of strategic and planning documents, and monitoring of their implementation. The main activities are:

1. Establishment and operation of the common information system for energy management, a database of relevant data from all final energy consumption sectors;
2. Harmonisation of statistical chapters, areas and modules and the methodology for collection and processing of statistical EE data with EUROSTAT and Energy Community requirements;
3. Improvement of the format of action plans in the segment of reporting of actual energy savings, in order to harmonise them with the indicative targets defined in EEAP BiH;
4. Ensuring the use of the MVP platform by all institutions responsible for reporting of actual energy efficiency improvement results;
5. Establishment of an efficient system in all public institutions and companies for EE communication and coordination with the relevant horizontal and vertical levels of government.

Intensive activities have recently been carried out on the establishment of an **Integrated Information System for Energy Efficiency (EEIS)** in Bosnia and Herzegovina, made up of entity information systems. Based on the entity energy efficiency laws, the content, structure and responsibilities for data provision and processing in the EEIS will be defined in the rulebooks on the Information system.

The EEIS is made of the following modules:

- a) Inventory of buildings
- b) Energy efficiency action plans
- c) Energy savings
- d) Energy consumption
- e) Energy certificates of buildings
- f) Technical systems in buildings

Currently, achievements made in the process of establishing the EEIS in 2019, are as follows:

- At the level of the **state of Bosnia and Herzegovina** the following modules are being in the process of establishment:
 - Inventory of buildings – EMIS:
Work in progress, related procedures adopted
 - Energy savings - MVP of state institutions:
Work in progress, related procedures adopted
 - Energy consumption – EMIS of state institutions:
Work in progress, related procedures adopted
- In the **Federation of Bosnia and Herzegovina**, in 2019, the following developments have been made:
 - Inventory of buildings:
Work in progress (planning)
 - Energy efficiency action plans:
Work in progress (testing)
 - Energy savings:
Work in progress (operational)
 - Energy consumption:
Work in progress (operational),
 - Energy certificates of buildings:
Work in progress (testing)
 - Technical systems in buildings:
Work in progress (testing),
- In **Republika Srpska**, in 2018, the following developments have been made:
 - Inventory of buildings:
Work in progress (planning)
 - Energy efficiency action plans:
Work in progress (planning)
 - Energy savings:
Work in progress (operational),

- Energy consumption:
Work in progress (operational)
- Energy certificates of buildings:
Fully operational
- Technical systems in buildings:
Work in progress (planning)
 - In **Brčko District**, there haven't been any efforts to establish an EEIS made so far.

H.4 Public energy efficiency information and motivation campaigns

The objective of this measure is to raise the awareness and provide basic information about the importance of EE to target groups in all final energy consumption sectors, to motivate them to implement EE measures and achieve savings. The measure includes campaigns with different topics related to all final consumption sectors. Potential tools for communication with target groups are: (a) Radio, television, web portals, printed media; (b) Websites of institutions responsible for implementation of individual EEAP measures, and/or dedicated EE websites/FB pages; (c) Workshops, conferences and similar events for target group representatives from various sectors; (d) Public events as part of Energy Days, usually organised by LSGUs in the course of implementation of EEAP/SEAP; etc.

No progress has been reported in this regard in 2020.

H.5 Introduction and implementation of the system for energy efficiency education, training and professional development

The objective of this measure is to gain new and increase existing professional knowledge, skills and competences of the implementers of sectoral measures, required for adequate and timely completion of assigned tasks in order to achieve sectoral final energy savings targets set in this EEAP BiH. This measure makes a qualitative leap away from information and motivation campaigns which provide only introductory information on individual areas and topics related to energy efficiency.

No progress has been reported in this regard in 2020.

H.6 Inclusion of energy efficiency topics into the general education system

The objective of this measure is to increase the level of knowledge of new generations about the necessity of rational energy management for environmental protection, energy security and sustainable growth, and the use of EE as an efficient mechanism for attainment of these goals. The main activities are:

1. Development of priority EE topics defined in the strategies for energy efficiency communication, professional development and education for all education levels, and their inclusion in the curricula;
2. Training of teachers at all levels of education for adequate teaching about EE;

3. Equipping schools with appropriate literature about EE-related topics and other teaching aids.

No progress has been reported in this regard in 2020.

H.7 Establishment of a system for training and certification of licensed professionals for energy auditing of buildings, public utilities, industrial plants and technological processes, and for issuing energy certificates

The objective of this measure is to create key conditions for adequate collection of information needed for efficient energy management and EE improvements, as follows: (a) Current energy consumption (in buildings, utility systems, industrial plants and technological processes); (b) EE measures; and (c) Viability of investments (cost-benefit analysis and ranking of measures by financial viability). The main activities are:

1. Establishment and implementation of the training, qualification and certification system for licenced energy auditors;
2. Determination of the energy audit methodology, required content of energy audit reports, and the procedure for energy audits of buildings, utility services systems, industrial plants and technological processes;
3. Implementation of independent controls of issued energy certificates in order to ensure the required quality of the overall process and the results of energy audits and certificates.

Please note: Energy audits, energy audit reports and energy certification of buildings, utility services systems and industrial processes form an integral part of measure H.9

No progress has been made in 2020.

H.8 Metering and informative billing of energy consumption to end consumers

The objective of this measure is to motivate electricity, heat and natural gas consumers to use energy rationally and to undertake appropriate EE measures. The measure includes the following main activities:

1. Development of sustainable tariff models for billing of heating according to actual consumption, in the form of recommendations for consideration/adoption by heating suppliers;
2. Installation of individual meters to measure actual consumption of electricity, natural gas, district heating and hot water by end-users, in accordance with EU directives;
3. Provision of information to consumers (e.g. on the energy bill), as required by EU directives

No progress on implementation of metering and informative billing of heat consumption to end consumers has been made up to date.

H.9 Introduction and implementation of energy management, inclusive of energy audits

The objective of this measure is to establish a systemic process for continuous reduction of energy consumption. The measure applies to: (1) Service and industry sector buildings; (2) Utility services (public lighting, water supply and waste water treatment, district heating systems); (3) Industrial processes and plants. Each of the above segments/actors subject to measures includes the following activities:

1. Adoption of a decision on introduction of energy management; Appointment of the responsible person/team;
2. Creation of an internal organisational structure for EE in public institutions and companies, and in companies operating in the commercial services and/or industry sector
3. Securing the financing required for introduction of energy management;
4. Collection of data on past energy consumption and identification of areas (buildings, systems, processes, equipment, etc.) which substantial consumption of energy;
5. Development and operation of the database (structurally harmonised with the Energy Management Information System in measure H.3 (activity 1));
6. Development of an energy management/energy efficiency plan;
7. Energy auditing and energy certification of buildings, utility service systems, industrial plants and technological processes;
8. Implementation of planned measures, monitoring results, reporting;
9. Regular measurement, recording and analysis of energy consumption, with corresponding revision of the EEAP

No progress has been made in 2020.

H.10 Strengthening of capacities in institutions responsible for energy efficiency

The objective of this measure is to establish and develop efficient financing, implementation and monitoring mechanisms for EE measures in final energy consumption. The measure includes institutional strengthening of the ministries, funds/agencies, their employees and tangible/technical resources, further development of mechanisms for securing the funding required for performance of activities within their legally prescribed scope of competence in the area of EE.

No progress has been made in 2020.

H.11 Strengthening of existing institutional capacities for systemic energy management

The objective of this measure is to enable existing institutions at all levels of government to properly perform their tasks in the capacity of: (a) energy consumers, service providers and EE leaders; (b) planners and implementers of sustainable development, and regulators; (c) energy producers and energy suppliers. The measure includes the following activities:

1. Raising the awareness of all levels of government of the effects of energy management at the local, cantonal and federal level, and of the importance of the EEAP (implemented as part of activities in H.4);
2. Training of employees in existing institutions at all levels of government about:
 - (a) Key steps in introduction and implementation of energy management in cities, municipalities, cantons and federal institutions;
 - (b) Creation of federal, cantonal and municipal EEAPs in accordance with the law and best practice;
 - (c) Implementation of planned measures;
 - (d) Regular measurement, periodic evaluation of energy consumption, reporting and review of EEAPs at all levels;

Currently activities are underway to establish the regulatory framework of the energy management system in the public sector in Bosnia and Herzegovina at all levels of government. EMS will be defined by the following regulation:

- At the state BiH level: Decision on the establishment of energy management system and information system of energy efficiency in institutions at the state level and conformity of data and ordinary reporting.
- In FBiH: Rulebook on energy efficiency information system *and* Rulebook on energy audits in large enterprises and industry.
- In RS: Rulebook on energy management system, Rulebook on implementation of training for energy management system and Rulebook on energy efficiency information system.
- In Brčko District: No related regulation.

It is envisaged that during the second half of 2020 a series of trainings will be held to strengthen the capacity of the energy manager of the coordinator on the principles of energy consumption management.

H.12 Use of energy efficiency criteria in the public procurement system

The objective of this measure is to reduce total energy consumption by means of procurement of energy efficient goods, services and works financed from public budgets. The measure includes the following activities:

1. Creation and publishing of clear instructions and illustrative examples of documents forming a part of tender documentation (selection criteria, technical specifications, etc.) related to introduction of EE criteria;
2. Introduction and implementation of the control system to ensure that the prescribed use of energy efficiency criteria in public procurement is duly respected.

In this regard, there has not been any developments made in 2020.

H.13 Introduction and application of a financial framework for improvement of energy efficiency in final energy consumption

The objective of this measure is to create financial, fiscal, executive and institutional mechanisms necessary for adequate implementation of EE measures and attainment of planned energy savings targets. **No progress has been made in 2020.**

E. Central Government buildings (Article 5)

Bosnia and Herzegovina, with technical assistance provided by the UNDP, have previously conducted Detailed Energy Audits for 16 Public Buildings Under the Jurisdiction of Central BiH Institutions, the "Energy Efficiency Study of Public Buildings Under the Jurisdiction of Central BiH Institutions" and the "Action Plan for Increasing Energy Efficiency in Facilities Under the Jurisdiction of Central BiH Institutions". In 2019 the required bylaws were adopted, and energy management system is institutionalised in all public buildings/institutions at state level of Bosnia and Herzegovina, and Federation of BiH. In 2020 the extension of the Study on the state of energy efficiency for buildings owned or used by State government institutions, together with extended Energy efficiency Operational Plan, and installation metering equipment in buildings owned by state government institutions for automatic monitoring of energy and water consumption and reporting will be conducted. Beside the state level of Bosnia and Herzegovina, Energy Efficiency Operational Plan for Federation of Bosnia and Herzegovina is going to be created in 2nd half of 2020. In parallel, for each building in the inventory, it is being collected the data of the floor area and data on energy characteristics, relevant energy data that implies energy consumption or data from the energy audits, EE Studies, energy certificates, etc. Considering that through the mentioned project, and through other activities carried out at the level of BiH and the entities, a certain number of buildings have already passed the process of EE renovation, after completion of the inventory of the central government buildings, a clear picture will be obtained. Administratively, the annual target of 1% of the total area of use for Bosnia and Herzegovina should be subliming targets for the following administrative units:

- (i) state level central government institutions,
- (ii) central government institutions in the Federation of Bosnia and Herzegovina,
- (iii) central government institutions in the Republika Srpska, and
- (iv) central government institutions in the Brčko District of BiH.

Although there is still no official consensus around the number of the central government institutions by relevant ministries (state and entity), since there is still no established official technical working group for Article 5. Until now the draft inventory has been created and will be delivered to relevant ministries/technical working group in order to obtain the official consensus around the number of the central government institutions. The preliminary inventory comprises in total 92 buildings, on the state level of Bosnia and Herzegovina 43 buildings were identified, in Federation of Bosnia and Herzegovina 26 buildings, in Republika Srpska 6 buildings and in Brčko district 17 building. In total they occupy area of 396,226 m², and 1% of total floor area amounts 3,962 m². Bosnia and Herzegovina already decided to follow the default approach, and upon obtaining the consent on number of the buildings, and the total floor area from relevant ministries (state and entity)/working group, the action plans for achieving the set goal will be created.

	Number of buildings	Floor area m ²	1% of total floor area m ²
State level of BiH	43	244,993.86	2,449.94
Federation of BiH	26	71,593.07	715.93
Republika Srpska	6	60,008.00	600.08
Brčko District	17	19,631.46	196.31
Total	92	396,226.39	3,962.26

Table 1: Overview of the implementation of energy efficiency targets, by final consumption sectors, for the period 2010-2018, with expected targets in 2021

F. Energy efficiency obligations (Article 7)

In the previous one-year period, no progress was made in establishing EEE schemes in Bosnia and Herzegovina. Although proposals for amendments to the law have been prepared, as well as accompanying regulations governing this area, the entity governments have not yet taken steps to adopt EEE as one of the mechanisms for implementing energy efficiency programs. However, within the entity framework, activities are being carried out to establish programs, primarily in the residential and public sectors, that will incorporate the EEE mechanism, together with other funding mechanisms, into its structure. For the above reasons, this report repeats the description of the EEO mechanism presented in previous reports.

The Energy Efficiency Obligation Scheme Outline and Proposed Approach for Bosnia and Herzegovina⁸ that has been developed by the EEO Working Group in BiH⁹ together with the technical assistance of USAID EIA, it sets the overall structure for the Energy Efficiency Obligation (EEO) scheme in BiH. Furthermore, the EEO Working Group in BiH developed the Guidelines for the Development of EEO Legislation¹⁰ proposing the framework of the EEO model that should be defined in primary and secondary legislation of both entities and District Brcko, given the complex structure of the country and its jurisdictions. The following figure is a basic illustration of the proposed EEO model structure and roles, as defined in the EEO Scheme Outline document. The final Energy Efficiency Obligation Scheme model for Bosnia and Herzegovina was presented at a conference in Sarajevo on March 6, 2019. The conference was organised by USAID EIA under the auspices of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina.

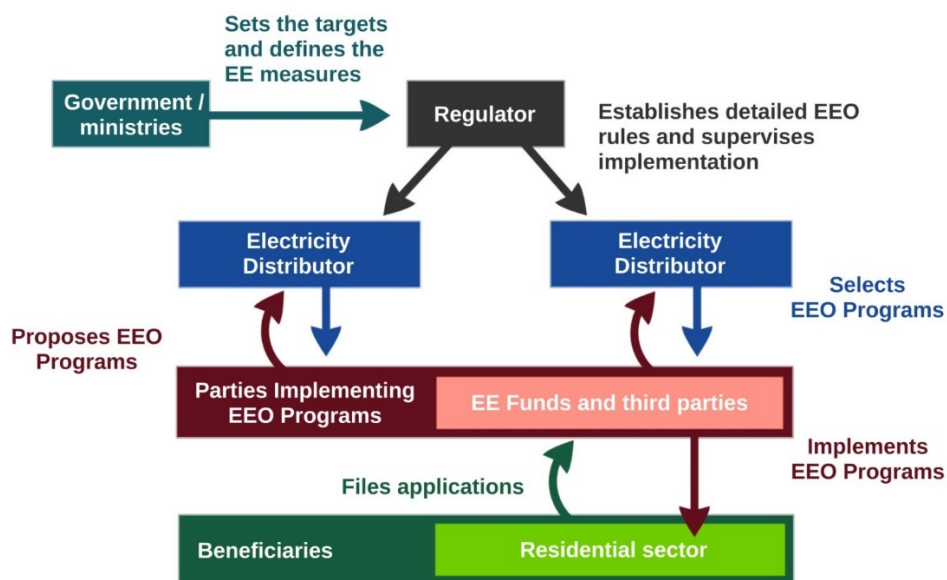


Figure 4: EEO model architecture

⁸ <http://www.usaideia.ba/dpa/document.php?id=96353>

⁹ USAID Energy Investment Activity established a Working Group to develop the Energy Efficiency Obligation (EEO) Scheme model for Bosnia and Herzegovina. Representatives of the relevant ministries, energy regulatory commissions, electricity utility companies, energy efficiency/environment funds, and Chambers of Commerce make up the EEO Working Group.

¹⁰ <http://www.usaideia.ba/dpa/document.php?id=89374>

In order to put an EEO mechanism in place in Bosnia and Herzegovina, there are four steps that must be taken: (1) draft and pass amendments to the Entity Energy Efficiency Laws¹¹. (2) formulate the EEO calculation methodologies. (3) issue a decree/regulation on implementation of EEO, and (4) issue detailed implementation regulations and/or guidelines. There are four parties in each Entity that are involved in putting the EEO mechanism in place: the parliaments, ministries, governments and regulators. The process is illustrated in the table below:

Document	Party Responsible for Development	To Whom	Action Required	Deadlines for Development
1. Amendments to the existing Entity EE laws to authorise the EEO mechanism.	Entity Ministries. in consultation with the Regulators	Entity Governments Entity Legislatures	Passage of amendments	Developed
2. Regulation/ Decree on implementation of EEO	Entity Ministries. in cooperation with the Regulators	Entity Governments	Issuance of Regulation/ Decree by the Governments	Developed
3. EEO Savings Target Methodology	Regulators	Entity Ministries	Issuance of Methodology by the Entity Ministries	Developed
4. EEO Collection Fee Calculation Methodology	Regulators	Regulators	Issuance of Methodology	Developed
5. Supervision of Obligated Parties Rulebook	Regulators	Regulators	Issuance of Regulation/ Guidelines	Developed

Table 2: EEO legislative development road map

The EEO Working Group has developed the Amendments to the existing Entity EE laws. The EEO Decree., EEO Savings Target Methodology and EEO Collection Fee Calculation Methodology, and the Rulebook for the Supervision of Obligated Parties. In addition, the EEO Model has been included in the adopted FBIH Energy Efficiency Action Plan, the draft Energy Efficiency Action Plan for Republika Srpska and Energy Efficiency Action Plan. The EEO is also defined in the BiH Framework Energy Strategy. At the Fifth Energy Summit in April 2019 it was agreed by the BiH stakeholders and afterwards a joint statement has been signed together with the international community and the Energy Community Secretariat representatives that among other items states the energy efficiency laws would be amended as soon as possible to allow the implementation of the Energy Efficiency Obligation Scheme.

The final EEO Model document, including the necessary primary and secondary legislation documents is being finalised. Following this procedure, the adoption procedure for the EEO model implementation with the relevant state and entity institutions will be in 2019.

In July 2018 House of Representatives of the BiH Parliamentary Assembly adopted set of recommendations for the energy sector reform. One of the recommendations developed is the need to decide on energy efficiency as a key element of energy transition and determine the role of regulatory bodies in the implementation of this policy. These recommendations were developed in

¹¹ <http://www.usaideia.ba/dpa/document.php?id=89377>

order to support the implementation of the energy efficiency obligation (EEO) scheme and the broadening of the jurisdictions of the regulatory commissions in order for them to assume their role in the EEO.

The programs should introduce the energy efficiency obligation schemes in both entities, by targeting the reduction of Final Energy Consumption in a three-year period. The National Energy Efficiency Action Plan 2010-2018 (NEEAP) presents four-year cumulative targets for final energy savings implemented through the obligation schemes, as shown in the following table:

<i>ktoe</i>	BiH		FBiH		RS		<i>TOTAL</i>
	EEO electricity	EEO district heating	EEO electricity	EEO district heating	EEO electricity	EEO district heating	
Year 1	13.17	2.29	9.1	1.58	4.07	0.71	15.99
Year 2	26.35	4.59	18.2	3.16	8.15	1.43	30.94
Year 3	44.79	7.79	30.94	5.37	13.85	2.42	52.58
Year 4	63.23	14.1	43.68	9.73	19.55	4.37	77.33

Table 3: NEEAP four-year cumulative targets for final energy savings implemented through the obligation schemes