

BOSNIA AND HERZEGOVINA



Muhamed Mujakić,

Independent System Operator in Bosnia and Herzegovina



► Country profile

Geographic location Southeast Europe, western part of Balkan peninsula

Population 3,223,677 (estimated May 2023)

Area 51,209.2 km²

land 51,197 km², sea covers 12.2 km²

Bosnia and Herzegovina (BIH) comprises of two entities:

- Federation of Bosnia and Herzegovina
- Republika Srpska

Brčko District of BIH has a special status



	FBIH	RS	BD BIH
Area (km²)	26.109,7	24.641	493
Population	2.334.348	1.415.776	93.028
Organisation	10 cantons	64 local government units (7 cities and 57 municipalities)	Local government unit
	79 municipalities		

GENERAL INFORMATION

▶ **Economic indicators**

- ▶ The economy of Bosnia and Herzegovina is a transitional, upper middle income economy
- ▶ GDP: \$28.49 billion (nominal, 2023 est.)
- ▶ Exports: \$8.9 billion (2022)

▶ **Organizational structure related Energy**

- ▶ National level:
 - ▶ The Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MOFTER)
 - ▶ State Electricity Regulatory Commission (SERC-DERK)
 - ▶ Independent System Operator in Bosnia and Herzegovina
 - ▶ Transmission company- Elektroprenos
- ▶ Entity level:
 - ▶ Federal Ministry of Energy, Mining and Industry (FMERI)
 - ▶ The Ministry of Industry, Energy and Mining of Republika Srpska (MIER)
 - ▶ FERK and EPBiH
 - ▶ RERS and EPRS

▶ **Reserves of energy and mineral resources**

- ▶ Electric power generation is a key sector of economic activity in BiH. Electric power is primarily generated in coal-fired thermal and hydro power plants, and the country is a net exporter of electrical energy.
- ▶ The generating capacity is about 17,000 GWh.
- ▶ BiH historically had a comparative advantage in electricity, particularly because of its natural hydropower resources and coal reserves.

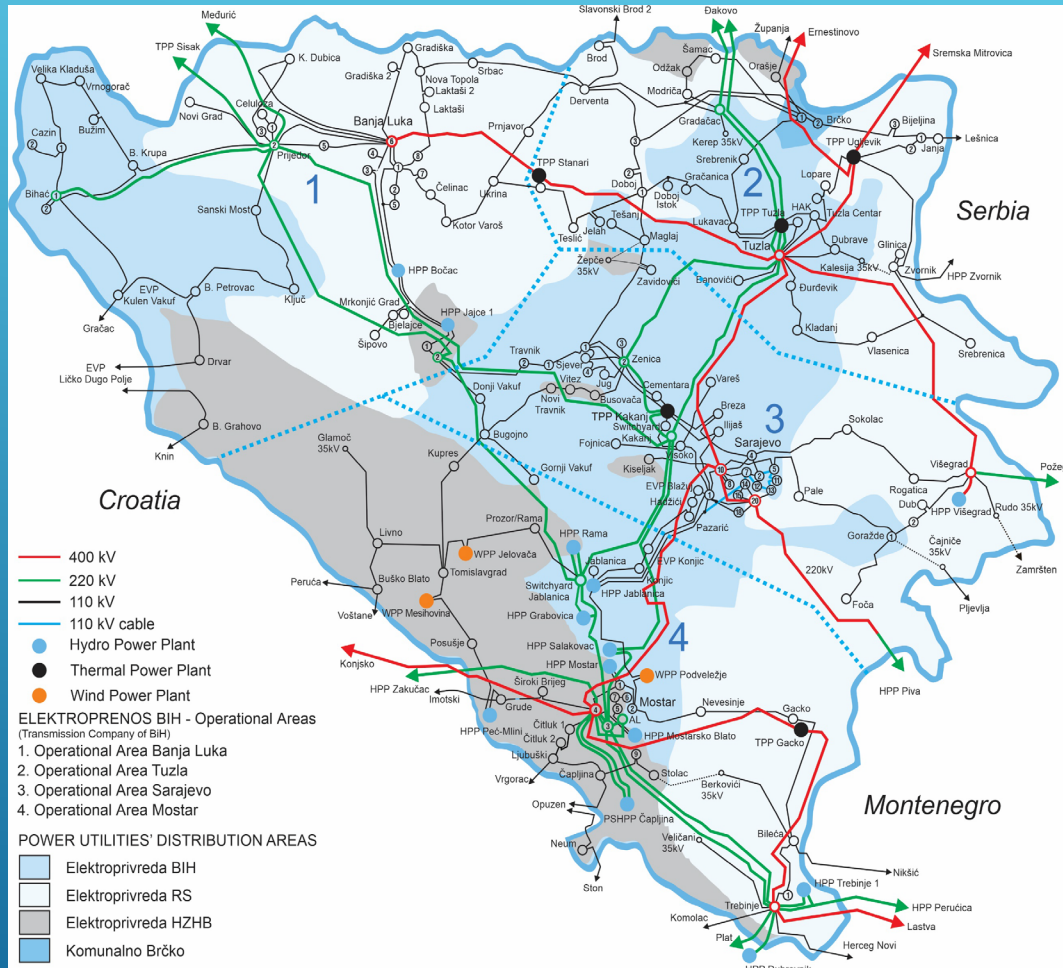
GENERAL INFORMATION

► Primary energy supply by energy source

	TOTAL	Thermal Power Plant (TPP)	Hydroelectric Power Plant (HPP)	Industrial Power Plant (IPP)	sHPP + SPP + BioPP	Small Hydroelectric Power Plant (sHPP)	Solar Power Plant (SPP)	Biomass Power Plant	Wind Power Plant (WPP)
Year	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh	GWh
2013	16 302, 57	8 939, 65	7 123, 62	5, 10	234, 20				
2014	15 029, 87	8 920, 65	5 820, 52	24, 60	264, 10				
2015	14 407, 80	8 712, 06	5 425, 54	23, 30	246, 90				
2016	16 508, 97	10 607, 91	5 469, 39	30, 90		374, 27	26, 50		
2017	15 151, 35	10 918, 44	3 831, 39	21, 30		352, 27	21, 16	6, 79	
2018	17 872, 97	10 953, 76	6 300, 08	17, 44		469, 39	20, 65	8, 15	103, 50
2019	16 073, 94	9 612, 98	5 649, 60	20, 82		497, 99	30, 04	8, 84	253, 67
2020	15 390, 62	10 442, 98	4 276, 48	10, 15		341, 02	45, 62	12, 56	261, 81
2021	17 055, 40	9 820, 98	6 313, 99	19, 98		433, 41	73, 89	11, 34	381, 81
2022	15 035, 93	9 629, 43	4 458, 55	20, 70		406, 75	117, 05	13, 06	390, 39

PAST ENERGY DEMAND AND SUPPLY

► Final energy consumption



Electricity Sector (2022 data)

Installed Capacity 4,655.62 MW
 (HPP 2,076.6; TPP 2,065; WPP 134.6; Small REs 286.56; Industrial 92.85 MW)

Generation 15,035.96 GWh
 Consumption 12,057.64 GWh
 Transmission losses 333.03 GWh (1.83%)
 Distribution losses 931.1 GWh (8.83%)
 Customers 1,590,197 (1,461,843 households)

PAST ENERGY DEMAND AND SUPPLY

► Electricity generation

The energy balance of Bosnia and Herzegovina consists of coal, oil, gas, firewood, hydropower and other renewable energy sources. There is currently no nuclear power generation.

In 2016, the main sources of energy for gross domestic consumption were coal (61.2%), oil (36.5%) and hydroelectric energy (10.2%), while natural gas accounted for only 3.9%. Domestic production accounts for 71% of the country's total gross domestic consumption.

► CO2 emission

Fossil CO2 emissions in Bosnia and Herzegovina were **25,674,120** tons in 2016

CO2 emissions increased by 0.86% over the previous year, representing an increase by **218,966** tons over 2015, when CO2 emissions were **25,455,154** tons.

CO2 emissions per capita in Bosnia and Herzegovina are equivalent to **7.58** tons per person

PAST ENERGY DEMAND AND SUPPLY

► Primary energy supply

Total estimated annual generation (GWh) by energy source (2024 – 2033)

(GWh)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
TPP	12512	11797	12370	14747	12746	13868	13769	13275	13368	13251
HPP	5939	4387	5163	5673	4953	5462	5974	4953	5465	5974
SPP	345	397	450	706	880	1305	1445	1667	1800	2304
WPP	721	1521	2099	2209	2266	2269	2389	2266	2269	2389
SUM	19517	18102	20082	23335	20845	22904	23577	22161	22902	23918

► Final energy consumption

Expected consumption, losses on the transmission network and export of electricity (GWh) from Bosnia and Herzegovina (2024 – 2033)

(GWh)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Consumption	11288	11394	11501	11609	11718	11828	11940	12052	12165	12279
Losses	398	414	435	467	477	472	463	465	465	464
Export	7831	6294	8147	11260	8650	10604	11174	9644	10272	11175

OUTLOOK OF ENERGY DEMAND AND SUPPLY

► Electricity generation and CO2 emission

EU 2022 Report on BiH:

“In the coming year, Bosnia and Herzegovina should in particular:

- Adopt **gas and electricity** laws and bylaws, in compliance with the third energy package, at state and entity levels and ensure the full harmonisation of laws at entity level in the area of electricity and gas to prevent further delays in opening and functional operating of the energy market and establishment of a day-ahead electricity market.*
- Adopt state- and entity-level legislation on **renewable energy and energy efficiency** in line with the obligations stemming from the Energy Community Treaty and the commitments from the 2020 Sofia summit declaration on the Green Agenda for the Western Balkans.*
- Sign a direct agreement with the service provider to use electronic registers for issuance, cancellation and trade of **guarantees of origin**.*
- Finalise and adopt the **national energy and climate plan (NECP) 2021-2030**”*

NEW COMMITMENTS – ELECTRICITY

- Clean Energy for all Europeans package – completed/included in EnC acquis*
- Consumer rights: smart meters, dynamic pricing, upgraded comparison tools, active consumers, more than one supply contract, supplier switching within 24 hours (by no later than 2026)*

OUTLOOK OF ENERGY DEMAND AND SUPPLY

For the period until 2035 it is necessary to define an energy framework for the development of electricity sector in Bosnia and Herzegovina.

Main strategic priorities and guidelines related to the market development and regulations are provided in the table below:

Strategic priority	Strategic guideline
Electricity sector restructuring and transformation	<p>An overall transformation of the electricity sector through restructuring the key participants and adequate market regulation in accordance with the Third Energy Package and legislation as a result of the Winter package. The goal is to achieve mature market liberalisation towards further encouragement of electric power subjects in achieving cost efficiency thus freeing financial resources for investments into the new products and services, technologies, knowledge and competence and price competitiveness. The ultimate goal is to increase the value for final consumers and create a new value on the market.</p>
Reaching a larger share of clean energy in the future generation mix and consumption	<p>Increase share of renewable energy sources in installed capacity, total electricity generation and electricity consumption in accordance with the assumed and future obligations. Increase in the share of RES, along with contribution of traditional power utility companies, will also be stimulated through the future incentive models. Transition dynamics needs to be put into the implementation prospect frameworks.</p>
Reduction of local pollutants emissions from TPPs	<p>Implement measures to reduce emissions of polluting substances and achieve emission limit values in accordance to EU standards</p>
Reduction of greenhouse gas emissions from TPPs	<p>Implement measures aimed at Bosnia and Herzegovina's contribution to reduce greenhouse gas emissions in line with INDC objectives, with further revisions and adjustments in line with EU objectives in the future.</p>

CURRENT ENERGY POLICY AND MEASURES

Interconnections for electricity transmission with neighboring countries are mostly satisfactory and there is no serious congestion. As for gas, the only transmission interconnection gas with Serbia is in a bad state, and the internal gas network in the country is often overloaded in the winter months.

EnC Secretariat Annual Report

- Transmission system operator (TSO) is not unbundled (in line with the provisions of the Third Package), no legal basis for TSO certification
- Legal framework does not define an organized wholesale (spot) market nor designation process for nominated electricity market operators (for the day-ahead trading and intraday trading)
- Legal basis for unbundling of DSOs is in place only in RS
- Regulation (EU) 347/2013 on guidelines for trans-European energy infra-structure was not transposed (*will be repealed by Regulation 2022/869*)
- Regulator's institutional framework does not comply with *acquis*

MAJOR DIFFICULTIES AND BOTTLENECKS CURRENTLY
FACED IN FORMULATING ENERGY POLICY

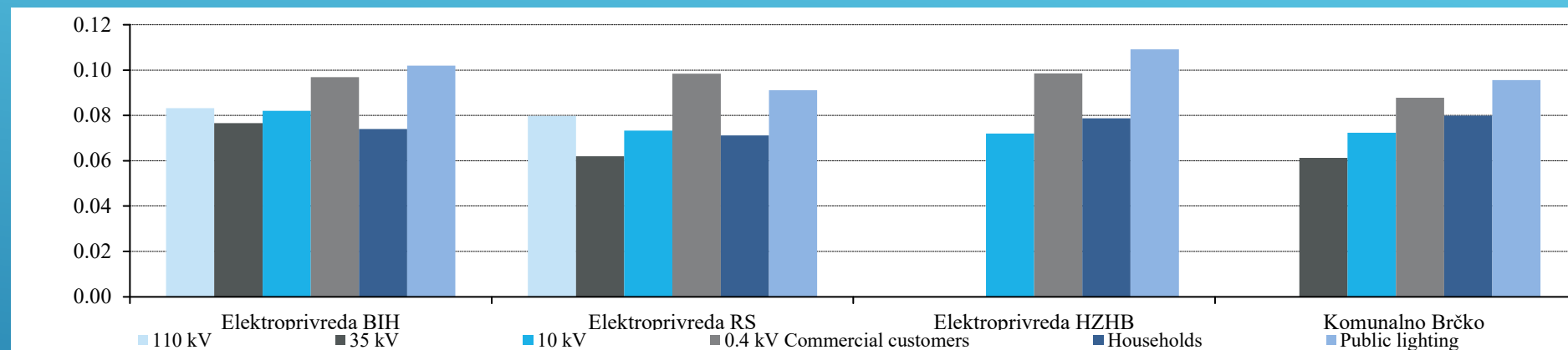
I would like to learn from Japan's best practices and experiences in the energy sector as well as from other participants at the event.

I would like to hear and learn about experiences and approaches in the energy sector from other colleagues coming from other countries.

SUBJECTS I WOULD LIKE TO LEARN

Electricity prices over the last 10 years (EUR/MWh)										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Universal service				77,1	77,2	77,61	77,87	78,99	77,66	80,58
Households	68,9	69	70,5	71,5	72,2	72,6	72,5	73,32	71,73	73,83
Other consumers					90,2	90,45	91,52	94,59	93,11	97,45
Public suppliers	69	68,8	69,1	67,2						

► Energy prices



In 2022, the option of being supplied within the universal service was used by all households in BIH and most of the customers belonging to the category of 'other consumers'. An average electricity price for these customers amounted to 80.58 EUR/MWh and it was 3.8% higher than in 2021 when it amounted to 77.66 EUR/MWh. An average price for households amounted to 73.83 EUR/MWh (a 2.9% increase), while an average price for customers belonging to the category of 'other consumers' was 97.45 EUR/MWh, or 4.7% higher in comparison to 2021.

APPENDIX

Muhamed Mujakić

Independent System Operator in Bosnia and Herzegovina

email: m.mujakic@nosbih.ba



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НОСБих

THANK YOU FOR YOUR ATTENTION