Republika e Kosovës

Republika Kosova - Republic of Kosovo

Qeveria - Vlada – Government

Ministria e Zhvillimit Ekonomik

Ministarstvo Ekonomskog Razvoja - Ministry of Economic Development

BALANCA AFATGJATE E ENERGJISË E REPUBLIKËS SË KOSOVËS 2015-2024

DUGORUČNI ENERGETSKI BILANS REPUBLIKE KOSOVO 2015-2024

LONG TERM ENERGY BALANCE OF THE REPUBLIC OK KOSOVO 2015-2024

Prishtinë, Dhjetor 2014

Republika e Kosovës
Republika Kosova - Republic of Kosovo
Qeveria - Vlada - Government
Ministria e Zhvillimit Ekonomik
Ministarstvo Ekonomskog Razvoja - Ministry of Economic Development

LONG-TERM ENERGY BALANCE OF THE REPUBLIC OF KOSOVO 2015 - 2024

December, 2014

Contents

Abbreviations

MZHE	Ministry of Economic Development
KOSTT J.S.C.	Kosovo Electricity Transmission, System and Market Operator
KEK J.S.C.	Kosovo Energy Corporation
KSA	Kosovo Statistics Agency
ERO	Energy Regulatory Office
MF	Ministry of Finance
MAFRD	Ministry of Agriculture, Forestry and Rural Development
KFA	Kosovo Forestry Agency
MESP	Ministry of Environment and Spatial Planning
KC	Kosovo Customs
EnCS	Energy Community Secretariat
REKOS	2011 Census of population, households and residences in Kosovo
CRES	Center for Renewable Sources, Athens, Greece
EUROSTAT	European Commission Statistics Office
IEA	International Energy Agency
LPG	Liquefied Petroleum Gas
TPP	Thermal Power Plant
HPP	Hydro Power Plant
GWh	Giga Watt Hour
GW	Giga Watt
MWh	Mega Watt Hour
MW	Mega Watt
RES	Renewable Energy Sources
GDP	Gross Domestic Product

This document was compiled by the Energy Policy Division in the MED, with strong support and close cooperation with entities outlined in the Administrative Instruction on the Rules of the Energy Balance No. 07/2011.

1. Energy demand and demand coverage forecast methodology

The "Long Term Energy Balance of the Republic of Kosovo 2015-2024" is drafted taking into consideration several documents and other data collected by the Division for Energy Policies within the Ministry of Economic Development.

The basic documents which have served as inputs to the Long-Term Energy Balance of the Republic of Kosovo 2015-2024 and their sources, are the following:

- Demographic data - KSA;
- Macroeconomic data - MF;
- Data on electricity demand forecast, and electricity supply forecast, deriving from the document: Long Term Electricity Balance 2015-2024, by the Transmission System and Market Operator (KOSTT).
- Data on coal production from the document: Long Term Electricity Balance 2015-2024 from KOSTT.
- Data on electricity consumption from the document: Long Term Electricity Balance 2013- 2022, while for the shares of economic sectors, the data were obtained from surveys realized in 2009, 2010, 2011, 2012 and 2013.
- Data on forecast of heating consumption are derived from forecast data developed by district heating companies in Prishtina (Termokos) and Gjakova;
- Historical energy consumption data and gross available energy figures, such as:
  - Realized Energy Balances of the Republic of Kosovo for 2011, 2012 and 2013;
- Estimate of the energy demand in Kosovo in 2014 (data on 2014 based on Kosovo's economic growth in 2014, in comparison to 2013);

The Long Term Energy Balance for the period 2015-2024 is based on data from documents of realized energy balances, which in terms of consumption, are based on specialized surveys of consumption by sector.

Data on electricity are readily obtained from the Long Term Electricity Balance for the period 2013- 2022, developed by the Kosovo Transmission System and Market Operator, since this is an authorized operator, according to the Law no. 03/L-184 on Energy, to develop annual and long- term electricity balances. Heating data are taken from the heating forecast documents developed by the district heating companies in Prishtina and Gjakova.

Also, the document analyses the impacts of macro-economic development in the energy consumption. Meanwhile, the data collected are processed in accordance with the EUROSTAT format requirements.

In calculating energy consumption forecasts, three basic factors are taken into account:

1. Economic growth;
2. Number of households and
3. Consumption of the three last years.

The following table presents the GDP data realized for the period 2009-2013.

	2009	2010	2011	2012	2013
GDP	3.6%	3.3%	4.4%	2.8%	3.4%

Data source KSA.

2. Energy demand forecast for the household sector

The basis for analyzing and calculating energy demand forecast for the household sector is demographic data obtained from the publication: "Kosovo population development forecast 2011-2061" published by the Kosovo Statistics Agency.

As per the population census data, the total number of households in Kosovo in 2013 was 308,582, while the average number of members per household is 5.88. The energy demands, for the household sector, are largely dependent on the number of households (one household may have more than one family), rather than the population number. Therefore, an accurate estimate of the number of families is of key interest in forecasting energy consumption in the household sector.

Table 2. Forecast of the growth of population, number of family members and households

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Population	1,827,231	1,836,978	1,847,632	1,857,867	1,867,495	1,876,250	1,883,805	1,892,993	1,901,106	1,907,940
No. household	309,700	311,352	313,158	314,893	316,525	318,008	319,289	320,846	322,221	323,380

Source: KSA, EPD (MED)

Apart from demographic data, which are essential for forecasting energy consumption in the household sector, there are other datasets of crucial importance used in processing the data for this document, which include:

- Long term Electricity Balance 2015-2024, developed by the Transmission System and Market Operator (KOSTT);
- Historical data from energy balance documents for years 2012, 2013, developed by the MED, and the forecast for 2014;
- Data on heating generation for the period 2015-2024, and forecasts provided by district heating companies in Prishtina and Gjakova;
- Data on imports and exports of coal and petroleum products is based on the economic development rate in 2014, in comparison to 2013.

Table 3 Forecast of consumption of different energy products in the household sector (in ktoe)

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Coal	18.46	18.64	18.83	19.02	19.21	19.40	19.59	19.79	19.99	20.19
Petroleum products	17.61	18.19	18.79	19.41	20.05	20.71	21.39	22.10	22.83	23.58
Biomass	233.93	236.50	239.10	241.73	244.39	247.08	249.80	252.55	**255.33**	**258.13**
Electricity	256.84	248.88	252.61	259.43	264.10	270.18	277.47	284.41	294.08	304.66
Solar energy	0.21	0.31	0.36	0.41	0.49	0.54	0.59	0.64	0.70	0.80
Derived heat	5.98	6.31	6.62	6.93	7.16	7.49	7.87	8.26	8.68	9.09
Total	**533.03**	**528.83**	**536.31**	**546.93**	**555.40**	**565.40**	**576.72**	**587.74**	**601.59**	**616.46**

Table 3 reveals that the overall energy demand for the household sector will gradually increase for an average of 1.8%, from 533.03 ktoe in 2015 to 616.46 ktoe in 2024.

The main product consumed by the household sector is electricity, the use of which is envisaged to decrease by 3.1% in 2016 in comparison to 2015, but to increase in every subsequent year, reaching 304.66 ktoe in 2024.

Biomass consumption by the household sector will increase continually in the 10-year term. By 2024 it is expected for biomass consumption to increase by 10.35% in comparison to 2015.

Petroleum product consumption in 2015 is estimated to reach 17.61, whereas in 2024, such consumption will be 23.58 ktoe.

An annual demand increase of around 1% is expected, thus reaching 10.19% in 2026, when it is assumed to replace a good part of electricity consumption for heating purposes.

Solar energy and derived heat are also expected to increase in the next 10 years.

3. Energy demand forecast for the services sector

The Energy Demand Forecast for this sector is also based on the general trends noted in the last three years, and energy balance data for the last three years. The electricity demand forecast data were taken from the Long Term Electricity Balance 2015-2024, developed by KOSTT, while data on central heating consumption were taken from forecasts of heating districts in Prishtina and Gjakova.

Similar to the household sector, the distribution of energy products' consumption is made according to consumer surveys. During the period 2015-2024, there is a forecast of increasing energy consumption, mainly as a result of improving quality of heating services, acclimatization and other conditions in the service sector, which includes central and local administration buildings, cultural facilities, educational and sports facilities, health care, hotelier facilities, etc., both in the private and public sector.

A stable increase of solar energy consumption is expected, especially in public facilities (schools, hospitals, etc.), as well as of centralized heating.

The average energy consumption growth in the services sector is forecasted at 3%, under which terms, it is expected to reach 163.95 ktoe by 2024.

The following is a table of consumption forecast for all energy products:

Table 4. Overview of energy products' consumption forecast for the service sector (ktoe)

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Coal	6.72	6.79	6.86	6.93	7.00	7.07	7.14	7.21	7.28	7.35
Petroleum products	42.46	43.31	44.18	45.06	45.96	46.88	47.82	48.77	49.75	50.74
Biomass	7.16	7.23	7.30	7.38	7.45	7.52	7.60	7.68	**7.75**	**7.83**
Electricity	70.77	70.06	72.16	74.33	76.55	78.85	81.22	83.65	87.00	90.48
Solar energy	0.50	0.72	0.84	0.96	1.14	1.26	1.38	1.50	1.63	1.87
Derived heat	3.22	3.40	3.57	3.73	3.85	4.04	4.24	4.45	4.67	4.90
Total	**130.83**	**131.51**	**134.91**	**138.38**	**141.96**	**145.62**	**149.39**	**153.26**	**158.08**	**163.17**

4. Energy demand forecast in the industry sector

The electricity consumption data for the industrial sector derive from the documents developed by the Kosovo Transmission System and Market Operator (KOSTT), from the total electricity demand.

The industrial sector has recently recorded a moderate increase of coal demand, especially after its usage in metal industry, but also in food industry. Nevertheless, the industrial sector will again be dominated by consumption of petroleum products, followed by electricity. In a more narrow forecast, namely with the consolidation of the electro-energy system, an increase in electricity consumption is expected as a result of two factors:

1. Development of the Kosova e Re Power Plant – which ensures greater reliability of electricity supply, and
2. Usage of small generators – electricity outages will be less frequent than in other years.

By 2024, it is expected that the electricity consumed by the industrial sector will have a share of 35% of available energy in the sector. This is expected to happen due to the long-term development projections, which forecast that Kosovo shall transition from an early development stage to a sustainable development state.

Table 5. Overview of various energy products demand forecast in the industrial sector (ktoe)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Coal for energy purposes	34.75	35.09	35.45	35.80	36.16	36.52	36.88	37.25	37.63	38.00
Coal for non-energy purposes	0.48	0.48	0.49	0.49	0.50	0.50	0.51	0.51	0.52	0.52
Petroleum products for energy purposes	149.79	154.74	159.84	165.12	170.57	176.19	182.01	188.02	194.22	200.63
Petroleum products for non-energy purposes	49.77	51.41	53.10	54.86	56.67	58.54	60.47	62.46	64.53	66.66
Biomass	14.09	14.23	14.37	14.51	14.66	14.81	14.95	15.10	15.25	15.41
Electricity	121.70	122.92	126.60	130.40	134.31	138.34	142.49	146.77	152.64	158.75
Total	**370.57**	**378.87**	**389.85**	**401.18**	**412.86**	**424.90**	**437.32**	**450.12**	**464.78**	**479.96**

4. Energy demand forecast in the transport sector

The Kosovo transport sector has traditionally been characterized with the use of petroleum products.

As may be noted from Table 6, consumption of petroleum and petroleum products in the transport sector is forecasted to grow in a linear manner.

Noteworthy, energy consumption forecasts for the transport sector have not taken into consideration potential introduction of electricity use, despite the use of such technologies elsewhere.

Table 6. Overview of various energy products' consumption in the transport sector (ktoe)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Diesel	255.16	262.82	270.70	278.82	287.19	295.80	304.68	313.82	323.23	332.93
Gasoline	57.99	57.41	56.83	56.26	55.70	55.14	54.59	54.05	53.51	52.97
Kerosene	16.10	16.59	17.08	17.60	18.12	18.67	19.23	19.80	20.40	21.01
LPG	11.19	11.41	11.64	11.88	12.11	12.36	12.60	12.85	13.11	13.37
Total	**340.44**	**348.23**	**356.26**	**364.56**	**373.13**	**381.97**	**391.10**	**400.53**	**410.25**	**420.29**

6. Energy demand forecast for the agriculture sector

In the agricultural sector, petroleum and its products are the main sources of energy consumption. The average increase in energy consumption in the agricultural sector is expected to be around 4.2% by 2024.

Knowing that the agricultural sector is expected to be one of the most attractive sector for Government investment, growth in electricity consumption is expected (mainly used during agricultural processing) and also petroleum products use.

Table 7 and relevant charts present the energy consumption forecasts in different sources.

Table 7. Overview of various energy products' consumption in the agriculture sector (ktoe)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Coal	0.66	0.67	0.68	0.68	0.69	0.70	0.70	0.71	0.72	0.72
Petroleum products	28.54	29.77	31.05	32.38	33.78	35.23	36.74	38.324	39.97	41.69
Biomass	0.56	0.56	0.57	0.57	0.58	0.58	0.59	0.60	0.60	0.61
Electricity	1.4	1.42	1.46	1.51	1.55	1.60	1.65	1.69	1.76	1.83
Total	**31.19**	**32.42**	**33.75**	**35.14**	**36.59**	**38.11**	**39.68**	**41.32**	**43.05**	**44.86**

7. Energy demand forecast for all sectors

The result of an analysis of previous energy balances for all sectors reveals that up to 2013 the household sector was Kosovo's largest energy consumer, followed by industry and transport sectors.

Final energy consumption in 2024 is expected to reach 1724.73. Measures related to rehabilitation of the electricity system and development of Kosova e Re Power Plant 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.

The sector expected to have the most significant energy demand increase is the industry sector. This is based on GDP growth projections on one side and comparison with consumption trends in other developing countries on the other.

Despite estimates on the enhanced rhythm of growth for the industry sector, this sector is expected to amount to around 28% of the final energy consumption by 2024.

An overview of energy consumption by sector is presented in Table 8.

Table 8. Overview of energy consumption by sector.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Industry sector	370.57	378.87	389.85	401.18	412.86	424.90	437.32	450.12	464.78	479.96
Household sector	533.03	528.83	536.31	546.93	555.40	565.40	576.72	587.74	601.59	616.46
Services sector	130.83	131.51	134.91	138.38	141.96	145.62	149.39	153.26	158.08	163.17
Agriculture sector	31.19	32.42	33.75	35.14	36.59	38.11	39.68	41.32	43.05	44.86
Transport sector	340.44	348.23	356.26	364.56	373.13	381.97	391.10	400.53	410.25	420.29
Total	**1406.06**	**1419.84**	**1451.09**	**1486.20**	**1519.94**	**1556.01**	**1594.21**	**1632.97**	**1677.76**	**1724.73**

Table 9 presents the contribution of each sector in the overall consumption, by characteristic year: 2015 and 2024, as the first and last year of the 2015-2024 forecast.

Table 9. Overview of consumption forecasts for all economic sectors (in ktoe and %)

Sectors	2015		2024	
	ktoe	%	ktoe	%
Industry	370.57	26.4	479.96	27.8
Household	533.03	37.9	616.46	35.7
Services	130.83	9.3	163.17	9.5
Agriculture	31.19	2.2	44.86	2.6
Transport	340.44	24.2	420.29	24.4
Total	**1406.06**	**100.0**	**1724.73**	**100.0**

8. Demand forecast for various energy sources

Until 2013, the most sought energy product was petroleum and its products. Such a trend is expected to continue to follow the energy demand in the long-term period 2015-2024.

Table 10. Overview of the forecasted consumption for all energy products (in ktoe)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Coal, energy purposes	60.59	61.20	61.81	62.43	63.05	63.68	64.32	64.96	65.61	66.27
Coal, non-energy purposes	0.48	0.48	0.49	0.49	0.50	0.50	0.51	0.51	0.52	0.52
Petroleum products, energy purposes	578.85	594.23	610.12	626.53	643.48	660.99	679.07	697.74	717.02	736.93
Petroleum products, non-energy purposes	49.77	51.41	53.10	54.86	56.67	58.54	60.47	62.46	64.53	66.66
Biomass	255.73	258.52	261.34	264.20	267.08	270.00	272.94	275.92	278.93	281.98
Electricity	450.74	443.27	452.84	465.66	476.52	488.97	502.83	516.52	535.48	555.72
Derived heat	9.21	9.70	10.19	10.65	11.01	11.53	12.11	12.70	13.35	13.99
Solar energy	0.71	1.03	1.20	1.38	1.63	1.81	1.98	2.15	2.32	2.67
Total	**1406.06**	**1419.84**	**1451.09**	**1486.20**	**1519.94**	**1556.01**	**1594.21**	**1632.97**	**1677.76**	**1724.73**

Table 11 below presents data on energy products for the two extremes of the long-term energy demand forecast.

Table 11. Overview of demand forecast for all energy products (in ktoe and %)

Energy product	2015		2024	
	ktoe	%	ktoe	%
Coal	61.07	4.3	66.79	3.9
Petroleum products	628.61	44.7	803.59	46.6
Biomass	255.73	18.2	281.98	16.3
Electricity	450.74	32.1	555.72	32.2
Derived heat	9.21	0.7	13.99	0.8
Solar energy	0.71	0.1	2.67	0.2
Total	**1406.06**	**100.0**	**1724.73**	**100.0**

9. Electricity consumption forecast for the period 2015-2024

The table below presents the electricity consumption forecast for the period 2015-2024

BASIC ENERGY DEMAND SCENARIO (GWh)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Household (residential) consumers	2536	2643	2705	2763	2786	2636	2814	2726	2768	2842	2892	2958	3039	3116	3223	3340
Commercial consumers	701	745	798	872	847	855	898	887	913	939	965	996	1028	1057	1097	1137
Total industrial consumers	1210	1296	1322	1201	1124	1309	1342	1358	1398	1437	1478	1525	1574	1619	1679	1741
Losses in KOSTT	175	131	115	128	110	115	116	116	117	118	121	122	123	124	126	128
DSO technical losses	799	780	785	778	767	659	685	747	739	732	725	717	710	703	696	689
Gross Kosovo consumption	**5421**	**5594**	**5725**	**5742**	**5634**	**5574**	**5854**	**5833**	**5936**	**606**	**6180**	**6318**	**6473**	**6620**	**6820**	**7036**

Data source: KOSTT Long-Term Electricity Balance 2015-2024

In 2013, the household sector consumed 2786 GWh or 49% of the gross electricity consumption, whereas in 2024 it is expected to consume 3340 GWh, or 47% of the overall consumption. In 2013, the commercial sector consumed 847 GWh, or 15% of the gross electricity consumption, whereas in 2024 it is expected to consume 1137GWh, or 16% of the total electricity consumption. The industry sector consumed 1124 GWh in 2013, or 20% of the gross consumption, while in 2024 it is expected to consume 1741 GWh or 25% of the gross electricity consumption. KOSTT losses in 2013 amounted to 110GWh, or 2% of the gross electricity consumption, while in 2024 such losses are estimated

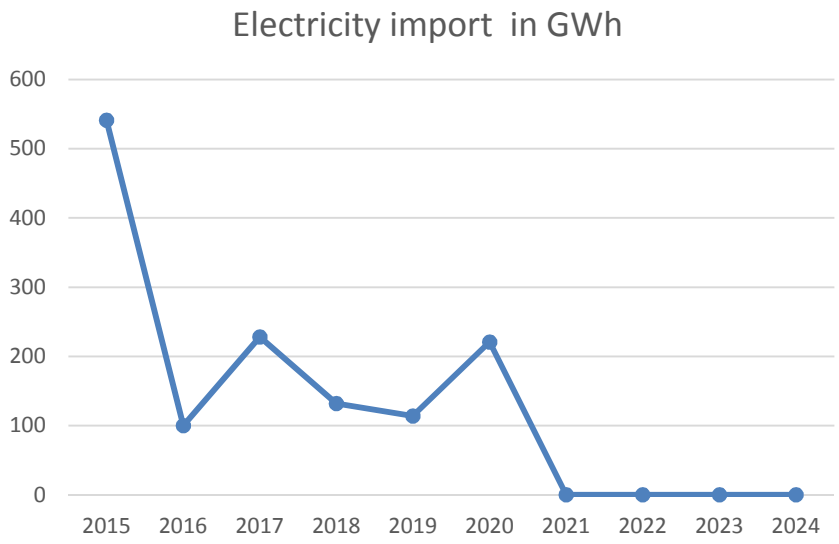
to amount to 128GWh or 2% of the gross electricity consumption. GSO technical losses in 2013 amounted to 767GWh or 14% of the gross electricity consumption, whereas in 2024 such technical losses are expected to be 689GWh or 10% of the gross electricity consumption.

10. Electricity generation forecasts for the period

	GROSS ENERGY GENERATION - BASELINE SCENARIO (MED) [GWh]	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
1	TPP KOSOVA A	1622	1908	2203	2108	2186	1624	2143	2142	2142	2142	2142	0	0	0	0	0
2	TPP KOSOVA B	3638	3573	3494	3739	4196	3894	4202	4195	3260	3348	4392	4392	4392	4392	4392	4392
3	TPP KOSOVA E RE	0	0	0	0	0	0	0	0	0	0	0	3135	4703	4703	4703	4495
4	NEW TPPs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	**TOTAL FROM TPPs (1+2+3+4)**	**5260**	**5481**	**5696**	**5847**	**6382**	**5518**	**6345**	**6337**	**5402**	**5490**	**6534**	**7527**	**9095**	**9095**	**9095**	**8887**
6	HPP UJMANI	89	115	75	66	101	82	84	82	82	82	84	84	84	80	82	80
7	HPP LUMBARDHI	33	36	22	23	30	26	60	92	92	105	105	105	105	105	105	105
8	HPP DIKANCE+BURIMI+RADAVCI	0	14	14	23	22	18	18	23	22	26	26	26	26	26	26	26
9	HPP ZHURI	0	0	0	0	0	0	0	0	0	0	0	398	398	398	398	398
10	SMALL HPPs	0	0	0	0	0	0	0	609	654	731	821	1001	1001	1001	1001	1001
11	**TOTAL FROM HYDRO POWER PLANTS (6+7+8+9)**	**121**	**166**	**112**	**112**	**152**	**125**	**162**	**806**	**850**	**944**	**1036**	**1614**	**1614**	**1610**	**1612**	**1610**
12	BIOMASS PLANTS (Natural Waste)	0	0	0	0	0	0	0	45	60	75	90	105	105	105	105	105
13	WIND POWERED PLANTS	0	3	0	0	0	3	3	181	222	262	282	302	302	320	320	332
14	SOLAR PLANTS	0	0	0	0	0	0	8	12	14	16	19	21	23	25	27	31
15	**TOTAL BIOMASS, WIND, SOLAR (12+13+14)**	**0**	**3**	**0**	**0**	**0**	**3**	**11**	**239**	**296**	**353**	**391**	**428**	**430**	**450**	**452**	**468**
16	**TOTAL RENEWABLES (11+15)**	**121**	**169**	**112**	**112**	**152**	**128**	**173**	**1045**	**1146**	**1297**	**1426**	**2041**	**2043**	**2060**	**2064**	**2078**
17																	
18	**TOTAL GROSS CONSUMPTION (5+11+15)**	**5381**	**5650**	**5808**	**5959**	**6534**	**5646**	**6518**	**7382**	**6548**	**6787**	**7960**	**9568**	**11138**	**11155**	**11159**	**10965**
19	TOTAL OWN CONSUMPTION BY PLANTS	579	603	605	594	632	586	586	671	583	593	694	756	913	913	913	892
20	**TOTAL NET GENERATION (18-19)**	**4802**	**5047**	**5203**	**5365**	**5902**	**5059**	**5932**	**6711**	**5965**	**6194**	**7266**	**8812**	**10226**	**10242**	**10246**	**10073**

Data source: Long-Term Electricity Balance 2015-2024″-KOSTT

11. Electricity import forecasts 2015-2024



12. Air pollutant emissions from electricity generation in Kosovo

The energy sector is one of largest environmental pollutants in Kosovo, especially in the Prishtina region, including neighboring municipalities, where existing thermal-generation sources are focused. Gas emissions from thermal power plants, with large NOx, SO2 and dust emissions, cause severe air pollution. It is clear that the Kosovo energy sector also significantly contributes to greenhouse gas emissions (CO2).

12.1 Current state and level of pollutant discharge from thermal power plants, and emission forecasts for the period 2015-2024

Table 8-1 presents approximate values of pollutant concentration: NOx, SO2 and dust, for both existing thermal plants, and comparison of such values with standards set in Directive 2001/80/EC, obtained from the Social and Environmental Impact Assessment (SESA) for the new generation capacities.

Table 8-1 Comparison of the concentration of pollutant emissions from existing thermal power plants TPP Kosova A and TPP Kosova B, in relation to allowed standards.

TPP UNIT	dust		Nox		SO2	
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
	Current	Standard	Current	Standard	Current	Standard
KOSOVA A3	100-200	100	700	600	300	<1200
KOSOVA A4	100-200	100	700	600	300	<1200
KOSOVA A5	100-200	100	700	600	300	<1200
KOSOVA B1	150	100	700	600	400	400
KOSOVA B2	150	100	700	600	400	400

*Current state of affairs regarding dust emissions, after the replacement of filters in units A3, A4 and A5 during 2012-2013.

Data source: "Long-Term Electricity Balance 2014-2024"- KOSTT

Thermal power plant Kosova e Re will use the latest technology related to the implementation of environmental requirements, therefore, the level of pollution will be under the one set by European standards on new lignite-powered thermal power plants.

Table 8-2 reveals emission factors for thermal power plant Kosova e Re.

PARAMETERS	NOX t/GWh	SO2 t/GWh	CO2 t/GWh	Dust/GWh	Lignite t/MWh
TPP KOSOVA E RE	0.548	0.730	1097.000	0.037	1.135
Percentage per 1t lignite	0.048%	0.064%	96.652%	0.003%	

Table 8-2 presents pollution emission forecasts (NOx, SO2 and dust) for the period 2015-2024, and emission in the three preceding years caused from electricity generation in thermal power plants, as per the baseline generation development scenario, whereas figure 8.3 presents CO2 emission forecasts for the same scenario.

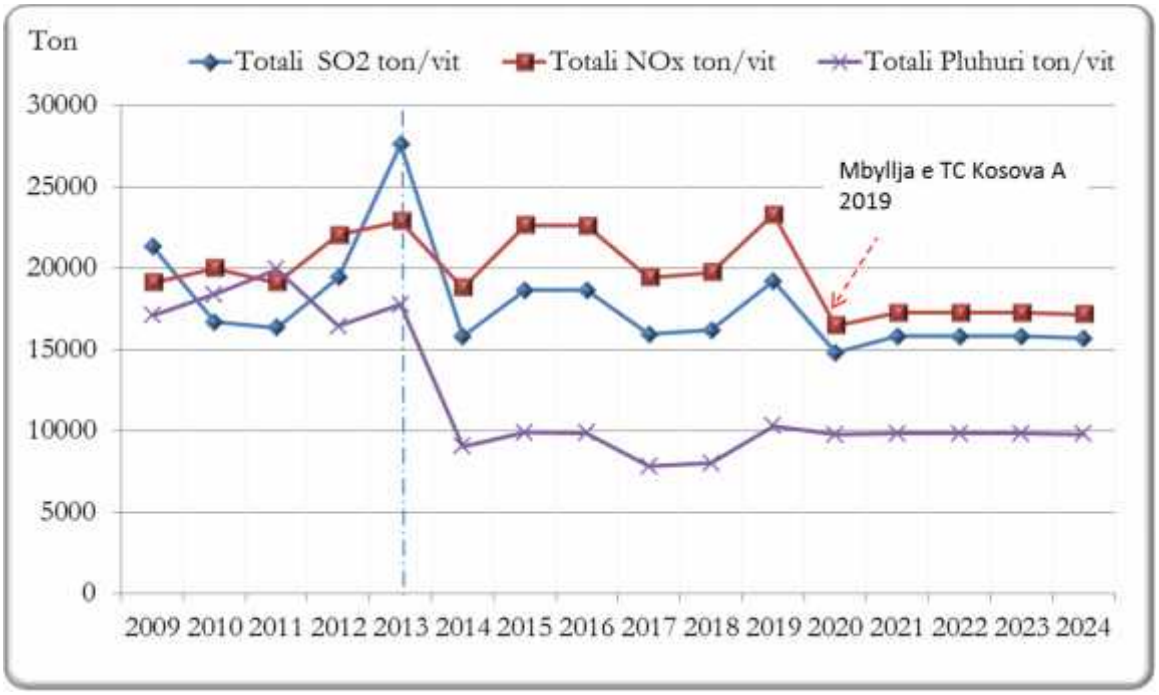


Figure 8-2. Forecast of dust, NOx and SO2 emissions from Kosovo thermal power plants, for the period 2015-2024.

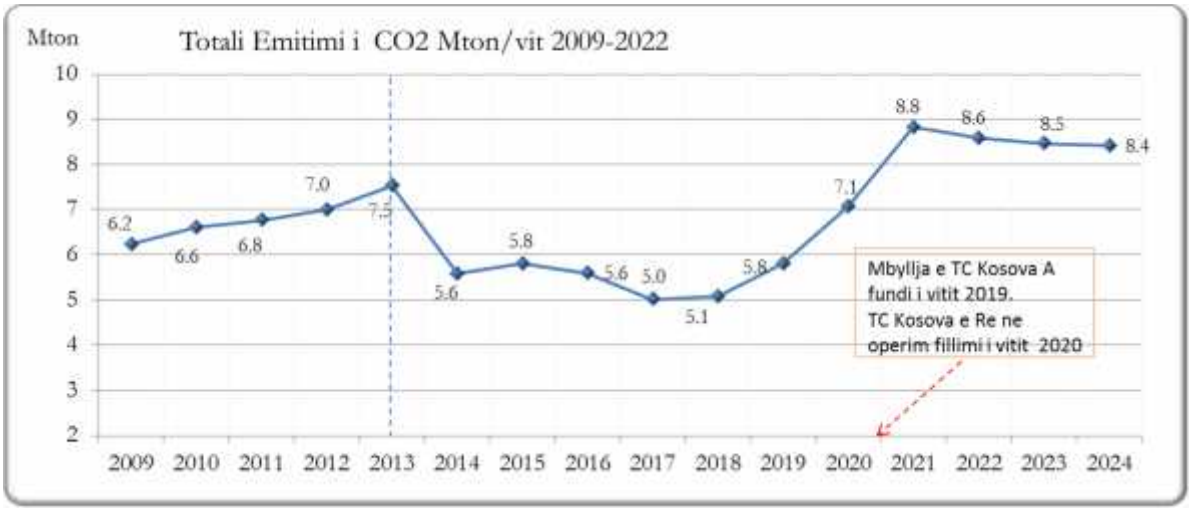


Figure 8-3 Forecasts for CO2 emission from thermal power plants in the period 2015-2024