BOSNIA AND HERZEGOVINA

STATE ELECTRICITY
REGULATORY COMMISSION

ANNUAL REPORT 2023

Bosnia and Herzegovina

STATE ELECTRICITY REGULATORY COMMISSION

REPORT ON ACTIVITIES OF THE STATE ELECTRICITY REGULATORY COMMISSION IN 2023

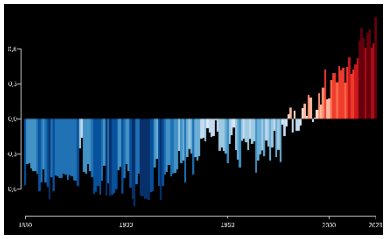
Tuzla, December 2023

Report on Activities of the State Electricity Regulatory Commission follows the reporting approach of regulatory authorities in the European Union and Energy Community requirements, with some adaptations reflecting the characteristics of the regulatory framework in Bosnia and Herzegovina.

Contents

The State Electricity Regulatory Commission is an independent institution of Bosnia and Herzegovina, which acts in accordance with the principles of objectivity, transparency and non-discrimination, and has jurisdiction over and responsibility for the transmission of electricity, transmission system operation and international trade in electricity, as well as generation, distribution and supply of electricity for customers in the Brčko District of Bosnia and Herzegovina.

SERC is a non-profit institution and is financed by regulatory fees, which are paid by the licensed entities.



Global temperature change relative to average of 1971-2000 (°C)
Source: showyourstripes.info

1. INTRODUCTION

This year the State Electricity Regulatory Commission in Bosnia and Herzegovina (SERC) marks twenty years since its establishment. As a new state institution, it has patiently passed the path from introducing its position and role to the public, to a serious understanding by branch professionals and policy creators of the importance of proper and functional regulation and the independence of regulators who are expected to implement the European energy rules in practice. The Commission has achieved maximum results possible under the existing circumstances in the society from which it cannot be separated and the destiny of which it has shared all these years. The position it has built by now, the integrated principles of objectivity, transparency and non-discrimination as well as the independence, expertise of human resources and the solidity of financial and technical resources, are a guarantee for its better and higher achievements in the future.

The world and the challenges of the decade we are living in bring some big geopolitical, economic, social, demographic, safety, environmental and technological changes. In a nutshell, the contours of the new global order are being drawn, new strategies are being prepared, national and regional rules are being questioned, the widely accepted principles and goals and, equally important, the jointly defined limitations in the methods and modes of operation, are being attacked and defended.

The World Meteorological Organisation has officially confirmed that 2023 is the warmest year on record. Numerous reports state that in the past 12 months mankind experienced the highest temperatures in at least 125,000 years. Climate change, closely linked with the patterns of energy use, impose the necessity of decarbonisation, transition to a green, sustainable energy future, the use of renewable energy sources and the increase in energy efficiency. However, the transition of the sector should ensure that energy solutions are not only efficient but also just and available to all social groups.

A number of challenges with multidimensional complexity, which are often mutually linked, are still before the energy sector of Bosnia and Herzegovina, requiring the significant changes in the pace and mode of operation. At all administrative levels in Bosnia and Herzegovina, in line with respective constitutional competences it is necessary to continue in the forthcoming period the alignment of energy legislation with the European Union and Energy Community *acquis*.

The State Electricity Regulatory Commission continued its regulatory mission in the sector, developing the conditions for unhindered trade in electricity and reliable electricity supply. In the past year, SERC continued to cooperate with a high number of the institutions of Bosnia and Herzegovina, its Entities and the District as well as numerous international institutions whose work has impact on or pertains to electricity market regulation.

In 2023, the BIH electric power system operated steadily under the favourable hydrological conditions. All system users were able to operate functionally in line with the defined quality standards. All planned or additionally requested maintenance works in the transmission network were completed.

Several contracts on construction, reconstruction and rehabilitation of transmission facilities were completed, thus increasing the security of electricity supply for customers. The new substations, SS 110/x kilovolts (kV) Jelah and SS 110/20 kV Petnjik were put into operation, while the Petnjik solar power plant with installed capacity of 29.9 megawatts (MW) was put into trial operation. It is the first photovoltaic plant in Bosnia and Herzegovina, and among the first ones in the Western Balkans, which is connected to the transmission network.

Electricity generation amounting to 15,822 gigawat hours (GWh) was reached in the past year, which is 786 GWh, or 5.2%, more than generated in 2022. The hydrological conditions were significantly better than in the previous year, so generation by hydropower plants increased by 1,825 GWh, or 40.9%, amounting to 6,284 GWh. On the other hand, generation by thermal power plants decreased by 1,224 GWh, or 12.7%, amounting to 8,405 GWh.

An amount of 14.4 GWh was produced by the Petnjik solar power plant, while the wind power plants connected to the transmission system produced 356 GWh, which is 34 GWh, or 8.8% less in comparison to the previous year. Small-scale renewable generation (small hydropower plants, wind, solar and biofuel power plants connected to the distribution system) increased by 38.4% amounting to 742.87 GWh. Industrial power plants produced 19.22 GWh.

Total electricity consumption amounted to 11,635 GWh, or 3.5% less than in the previous year. Consumption of customers connected to the transmission system decreased even by 36.2% amounting to 718 GWh, while consumption of customers connected to the distribution network increased only by 2 GWh amounting to 10,548 GWh.

The maximum hourly load of the power system in the previous year amounting to 1,851 megawatts was reported on 9 February 2023 at the 19th hour, which is less than the historic maximum of 2,207 MW reported at the 18th hour on 31 December 2014. Minimum hourly load of 597 MW was reported on 12 June 2023 at the 4th hour, which is the lowest load in the past several decades.

Total electricity in the transmission network amounted to 18,695.2 GWh, which is 2.53% more than in 2022. Transmission losses amounted to 334 GWh, or 1.79% of total energy in the transmission system. In 2023, distribution losses amounted to 909.7 GWh, or 8.62% in relation to total consumption by customers connected to the distribution network, which is the lowest level in the history of the power sector of Bosnia and Hercegovina.

In 2023, electricity exports amounted to 5,148 GWh, which is 30.4% more than in the previous year. Electricity imports also increased, 6.1% and amounted to 917 GWh.

The State Electricity Regulatory Commission was established by the Parliamentary Assembly of Bosnia and Herzegovina by adoption of the Law on Transmission of Electric Power, Regulator and System Operator of BIH, and by appointment of the Commissioners.

2. COMPOSITION AND ORGANISATION OF WORK OF THE COMMISSION

The Commissioners from the Federation of Bosnia and Herzegovina are:

- Mr. Suad Zeljković, with a five-year term (from 11 June 2016), and
- Mr. Nikola Pejić, with his second five-year term (from 11 June 2016).

The Commissioner from the Republika Srpska is

- Mrs. Branislava Milekić, with a five-year term (from 5 August 2020).

It is evident that the first five-year term of one Commissioner from the Federation of Bosnia and Herzegovina expired and that the second five-year term of the other Commissioner expired as well. Taking into consideration that the *Law on Transmission of Electric Power, Regulator and System Operator of BIH* sets forth that the Commission can only operate with all three commissioners and make decisions by a unanimous vote, and taking into consideration the existing practice, Mr. Suad Zeljković and Mr. Nikola Pejić continue to perform this function until the completion of the procedure for appointment of the Commissioners from the Federation of BIH.[1]

Since the establishment of the State Electricity Regulatory Commission, the Commissioners rotate in the position of the Chairperson equally on an annual basis. Until 30 June 2023, this function was performed by Mr. Suad Zeljković. Mr. Nikola Pejić is the current Chairman of the Commission until 30 June 2024.

In line with the Law, SERC was established as an independent institution of Bosnia and Herzegovina, with the obligation to act in accordance with the principles of objectivity, transparency and non-discrimination. These principles have been incorporated in all SERC documents and implemented in all procedures. This method of operation takes into consideration the international examples of good practice and the content of the *Policy Guidelines of the Energy Community Secretariat on the Independence of National Regulatory Authorities*. Incorporated in rules and continuously implemented in practice, the independence of SERC has been shown and demonstrated in all areas including political, legal, social and financial dimensions.

The European Union energy *acquis*, which becomes mandatory for Bosnia and Herzegovina in line with the mechanisms established under the *Stabilisation and Association Agreement* and the *Treaty establishing the Energy Community*, especially highlights the correlation

Report on Activities of the State Electricity Regulatory Commission in 2022 was considered at the sessions of both Houses of the Parliamentary Assembly of Bosnia and Herzegovina.

The Report was adopted

- *at the continued 6th session of the House of Representatives held on 24 May 2023, and*
- *at the 5th session of the House of Peoples held on 31 May 2023.*

[1] At the time of the creation of this report, the procedure of electing the two Commissioners from the Federation of Bosnia and Herzegovina was in process before the Parliamentary Assembly of Bosnia and Herzegovina. It was preceded by a proposal put forward by the Government of the Federation of BIH, which was then confirmed by the Parliament of the Federation of BIH. In February 2023, the Council of Ministers of Bosnia and Herzegovina proposed the appointment of Commissioners to the Parliamentary Assembly of Bosnia and Herzegovina.

between the regulatory independence and reform implementation and introduces expanded powers and enhances regulatory independence.

Pursuant to the Law, the basic provisions on competence, organisation and method of work, financing, transparency and the protection of confidential data are regulated by the *Statute of the State Electricity Regulatory Commission* which was adopted in 2003, immediately after the establishment of SERC, and amended in 2004 and 2009. The amendment of the Statute in 2017 clearly prescribed the exclusive organisational and ceremonial role of the Chairperson of the Commission without any additional powers in presenting, representing or decision-making of SERC in relation to the other two Commissioners.

The work of SERC is organised within four departments:

- Tariff and Market Department,
- Licensing and Technical Affairs Department,
- Legal Department, and
- Financial and Administrative Department.

With the aim of performing its tasks in a more efficient manner, task forces are formed on a needs basis at SERC in the work of which employees from different departments participate.

The objectives of the key business processes within the competence of each organisational units create the basis for the development of the internal financial management and control system based on risk management. Through education and instructions provided by the Central Harmonisation Unit of the Ministry of Finance and Treasury of Bosnia and Herzegovina (CHU) the implementation of the financial management and control system continued. A significant part of the planned activities, included in the *Action Plan for Improvement of Internal Financial Control System for 2023*, was successfully implemented. An update of the *Risk Register*, which was established in 2021 for the first time, should be emphasised in particular. Having analysed the effects of the implementation of new procedures and conducted activities, the exposure to the most relevant risks for SERC activities was established. Based on the probability and impact assessment, these risks were ranked medium in priority.

Intensified digital communication stressed the importance of equipment reliability and the enhanced protection of information-communication systems. In compliance with the relevant standards and guidelines of the BIH Council of Ministers, in 2023 SERC replaced the functionally obsolete and written-off computer equipment with the new one. In this process, energy characteristics of the equipment and good practice were taken into consideration as recommended by the Audit Office of the Institutions of Bosnia and Herzegovina in its performance audit reports. In addition to purchasing the new computer equipment, SERC completed the procurement of hardware security tools as well as software for prevention, detection and response in cyber space.

Electronic communication tools were also used in improving knowledge and experience of the staff, that is, capacity building, enabling

SERC to follow the requirements of regulatory practice. The improvement of knowledge is achieved by participation in different professional symposiums, conferences and thematic seminars. In addition, systematic training aimed at continuous harmonisation of knowledge, skills and practice with the needs and expectations of the institution is provided by specialised workshops of the Energy Community, and the Technical Assistance and Information Exchange Instrument of the European Union (TAIEX), training programs of the Energy Regulators Regional Association (ERRA), the Mediterranean Energy Regulators (MEDREG), the Balkan Energy School (BES) and the Council of European Energy Regulators (CEER), and seminars of the Directorate for European Integration aimed at the process of accession and integration of Bosnia and Herzegovina into the EU. As in the previous years, contribution to professional training was provided by the United States Agency for International Development (USAID) and National Association of Regulatory Utility Commissions (NARUC) through regional initiatives and *USAID Energy Policy Activity* (USAID EPA).

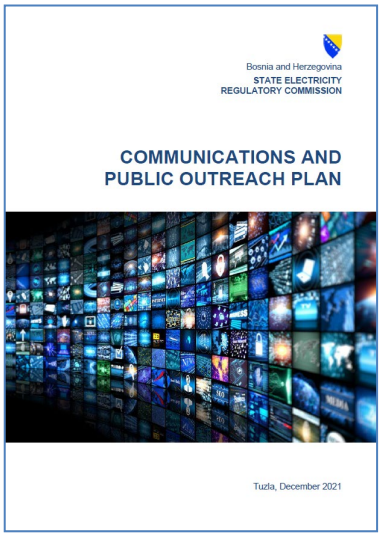
SERC will remain dedicated to ensuring continuous professionalism of human resources through the well-established as well as new education methods. The justification of this approach is confirmed by information, communication and presentation competence of a high number of individual employees to successfully present their knowledge and experience at national and international professional gatherings. In addition to professional training of its employees, SERC informed and shared its experiences on regulatory practice in a proper manner with regulated companies' employees, and participated in professional training of staff of other regulatory authorities in the world. Furthermore, SERC provided quality professional information on the energy sector not only to specialists in the sector but also to the wider public.

Acknowledging the importance of free access to information as a fundamental characteristic of transparent and accountable action by any public authority, and remaining committed to acting along these lines on a permanent basis, SERC allows the wider public to have a full insight into its work and decision-making processes, going beyond the mandatory framework in this field stipulated by the *Law on Freedom of Access to Information in Bosnia and Herzegovina*. SERC fulfils these commitments by publishing all relevant information on its official website in a timely manner, including also print media, through the presentation of SERC drafts documents, and notices and invitations to the public to participate in the creation thereof.

In addition to a proactive approach as the generally accepted standard in its activities, SERC also acts reactively, handling submitted requests for access to information within the legally prescribed deadlines, starting from the position that in any concrete case the public interest must prevail over the constraints stipulated by the mentioned Law and any private interest. Two requests of this kind were received in 2023, upon which the administrative acts were issued within the legally prescribed deadline rejecting the requests as SERC was not in

possession of the requested data, that is, it did not have them in a complete, materialised form. Ultimately, after several appeals to the second instance body – the Appeal Council at the BIH Council of Ministers, the SERC's position that the free access to information implies the right to the complete and existing information which exists as such in a BIH institution, but not its obligation to make and create new information, was essentially confirmed. SERC will also meet other obligations stipulated by the mentioned Law in compliance with the required deadlines and acts adopted by the BIH Council of Minister and continue its practice of reporting to all relevant institutions in the required manner.

Communication with the public plays a key role in creating perceptions, that is, the ways for the public to understand how institutions function. The method of communication is of particular importance in the period of reforms and structural changes. In the process of sector liberalisation and transition, deregulation and electricity market opening it is necessary both to inform the public in a timely manner of the major phases and to continuously communicate with all key stakeholders about the reform and educate them about the way the sector as a whole functions. It is good practice of regulatory commissions to implement public outreach activities to explain and clarify the changes in the energy sector. In line with this, the State Electricity Regulatory Commission (SERC), the Regulatory Commission for Energy in the Federation of BIH (FERK) and the Regulatory Commission for Energy of Republika Srpska (RERS), which as unbiased organisations protect the interests of customers by regulating relationships in the sector and electricity market, have a key role also in Bosnia and Herzegovina in raising awareness of the changes in the sector and regulators' activities in the liberalisation process. In this context, the State Electricity Regulatory Commission acted in accordance with its *Communications and Public Outreach Plan*, thus making an additional step forward in order to explain very complex energy sector topics in a simple and comprehensible way to all interested parties.



Large volumes of different documents are created as a result of SERC activities. The number of documents and information has been constantly increasing. SERC, as the creator, organises the keeping, evaluation, extraction and protection of the registry office material under the professional supervision of the Archive of Bosnia and Herzegovina. This cooperation enables these processes to develop in line with professional principles, experiences and recommendations and through mutual familiarisation of the two institutions.

In the reporting period, SERC used the possibility of applying a modern method of organising office management in its work, and in compliance with the prescribed standards and rules of the BIH Council of Minister, continued using an electronic records management system. In addition to the efficient entry and search of data as well as archiving a large number of documents in the digital form, the introduced system created the prerequisites for modern business process management and the integration with other business systems. In this process, good practice as recommended by the Audit Office of the Institutions of Bosnia and Herzegovina in its performance audit reports was taken into consideration.

3. KEY ACTIVITIES

In 2023, the State Electricity Regulatory Commission held 17 regular sessions, 29 internal meetings and organised eight public hearings, of which six were of general and two of formal nature.

In the reporting period, in a transparent manner and by holding relevant public hearings in which interested members of the public were allowed to give their comments along with power sector stakeholders, the Commission conducted the activities with regard to adoption and approval of a range of documents, tariff setting, granting of licences, and carried out other activities of which the most important ones are grouped in the clusters provided below.

Transparency towards the public through consultation and communication with all interested professionals, as well as the wider public, is the fundamental orientation of the Commission, which is conducive to checking the suitability of proposed solutions before their final adoption. The practice of the mutual exchange of collected public comments in the same or similar procedures is applied by all three regulatory authorities in the energy sector of Bosnia and Herzegovina.

Documents under regulatory competences are reviewed and defined in regular sessions, in accordance with the authorities prescribed by the law; issues and documents of an organisational and administrative nature are reviewed and adopted in internal meetings.

With a view to soliciting comments of interested parties and members of the public on rules and regulations, or on any other document, SERC organises general public hearings. With a view to resolving technical issues during the proceedings and processing of procedural or essential issues, technical public hearings are held. With a view to establishing decisive facts, based on which SERC may resolve certain applications or disputes, formal public hearings are held.

Regular sessions and all public hearings are open to the public.

3.1 SERC Rules and Documents

Connection Network Codes

Harmonisation, that is, unambiguous regulation of a whole set of rules for network operation was recognised in the European Union Third Energy Package.[2] In line with this, the EU Member States, with full participation of the European Network of Transmission System Operators for Electricity (ENTSO-E), the European Network of Transmission System Operators for Gas (ENTSO-G) and the Agency for the Cooperation of Energy Regulators (ACER) conducted a complex activity of developing codes and guidelines for operation of networks (*Network Codes*). The set of these codes in the electricity sector includes codes on market, system operation and connection:

Market Codes

- Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a Guideline on Capacity Allocation and Congestion Management,
- Commission Regulation (EU) 2016/1719 of 26 September 2016 establishing a guideline on forward capacity allocation, and
- Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.

[2] Establishment of network codes is defined in Article 6 of Regulation (EC) 714/2009, that is, of Regulation (EC) 715/2009.

System Operation Codes

- Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation, and
- Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration.

Connection Codes

- Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators,
- Commission Regulation (EU) 2016/1388 of 17 August 2016 establishing a Network Code on Demand Connection, and
- Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules. parka.

Network codes and guidelines are technical rules adopted with the aim of establishing joint rules for the reliable system operation, and market functioning and integration. These legal acts supplement the existing *acquis* of the European Union and are directly applicable in the EU Member States. They are the key element for efficient functioning of a pan-European market which puts electricity customers at the forefront.

In the Energy Community, activities on adopting decisions by the Permanent High Level Group (PHLG) for transposition of these codes into the *acquis* were carried out in the previous years. On 12 January 2018, PHLG adopted the decisions transposing the connection codes into the Energy Community *acquis*, that is, Commission Regulation (EU) 2016/631, Commission Regulation (EU) 2016/1388 and Commission Regulation (EU) 2016/1447. For this reason, the issue of transposition and implementation of the network codes and guidelines was imposed as one of the key activities in the work of the relevant institutions in BIH, including SERC and the ISO BIH.

In this context, in June 2018, the State Electricity Regulatory Commission adopted the *Decision on transposition of network codes on connection*, which defined the terms and conditions for transposition of the three aforementioned European Commission regulations as adapted to the Energy Community legal framework by the PHLG decisions in the electricity sector of Bosnia and Herzegovina. On that occasion, these regulations were published in the languages officially used in Bosnia and Herzegovina on the SERC website (www.derk.ba).

In this decision, the ISO BIH was called upon to update the Grid Code and other rules which ensure the application of the provisions with shorter deadlines for implementation, and, subsequently, to ensure the compliance of its rules with all requirements of these regulations. In its decision SERC called upon the

Regulatory Commission for Energy in the Federation of Bosnia and Herzegovina, the Regulatory Commission for Energy of the Republika Srpska and other relevant authorities to ensure the compliance of their relevant acts with the requirements of the connection codes.

Respecting the Energy Community requirements regarding the deadlines for transposition and implementation of the provisions of the regulations which have been prioritised by the Permanent High Level Group decisions and required the implementation without delay, following a general public hearing, in coordination with the ISO BIH, in February 2019 SERC adopted the *Rules on Connection Network Codes*. In line with the competences of the State Electricity Regulatory Commission defined pursuant to Article 4.2 of the *Law on Transmission of Electric Power, Regulator and System Operator of Bosnia and Herzegovina*, by these Rules one part of the Energy Community network codes was transposed into the legal system of Bosnia and Herzegovina. This pertains to the provisions which, pursuant to the relevant Permanent High Level Group decisions, should be implemented without delay. At the same session, the *Grid Code* was approved by which a part of the connection network codes under ISO BIH competence had been transposed, which also should be implemented without delay.

The provisions to be implemented without delay include those in accordance with which each regulatory authority will specify the criteria for granting derogations, after consulting relevant system operators, power-generating facility owners, demand facility owners and other stakeholders. Subsequently, pursuant to the *Rules on Connection Network Codes*, at the SERC session held on 27 March 2019 the following decisions were passed:

- *Decision specifying Criteria for granting derogations from application of rules for connection of generating modules,*
- *Decision specifying Criteria for granting derogations from application of rules for connection of demand facilities,* and
- *Decision specifying Criteria for granting derogations from application of rules for connection of new and existing high voltage direct current systems and direct current-connected power park modules.*

SERC published the specified criteria on the its official website and notified the Ministry of Foreign Trade and Economic Relations of BIH and the Energy Community Secretariat on 10 April 2019 thereof, as the only regulatory authority in the region which fulfilled its part of the obligations within the defined timeframe. With this, transposition of the provisions which are under SERC competence and which should be implemented without delay was completed.

Taking into consideration that the mentioned rules regulate the substance which is also under competence of other authorities, it was necessary to ensure the coordination of activities of all competent institutions, including the Entity Regulatory Commissions

and all distribution system operators, besides the Independent System Operator in Bosnia and Herzegovina (ISO BIH) and Elektroprenos Bosne i Hercegovine (Company for the Transmission of Electric Power in BIH). Furthermore, the complexity of the content of connection network codes as well as the complex administrative structure in the BIH energy sector imposed the need for an active role and concrete support of the state and entity line ministries and the Directorate for European Integration of the BIH Council of Ministers in further activities on the complete and efficient fulfilment of obligations of Bosnia and Herzegovina before 12 July 2021, that is, the date by which full implementation of the connection network codes should be ensured.

In this context, of particular importance is technical assistance provided within the *USAID Energy Policy Activity*, by the development of *Gap analysis with the recommendations for amending distribution network codes and relevant rulebooks – A Summary Overview*, thus finalising the development of guidelines for amendments to the network codes.

In the middle of December 2021, while approving a new Grid Code which was prepared by the ISO BIH using the aforementioned analysis, the State Electricity Regulatory Commission was informed that with the amended text all requirements of the connection network codes as adapted to the Energy Community legal framework were implemented, that is, adapted Commission Regulation (EU) establishing a network code on requirements for grid connection of generators, Commission Regulation (EU) establishing a Network Code on Demand Connection and Commission Regulation (EU) establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules. SERC passed the *Decision on approval and application of the Grid Code* on 15 December 2021 (please see Section 3.2).

The Ministerial Council Decision of 15 December 2022 expanded the Energy Community *acquis*, to include, with the relevant adaptations, the remaining network codes and guidelines, i.e., *Market Codes* – three Commission regulations and *System Operation Codes* – two Commission regulations (please see Section 4.1). The general deadline for the transposition and implementation of these regulations is 31 December 2023.

Rules of Ancillary and System Services and Balancing of the BIH Power System

Within its activities the State Electricity Regulatory Commission continuously monitors and supports the process of electricity market development in Bosnia and Herzegovina. Safe and reliable operation of the power system with a functional method of providing ancillary services is the main prerequisite for further market development and high-quality electricity supply of customers. An efficient balancing market has to be based on transparent relationships between all participants in the electricity market.

In cooperation with the Independent System Operator in BIH and other electric power companies, SERC established a market-based method of providing ancillary services and balancing of the power system of BIH using the fundamental solutions defined in March 2014 by establishing *A Concept of Ancillary Services for the balancing of the power system of Bosnia and Herzegovina.*

A number of activities of SERC and the ISO BIH, which were described in detail in the previous Reports on Activities of the Regulatory Commission, resulted in a set of rules and decisions whereby on 1 January 2016 the market principles had been introduced into the formerly fully regulated method of providing ancillary services and the BIH power system balancing. In this manner, the functionality of open wholesale and retail electricity markets in Bosnia and Herzegovina was enhanced (please see Section 3.7).

The electricity balancing market in Bosnia and Herzegovina operated successfully since then and it sets an example of a successful model in South East Europe. However, having analysed its previous operation and the development of the European Union's energy *acquis* which becomes obligatory for BIH as well under the Energy Community mechanisms, SERC recognised the need for updating of the *Tariff Pricing Methodology for services of electricity transmission, operation of ISO and ancillary services*, coordinating its action with the ISO BIH, that acts in accordance with the activities of the European Network of Transmission System Operators for Electricity (ENTSO-E) when developing its documents.

In 2021, the ISO BIH prepared the new Market Rules (please see Section 3.2), thus acting, as an ENTSO-E member, in accordance with the activities of this organisation with regard to operational work in the synchronous area of Continental Europe, as defined in *Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation*, as well as the balancing mechanism and balancing market operations as defined in *Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing.*

In the forthcoming period, it is necessary to continue the alignment of energy legislation with the European Union (EU) *acquis*, integrated development of energy and climate policies and implementation of the energy sector reform in Bosnia and Herzegovina at all administrative levels in line with respective constitutional competences. The European Union requirements in the field of the energy sector are mostly included in the provisions of the *Treaty establishing the Energy Community*.

Having regard not only to the ISO BIH obligations stemming from its membership in ENTSO-E but also the international obligations of Bosnia and Herzegovina and all energy sector institutions accordingly to create a stable and single normative framework through gradual transposition of the European Union *acquis*, as well as the inclusion of other network codes in the legal system of the Energy Community which was already certain at

the time, including the aforementioned regulations, and, consequently, the obligation to transpose them into the legal system of Bosnia and Herzegovina, in October 2021 SERC passed the *Decision on amendments to the Tariff Pricing Methodology for services of electricity transmission, independent system operator and ancillary services*.

Taking into consideration that a significant part of the amendments to the Methodology pertains to the terminology of balancing services, with the changes made the terms used in practice up to now were kept (e.g. primary, secondary and tertiary control) alongside the new terms. In this manner, potential misunderstandings between balancing market participants are avoided, which enables the unambiguous implementation of the rules as well as an interim period until the adoption of some new amendments to the Methodology when the previously used terms would be removed. With the aim of the easier implementation thereof, the State Electricity Regulatory Commission published the Second consolidated version of the Methodology.

For all its obligations specified in the Methodology, the ISO BIH develops procedures in order to ensure unhindered and timely performance of the activities pertaining to the provision of ancillary services. In the previous period, the ISO BIH made some improvements to its documents on several occasions, including *Procedures for Ancillary Services* and *Rules on Daily Balancing Energy Market Operations*, which further encouraged ancillary services providers to nominate their bids.

Pursuant to the Methodology, SERC sets the coefficients and price caps for ancillary services. During the implementation of the market model of the BIH power system balancing, some tendencies had been notices, so there was a need to innovate coefficients and price caps for ancillary services in line with the conduct of participants and trends present on the market. SERC passed the *Decision on amendments to the Decision on determination of coefficients and price caps for ancillary services* on 13 December 2022.

Having regard to the commitment to permanently improve rules and procedures under its competence, SERC continues activities on the development of organised functioning of the balancing market, and further improvement, efficiency, cost-effectiveness and stability of the BIH power system operation. In doing so, SERC will closely cooperate with the ISO BIH to make in a coordinated manner the required amendments to the acts under competences of both institutions which define the balancing mechanism.

With the successful balancing market development, the offer of services increased significantly and the needs for ancillary services in 2024 had already been met to a significant extent through annual bids organised by the ISO BIH in December 2023.

Frequency containment reserve – FCR (the previously used term: primary control) was purchased for all hours in the second half of the year in the required amount of 13 MW/h while in the first half of

the year an amount of 8 MW/h was purchased, with the average price of 3.60 EUR/MW/h, which is a 3.6% increase in comparison the average procurement price in 2023.

Automatic frequency restoration reserve – aFRR (the previously used term: secondary control) in the peak period was purchased for all hours in the year in the required volumes except an amount of 3 MW/h for September and 2 MW/h for November. In the off-peak period, all required volumes were purchased, while for January, February and June a smaller portion of the required amounts was not purchased due to lack of bids.

Upward manual frequency restoration reserve – mFRR (the previously used term: tertiary control) was purchased in the required volume of 196 MW/h for all months. Downward manual frequency restoration reserve was purchased for the whole year in the required physical volume of 68 MW/h. The purchase of all missing volumes of reserves are organised on a monthly basis.

Capacity reserve for automatic frequency restoration reserve (aFRR) was procured at the prices which were slightly higher than the prices reached in the previous annual procurement of this service. During the procurement, the price reached for the off-peak period (00-06 h) amounted to 21.93 EUR/MW/h (a 3% increase) and was very close to the price cap of 21.99 EUR/MW/h, while an average price for the peak period (06-24 h) amounted to 19.84 EUR/MW/h (a 3.3% increase).

Capacity reserve for manual frequency restoration reserve (mFRR) was procured at the price which is lower in comparison to the previous annual procurement of this service on the market. An average price for upward and downward reserve decreased by 3.3% (from 2.64 EUR/MW/h to 2.55 EUR/MW/h) and 13.0% (from 0.82 EUR/MW/h to 0.72 EUR/MW/h) respectively.

The procurement of energy for covering of losses in the transmission system in the planned amount of 347 GWh for 2024 did not result in the suitable offers by the suppliers. The offered prices exceeded the scope of 102.26 EUR/MWh for the first four months of 2024, which the ISO BIH determined in the public procurement procedure. Under such circumstances the regulated method of purchasing this energy continues, which means that the ISO BIH should implement the *Procedure for regulated procurement of electricity to cover transmission system losses* with the price of electricity for losses being set at the level of the last accepted bid (the public procurement procedure for 2021 from December 2020) when the weighted average price amounted to 56.21 EUR/MWh.

However, taking into consideration the downward trend of the wholesale prices in the region, it may be concluded that the conditions are being created that would enable the Independent System Operator in Bosnia and Herzegovina to procure energy for covering of losses in the transmission system again in the market-based manner in 2024.

Wholesale Market Integrity and Transparency

Electricity produced by power plants is often bought and sold several times on the wholesale market before delivery to the end customer. These transactions in electricity normally take place in large quantities and include electricity producers, traders, suppliers, large customers and even investment banks. Gas is traded in a similar manner. In Europe, several hundreds of companies are included in wholesale trading in electricity and gas conducting tens of thousands of transactions on the market on a daily basis.

Wholesale prices are very sensitive to the availability of production and transmission because energy has to be generated when needed. Prices may be affected by spreading false information on availability or reduced generation.

Given that large quantities of energy are traded across borders, traditionally it is difficult to discover possible price manipulations of this kind as national regulators did not have access to cross-border data. As a response to these facts, *Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency* (REMIT) was adopted in the European Union. This Regulation introduces a common European framework on wholesale markets for:

- Definition of market abuse with regard to market manipulation, attempts to manipulate the market and insider trading,
- Introduction of the explicit prohibition of market abuse,
- Establishment of a new framework for the registration of market participants and wholesale market monitoring with the aim of detecting and preventing market manipulation and insider trading, and
- Definitions of prohibitions and the application of penalties at national level if market abuse is detected.

REMIT is applied to all market participants whose activities affect wholesale energy markets, that is, all natural or legal persons (including transmission system operators) carrying out or conducting transactions on one or several wholesale energy markets. All market participants with the seat in any EU country as well as those with the seat outside the EU if trading or placing orders on one or several EU markets are subject to this Regulation.

The Ministerial Council Decision of 29 November 2018 expanded the Energy Community *acquis* to include *Regulation (EU) on wholesale energy market integrity and transparency* with required adaptations to the Energy Community legal framework and defining the obligation to implement it by 29 May 2020.

With regard to the obligations under REMIT specified for national regulatory authorities, it should be pointed out that pursuant to Article 4.2 point k) of the *Law on Transmission of Electric Power, Regulator and System Operator of Bosnia and Herzegovina*, SERC competences include creation and maintenance of

"The State Electricity Regulatory Commission (SERC) remains the only regulator in the Energy Community whose set-up does not comply with the Third Energy Package requirement for a single regulatory authority for electricity and gas. The duties and powers of SERC are limited to regulating electricity transmission and monitoring the wholesale electricity market...
In the reporting period, SERC continued with the efforts to implement the acquis within the limits of the powers granted to the regulator by state-level legislation."

(From Annual Implementation Report of the Energy Community Secretariat,
Vienna, 1 November 2023)

competitive markets, and prevention and punishment of any predatory or anti-competitive conduct. Starting from the obligations of national regulatory authorities defined in this Regulation, and, on the basis of the aforementioned SERC competences, in 2020 SERC carried out a number of activities on transposition and implementation of REMIT in the electricity sector. In this context, SERC adopted *Decision on transposition of the Regulation on wholesale energy market integrity and transparency, Rules on wholesale electricity market integrity and transparency* and *Decision on the Register of participants in the wholesale electricity market* with the corresponding forms which are available on the SERC website.

In the area of REMIT implementation, special attention is paid to training of representatives of all relevant institutions and market players.

SERC was the first Energy Community regulator that successfully completed its activities on transposition and implementation of the adapted REMIT Regulation in the electricity sector by the establishment of the *Register of participants in the wholesale electricity market*. In 2023, this Register was updated on a regular basis, and at the end of the year, it included all required data on 28 participants in the wholesale electricity market in Bosnia and Herzegovina.

An additional step forward in the development of market transparency was made by the implementation of *Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council* (Transparency Regulation). SERC monitored the activities of the Independent System Operator in Bosnia and Herzegovina in this area with particular attention.

The ISO BIH collects and processes the basic electricity and market data of the BIH regulation area for their submission to the European Network of Transmission System Operators (ENTSO-E), which collects and publishes data and information on electricity generation, transportation and consumption for the pan-European market. All data are published on the *ENTSO-E Transparency Platform* pursuant to the obligations under Commission Regulation (EU) No 543/2013.

A high level of compliance with the requirements of this regulation has been reached in Bosnia and Herzegovina. However, further digitalisation of business processes and the development of appropriate software solutions still remain to be done in the forthcoming period. Furthermore, it is necessary to establish certain procedures pertaining to weekly and monthly load forecast and re-dispatching to mitigate physical congestion, and, subsequently, publish generated data.

Cybersecurity

The security of supply is one of the key tasks of regulatory authorities in the electricity sector and a must when developing, adopting and implementing regulatory rules and regulations. There is a causal link between cybersecurity with the security of supply, and any cyber threat or risk is an important influential factor for the security of supply. It is of paramount importance for the reliable system operation and the protection of data in the electricity sector to acknowledge the need for proper measures for prevention, detection and response to all security challenges in the cyberspace in a timely manner. Lack of a strategic framework and systemic rules regulating this issue does not relieve the regulatory authorities of the obligation to work on the protection of the electricity infrastructure and, consequently, the security of supply, by adopting their rules and taking appropriate measures.

In the previous period, the State Electricity Regulatory Commission contributed significantly to the preparation of several documents in this field, including *Cybersecurity Capacity Review* and *Guidelines for a Strategic Cybersecurity Framework in Bosnia and Herzegovina*.

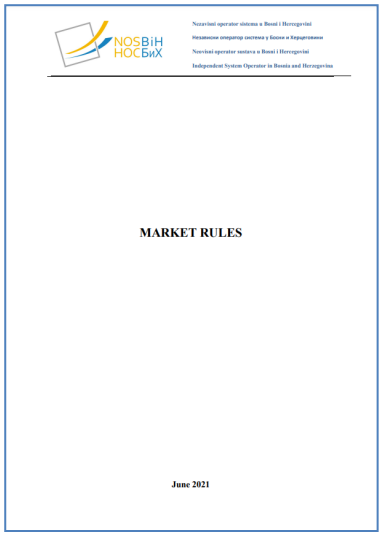
Since 2019 SERC actively participate in the regional projects of the United States Agency for International Development (USAID) and the National Association of Regulatory Utility Commissioners (NARUC) *Effective Regulation of Cybersecurity* and *Digitalisation and Cybersecurity,* activities of the Working Group on Cybersecurity under the USAID EPA project, activities of the Energy Community Working Group on Cybersecurity and supported the work of the Computer Emergency Response Team for the institutions of BIH (CERT). The participation in these activities and several workshops dealing with various cybersecurity aspects created the preconditions for SERC to prepare *Guidelines for a Strategic Framework on Cybersecurity in Bosnia and Herzegovina Electricity Sector from Regulatory Perspective.*

With technical assistance of USAID and NARUC, SERC paid particular attention to the treatment of cybersecurity investments, and gave a significant contribution to the development of a *Draft roadmap for security of network and information systems in the BIH energy sector*. This document, prepared under the USAID EPA project, identifies general steps for the improvement of cybersecurity in the sector and provides guidelines for transposition and implementation of the relevant European Union directives (NIS 1 and NIS 2).

In November 2023, under the US – Europe Energy Bridge, in cooperation with the USAID Energy Policy Activity in BIH, NARUC organised education for the three regulatory commissions and relevant stakeholders in the sector on the readiness for possible cyber-attack scenarios. *Cyber Incidence Coordination Protocol* was prepared which includes practical and detailed in-

ENERGY BRIDGE

The US – Europe Bridge improves energy security by connecting partners from the two continents.



structions on how to respond to such incidents as well as guidelines for communication with other commissions and stakeholders in the energy sector.

Taking into consideration a complex structure of the electricity sector and a specific regulatory framework in Bosnia and Herzegovina, it is found necessary to have coordinated action of the State and Entity Regulatory Commissions to establish an efficient regulatory approach to the field of cybersecurity. The goal is to protect information and communication systems of the entities in the BIH power sector and ensure cybersecurity of the regulatory authorities.

The State Electricity Regulatory Commission follows up the activities of the institutions of the European Union and the European Network of Transmission System Operators (ENTSO-E) on the development of the Network code for cybersecurity aspects of cross-border electricity flows. The document includes the rules for cybersecurity risk assessment, common minimum cybersecurity requirements, cybersecurity certification of products and services, monitoring, reporting and crises management with the clear definition of roles and responsibilities of various stakeholders for each activity.

3.2 Documents Approved by SERC

Market Rules

The *Market Rules* regulate relationships between the ISO BIH and licensed participants on the electricity market. The purpose of the Rules is to create conditions for safe operation of the BIH power system, including efficient procurement of ancillary services and provision of system service, balancing of the BIH system at the lowest possible costs, and efficient functioning and further development of the wholesale and retail electricity markets in BIH.

The Market Rules are an exceptionally demanding technical document which includes the basic concept of market design, normative and regulatory framework for market design, technical preconditions for market functioning and provides a number of procedures regulating technical and commercial relationships among market participants.

The first Market Rules were prepared and approved in 2006. From January 2016, when a market-based method for provision of ancillary services and balancing of the electric power system of Bosnia and Herzegovina was established, the Market Rules approved in May 2015 were applied. In 2021, the ISO BIH initiated the procedure for development of new Market Rules, in which comments of market participants were also obtained through the relevant Technical Committee. During its development the ISO BIH, as an ENSTO-E member, acted in accordance with activities of this organisation with regard to the operational work in the synchronous area Continental Europe (please see Section 3.1).

The Market Rules submitted to SERC in July 2021, were approved on 13 October 2021, at the same session after the adoption of the *Decision on Amendments to the Tariff Pricing Methodology for services of electricity transmission, independent system operator and ancillary services*. The new Market Rules have taken effect since 1 January 2022. The ISO BIH is obligated to prepare the supporting acts related to the Market Rules and necessary software tools.

In this context of particular importance is a *Decision on temporary model which enables non-discriminatory and free access to the single electricity market in BIH by power plants connected to the distribution network*, which was passed by the ISO BIH. An integral part of this decision is the *Instruction for the implementation of the temporary model for "virtual power plants" access to BIH electricity market*, which was amended several times in the previous period.

As the establishment of the "virtual power plant" concept is extremely complex process requiring the involvement of a large number of components of the electric power sector, SERC representatives participated in a series of meetings preceding the establishment of this temporary model. Namely, the model of access to the electricity market by power plants connected to the distribution network (in BIH: nominal voltage up to 35 KV) was formed within the activities in which jointly participated all relevant stakeholders involved in operation of the various segments of the electricity market in Bosnia and Herzegovina: wholesale, retail and balancing market. Therefore, the participants in the establishment of the mentioned model were the three regulatory commissions on Bosnia and Herzegovina (SERC, FERK and RERS), the ISO BIH, small producers, electricity suppliers and distribution system operators, i.e., electric power utilities. All these entities were actively involved in the creation of the model through their representatives in meetings of the relevant task force.

The model of "virtual power plants" access to the electricity market was established not only for its importance for the promotion of renewable electricity generation, improvement of services on the wholesale and local distribution market, optimization of renewable energy generation with the electric power system needs, but also for the right of generators to free access to the electricity market established by law. Furthermore, the market-oriented concept of purchasing renewable electricity is gradually accepted instead of the former concept based on support schemes and guaranteed purchase, which is losing its importance due to a decrease in prices of generation technologies, resulting in higher competition of renewables in comparison to sources using fossil fuels.

Since 16 May 2022, when the first "virtual power plant" occurred in the electric power system with only several megawatts of aggregated generation capacities, their number increased significantly. In December 2023, total install capacity of all generation facilities with access to the BIH electricity market through seven

"virtual power plants" amounted to 214.02 MW (where photovoltaic plants, small hydro power plants, and biomass and biogas power plants account for 107.32 MW, 104.24 MW and 2.46 MW respectively).

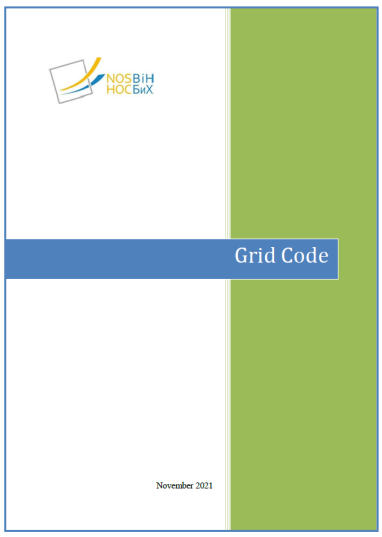
Grid Code

The *Grid Code* is one of the key documents for functioning of the power system and electricity market in Bosnia and Herzegovina. It regulates the method of planning and developing the transmission system, connection requirements (procedures, contracts, criteria), the method of operational planning (demand forecast, network constraints management) and operational activities (dispatching, procedures, communications), measures in unexpected situations (demand management, operational restoration of the system after total or partial breakdown), metering code in the power system and other necessary technical measures for quality and reliable transmission system operation.

The purpose of the Grid Code is to define elements relevant for secure and reliable functioning of the BIH power system, enable development, maintenance and operation of the transmission network in compliance with the applicable rules and good European practice.

The Grid Code, which was prepared in 2021 by the ISO BIH, with comments obtained from market participants through the relevant Technical Committee, was submitted to SERC for approval on 23 November 2021. On 15 December 2021, SERC passed the *Decision of approval and application of the Grid Code.*

This Grid Code has been in effect since 1 January 2022. The document represents a quality step forward in structural and normative terms, and it defines the preparation of planning documentation and connection procedures. While approving the new Grid Code SERC was informed that with the amended text all requirements of the connection network codes as adapted to the Energy Community legal framework were implemented, that is, Commission Regulations (EU) 2016/631, 2016/1388 and 2016/1447 as adapted by decisions of the Permanent High Level Group (please see Section 3.1).



The need for amendments to the Grid Code was recognised in 2023, in particular with regard to the interest in and the need for investments in renewables, in correlation with the *Decision on approval of the cancellation of maximum capacity for the integration of intermittent energy sources* which was passed by SERC in 2022 (please see the prevision Report on Activities, Section 3.2)

The ISO BIH submitted a new Grid Code for approval on 24 July 2023. On 7 August 2023, SERC informed the regulated company that it supported the activities to find a solution to the problem of the balancing of transmission-connected generation facilities which should be resolved in the submitted document, and which had been outstanding for a longer period in the electricity power

sector of Bosnia and Herzegovina. However, having noted certain shortcomings and vagueness, which was explained in detail, the ISO BIH was called upon to remove them through the development of an amended text, in consultation mainly with the relevant ministries, as well as Elektroprenos Bosne i Hercegovine. By the end of 2023, the Independent System Operator in Bosnia and Herzegovina did not submit an amended Grid Code in spite of several reminders.

Indicative Generation Development Plan

An *Indicative Generation Development Plan* is developed for a ten-year period every year. The purpose of the plan is to inform the current and future users of the needs and existing projects for construction of new generation capacities. At the same time, this plan is used as one of the bases for the development of a *Long-Term Transmission Network Development Plan in Bosnia and Herzegovina*, which is also developed every year covering a ten-year period including the issue of new cross-border lines.

The main objective of the Indicative Generation Development Plan is to analyse the balance of capacity and energy in the transmission network for the following ten years. The development of this document is also in the function of fulfilling obligations towards the European Network of Transmission System Operators for Electricity (ENTSO-E).

The Independent System Operator in BIH, as all other system operators within ENTSO-E, is obligated to provide its contribution to the development of the *European Ten-Year Network Development Plan* (TYNDP), which is prepared on a biannual basis pursuant to Regulation (EU) 2019/943 on the internal market for electricity.[3] In this context, the ISO BIH is obligated to submit BIH power system development plans, which are based on consumption and generation, including new sources, and planned reinforcements of the internal transmission network and interconnections. These activities presume and imply full coordination at the regional level with the analysis of potential congestion in the internal network and cross-border lines.

On 27 April 2023, the ISO BIH submitted the *Indicative Generation Development Plan for the Period 20234 – 2033* to SERC for approval, which was preceded by a public hearing on the Draft document held on 19 April 2023. At the end of May 2023, SERC pointed out certain shortcomings of this plan and indicated the need for an analytical approach to the processing of data which are submitted by

[3] On 4 April 2023, the Agency for Cooperation of Energy Regulators (ACER) adopted the Opinion on the methodological aspects of the TYNDP 2022 and the Opinion on power projects in the same document and in the national development plans, pointing out the shortcomings and the required improvements, and gave its recommendations for the development of the next Long-Term Plan (TYNDP 2024).

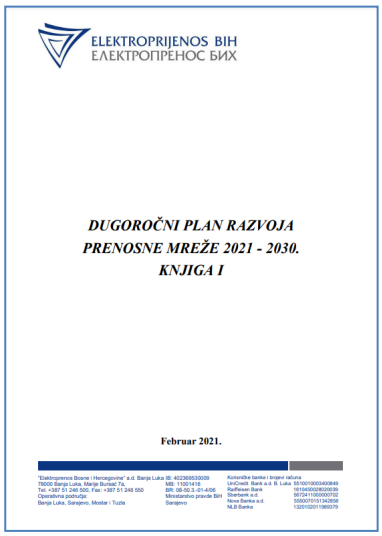
investors with the aim of determining a realistic dynamic of the construction and commissioning of new generation facilities, and for an analysis of introducing additional balancing criteria, in line with the content of the Grid Code. On 4 September 2023, the ISO BIH submitted an amended text of the Indicative Plan for the forthcoming ten-year period.

SERC passed the *Decision on approval of the Indicative Generation Development Plan for the Period 2024 – 2033* on 13 September 2023. On that occasion, it was concluded that the content of the document was improved in comparison to the previously submitted version as it presented considerably more realistic plans of commissioning of generation facilities. At the same time, while considering the submitted document, with the aim of preventing and removing all obstacles for the adoption of other planning documents and the implementation of investments, a Conclusion was adopted re-emphasizing the need of intensifying the activities on the development of an amended Grid Code.

SERC expects that the next Indicative Plan, whose development started in November 2023, would be updated with all latest and relevant data and information available during its development.

Long-Term Transmission Network Development Plan

Pursuant to applicable legal provisions, a Long-Term Transmission Network Development Plan is developed on an annual basis and covers the forthcoming ten-year period. The Long-Term Plan should be submitted to SERC for approval by the end of October. The relevance of the Long-Term Plan is reflected in the fact that based on this plan Elektroprenos BIH prepares its annual investment plan and submits it to SERC for approval by the end of November for the following year. The development of the Long-Term Plan also ensures that obligations towards the European Network of Transmission System Operators for Electricity (ENTSO-E) concerning contributions to the development of the European Ten-Year Network Development Plan are met more suitable manner.


ELEKTROPRIJENOS BIH
ЕЛЕКТРОПРЕНОС БИХ

DUGOROČNI PLAN RAZVOJA
PRENOSNE MREŽE 2021 - 2030.
KNJIGA I

Februar 2021.

The Long-Term Transmission Network Development Plan should define the required reinforcements of the existing transmission network facilities and construction of the new ones to ensure timely commencement of activities with regard to designing, constructing and putting into operation of infrastructure necessary for the continuous supply and system stability. The transmission network planned in this manner provides the same conditions for the users already connected and those to be connected to the transmission network. It implies uniform conditions related to the condition of the transmission network in terms of lifespan and refurbishment of equipment, construction of new facilities and operational readiness of facilities used for the transmission of electricity.

At the end of December 2020, Elektroprenos Bosne i Hercegovine submitted the *Long-Term Transmission Network Development*

Plan for the Period 2021 – 2030 to the Independent System Operator in Bosnia and Herzegovina for review, revision and approval, which is followed by final SERC approval.

Acknowledging the importance of this document, through *the Licence Conditions for performance of the activity of an independent system operator*, SERC prescribed the obligation of holding a public hearing on a revised Long-Term Plan, thus enabling the public to have an insight into and give comments and observations on the prepared material. The first hearing of this kind, held on 29 March 2021, drew significant attention of stakeholders in the sector, and proved to be fully justified. On 27 April 2021, the ISO BIH submitted the final Long-Term Plan to SERC for approval.

On 18 May 2021, the State Electricity Regulatory Commission passed the *Decision approving the Long-Term Transmission Network Development Plan for the Period 2021 – 2030.* On that occasion, Elektroprenos Bosne i Hercegovine was bound to determine all necessary parameters required for the realisation of investments in shunt reactors from the approved Long-Term Transmission Network Development Plan with the aim of solving the problem of high voltage levels.

In spite of several reminders, in 2023 Elektroprenos Bosne i Hercegovine did not submit a new Long-Term Transmission Network Development Plan to the ISO BIH for assessment, revision and approval preceding the final approval by SERC.

Elektroprenos BIH submitted its *Investment Plan for 2023* to SERC for approval on 11 May 2023. On 7 June 2023, SERC passed the *Decision approving the Investment Plan of Elektroprenos Bosne i Hercegovine for 2023*, noting that the Plan was submitted with a five-month delay, and that the level of the implemented investments was significantly low and that there was no previous development and submission of the Long-Term Transmission Network Development Plan for the period 2023 – 2032 in this specific case, as the basis and framework for planning and implementation of individual investment projects. The pace of the electricity sector development imposes the need for the permanent analysis and annual update of the criteria for determining the investment structure through the long-term plan, in order to direct individual investments as foreseen by investment plans towards the identified priorities and implement them accordingly.

Starting from the problems affecting the security of supply, which SERC identified before and emphasised several times, primarily the multiannual occurrence of high voltage levels in the transmission network, by approval of the submitted document SERC intended not only to enable the Company to finally resolve the mentioned problem but also to implement other prioritised projects of relevance for the stability of the power system of Bosnia and Herzegovina. On that occasion, SERC expressed its position that the primary goals are the security of electricity supply, creation of

preconditions for the connection of new generation facilities, i.e., the transmission network development and optimisation, and that by approval of the submitted document SERC contributes to and supports Elektroprenos BIH in the implementation thereof.

Rules for Allocation of Cross-Border Transmission Capacities

The Coordinated Auction Office in South East Europe (SEE CAO) with the seat in Podgorica was formally established on 27 March 2014, commencing its operational activities on 27 November 2014 when annual auctions on the borders of Bosnia and Herzegovina with Montenegro and Croatia were organised.

In 2023, SEE CAO continued to organise its activities in line with auction rules for capacity allocation as approved by separate decisions of competent national regulators in the region, including the State Electricity Regulatory Commission. These rules include:

- Harmonised Allocation Rules for long-term transmission rights pursuant to Article 51 of Regulation (EU) 2016/1719 establishing a guideline on forward capacity allocation as amended in 2022,
- Specific annex for the bidding zone borders serviced by the Coordinated Auction Office in South East Europe (CAO SEE) to the Harmonised Allocation Rules for long-term transmission rights as amended in 2022,
- Rules for explicit daily capacity allocation on the bidding zone borders serviced by SEE CAO as amended in 2022,
- Participation Agreement between the Coordinated Auction Office in South East Europe d.o.o. Podgorica (Allocation Platform) and the Registered Participant,
- Financial conditions for participation in procedures organised by the Allocation Platform pursuant to the Participation Agreement,
- SEE CAO Nomination Rules, and
- SEE CAO Information System Rules.

On several occasions, at national and international gatherings, SERC expressed its support to the successful operation of SEE CAO and expectations that the geographic scope would include the operators from all countries of South East Europe.

As Serbia does not participate in activities of this Office, there is still a need to regulate rules for allocation of cross-border capacities on the joint border between BIH and Serbia on an annual, monthly and daily basis. In this context, the following rules are implemented:

- *Rules for annual and monthly auctions for allocation of transmission capacities on the bidding zone borders between EMS*

AD Beograd (EMS) and the Independent System Operator in Bosnia and Herzegovina (ISO BIH), which were approved by SERC on 29 November 2023 at the request of the ISO BIH, and

- *Rules for daily auctions for allocation of transmission capacities on the bidding zone borders between EMS AD Beograd (EMS) and the Independent System Operator in Bosnia and Herzegovina (ISO BIH),* which were approved by SERC on 17 November 2021 at the request of the ISO BIH.

As SEE CAO operations do not cover intraday allocation of cross-border transmission capacities, at the requests of the ISO BIH the following documents were approved by the SERC decisions passed on 4 November 2020 and 17 November 2021:

- *Rules for intraday allocation of transmission capacities on the border between control areas of the Independent System Operator in Bosnia and Herzegovina (ISO BIH) and the Montenegrin Electric Transmission System AD (CGES),*
- *Rules for intraday allocation of transmission capacities on the bidding zones borders between the Independent System Operator in Bosnia and Herzegovina (ISO BIH) and EMS AD Beograd (EMS)*, and
- *Rules for intraday allocation of transmission capacities on the border between control areas / Croatian Transmission System Operator (HOPS) and the Independent System Operator in Bosnia and Herzegovina (ISO BIH).*

The allocation of transmission capacities on the border with Serbia through annual, monthly and daily auctions will be conducted by Elektromreža Srbije (EMS) also in 2024 while intraday auctions will be conducted by the ISO BIH. Intraday auctions on the borders with Croatia and Montenegro will be conducted by HOPS and the ISO BIH respectively.

Operational Agreement of the SHB Load Frequency Control Block

On 9 November 2021, SERC passed the *Decision on Approval for Conclusion of Operational Agreement of the SHB Load Frequency Control Block*, between the transmission system operators of Slovenia, Croatia and Bosnia and Herzegovina, the text of which was agreed by the Parties and which was submitted for approval on 26 October 2021.

A Load Frequency Control Block (LFC block) is a part of a synchronous area consisting of one or more LFC areas, physically demarcated by points of measurement at interconnectors to other LFC blocks, operated by one or more system operators fulfilling the obligations of load-frequency control. The Agreement defines the work of three system operators (ELES – Slovenian Transmission System Operator, HOPS – Croatian Transmission System

Operator and ISO BIH – Independent System Operator in Bosnia and Herzegovina), in the part pertaining to operation of the relevant LFC block.

The Operational Agreement of the SHB Load Frequency Control Block (LFC Block SHB), which is in compliance with Commission Regulation (EU) 2017/1485 establishing a guideline on electricity transmission system operation, was signed in January 2022. Throughout 2023 the ISO BIH acted in accordance with the provisions of the Agreement, with publication of the required information.

Cross-Border Exchange of Energy for Manual Frequency Restoration Reserve

In 2017, the ISO BIH initiated the activities with the neighbouring system operators on the establishment of a model enabling the cross-border exchange of tertiary control energy (new term: energy for manual frequency restoration reserve). After a virtual cross-border line was registered in this context, the ISO BIH submitted to SERC for approval the *Contract on mutual delivery of cross-border tertiary control energy for the provision of system services from abroad for the electric power systems of Bosnia and Herzegovina and Serbia*. The State Electricity Regulatory Commission approved this Contract on 11 October 2017. At the beginning of 2018, the *Contract on mutual delivery of cross-border tertiary control energy for the provision of system services from abroad for the electric power systems of Bosnia and Herzegovina and Montenegro* was prepared, which was approved by SERC on 13 March 2018.

The subject of these contracts is the provision of assistance in the form of mutual delivery of cross-border energy for manual frequency restoration reserve in order to enhance secure and reliable operation of the neighbouring power systems. In this manner, the cross-border exchange of one of the products on the balancing market, formerly known as ‘tertiary control’, is formalised.

A virtual transmission line registered in the SCADA systems of the two operators for simulation of exchange is used for calculation of transactions, which is in line with the *ENTSO-E Continental Europe Operation Handbook*. For energy exchange in physical terms, the remaining available cross-border capacity will be used after the completion of intraday capacity allocation. A part of the obligations of Bosnia and Herzegovina regarding the measures under the *Road Map for the implementation of Western Balkans 6 Initiative* (the so-called *WB6 Initiative*) pertaining to cross-border exchange of balancing services is fulfilled through the implementation of these contracts.

In 2023, SERC monitored the cross-border exchange of energy for manual frequency restoration reserve. In accordance with the signed contracts, 165 MWh and 366 MWh of positive balancing

energy (upward balancing energy) was delivered to the Montenegrin Electric Transmission System (CGES) and Elektromreža Srbije (EMS) respectively.

The amounts of 194 MWh and 2 MWh of negative balancing energy at a negative price were delivered to the Croatian Transmission System Operator (HOPS) and the Slovenian Transmission System Operator (ELES) respectively, which is registered as a revenue of the ISO BIH. The total value of these deliveries amounts to EUR 256,218, of which the values of energy delivered to CGES, EMS, HOPS and ELES amount to EUR 57,678, EUR 166,722, EUR 31,701 and EUR 118 respectively.

The ISO BIH purchased positive balancing energy from the Montenegrin Electric Transmission System, in the amount of 73 MWh the value of which is EUR 2,800. With this, the value of imports amounting to EUR 253,418 was registered in the balance of cross-border exchange of balancing energy.

Cross-border exchange of electricity for manual frequency restoration reserve with HOPS and ELES was carried out in accordance with the *Operational Agreement of the SHB Load Frequency Control Block*.

Other Documents of Regulated Companies Submitted for Approval

On 5 September 2023, the Independent System Operator in Bosnia and Herzegovina submitted the *Rules for the suspension and restoration of market activities* for approval. SERC analysed the submitted rules with particular attention, taking into consideration that their development should be governed, inter alia, by *Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration*, as adapted and transposed into the Energy Community *acquis* by Decision 2022/03/MC-EnC of the Energy Community Ministerial Council of 15 December 2022.

In its communication of 17 October 2023 the State Electricity Regulatory Commission supported the ISO BIH activities and pointed to the technical and procedural shortcomings and required improvements, and gave some recommendations for the development of both the rules for suspension and restoration of market activities and acts and rules for imbalance settlement and settlement of balancing energy, the test plan as well as other acts in accordance with Article 4 paragraph 2 of the adapted regulation.

On 20 September 2023, JP Komunalno Brčko submitted the *Rules on conditions for the connection of power plants to the distribution network of the Brčko District of Bosnia and Herzegovina* for approval. SERC carefully analysed the submitted text, taking into consideration the fact the *Commission Regulation (EU) of 14 April 2016 establishing a network code on requirements for grid connection of generators* was adapted and transposed into the Energy Community *acquis* by the decision of the Permanent High

Level Group (PHLG) 2018/03/PHLG-EnC of 12 January 2018. The part of these rules pertaining to the connection to the transmission system were transposed and implemented through the acts adopted by SERC and the ISO BIH (please see Section 3.1).

SERC concluded that the submitted text of the Rules regulates the connection of power plants to the distribution network in a comprehensive and up-to-date manner. Pointing out good regulatory practices in approval of documents, stressing that the approval of any new rule should be done in a transparent manner, on 14 November 2023 SERC called upon the regulated company to hold a public hearing on the Rules in which the content thereof should be presented enabling the interested public to give their comments with the aim of improving the final text.

By the end of 2023 SERC did not receive any feedback from the mentioned regulated companies on their activities pertaining to the Rules for the suspension and restoration of market activities and the Rules on conditions for the connection of power plants to the distribution network of the Brčko District of BIH.

3.3 Licensing Proceedings

In 2023, SERC granted several licences, while at the time of creating this Report, it was working on the application for issuance of a licence for the international electricity trading activity filed Hifa-Oil d.o.o., Tešanj at the end of the year.

Due to the expiration of the term of the previously issued licenses for the international electricity trading activity, the proceedings were conducted and five-year term licenses were renewed to the following entities:

- Energy Financing Team d.o.o., Bileća (April 2023), and
- Winter Wind d.o.o., Tomislavgrad (September 2023).

Temporary licenses for the international electricity trading activity with one or two-year term (depending on the term of the licences, i.e., permits allowing electricity trading in Bosnia and Herzegovina, which are issued by the entity regulatory commissions FERK and RERS) were granted to the following entities:

- Medoš One d.o.o., Banja Luka (February 2023),
- Disam BH d.o.o., Sarajevo (March 2023),
- Renewable Energy Solutions BH d.o.o., Banja Luka (September 2023), and
- ENNA Opskrba BH d.o.o., Sarajevo (November 2023).

All the licences for the international electricity trading activity are used pursuant to the *Standard licence conditions for performance of the international electricity trading activity*. By the adoption of these conditions as a standard set of rules on the rights and obligations of the licensee known beforehand (the acceptance of which is confirmed by submitting a written statement to that ef-

fect already with the licence application), SERC further simplified and expedited the procedure for granting this type of licence, which is most common in practice. This also considerably reduced the number of documents which circulated so far both within SERC and in communication with the applicant and interested third parties due to formal and procedural reasons.

At the request of the licensee, the Decision on suspension of temporary licence for performance of electricity trading activity was passed for Global Ispat koksna industrija d.o.o., Lukavac until the expiry of its term.

On 31 December 2023, the following 21 entities was registered for the international electricity trading activity in the Register of valid licences: Axpo BH d.o.o., Mostar; Petrol BH Oil Company d.o.o., Sarajevo; HEP Energija d.o.o., Mostar; Danske Commodities BH d.o.o., Sarajevo; Interenergo d.o.o., Sarajevo; GEN-I d.o.o., Sarajevo; Alpiq Energija BH d.o.o., Sarajevo; Hifa-Oil d.o.o., Tešanj; Vibar d.o.o., Široki Brijeg; Green Energy Trading – Trgovina zelenom energijom d.o.o., Široki Brijeg; EFT – Rudnik i Termoelektrana Stanari d.o.o., Stanari; HSE BH Energetsko preduzeće d.o.o., Sarajevo; JP Elektroprivreda Hrvatske zajednice Herceg Bosne d.d., Mostar; JP Elektroprivreda Bosne i Hercegovine d.d., Sarajevo; MH Elektroprivreda Republike Srpske – Parent Company, a.d., Trebinje; Medoš One d.o.o., Banja Luka; Disam BH d.o.o., Sarajevo; Energy Financing Team d.o.o., Bileća; Renewable Energy Solutions BH d.o.o., Banja Luka; Winter Wind d.o.o., Tomislavgrad; and ENNA Opskrba BH d.o.o., Sarajevo.

The Independent System Operator in Bosnia and Herzegovina Sarajevo and Elektroprenos Bosne i Herzegovine a.d. Banja Luka are holders of the licence for performance of the activity of an independent system operator and the licence for the electricity transmission activity respectively. JP Komunalno Brčko d.o.o. Brčko in addition to the licence for the electricity trading and supply activity in territory of BIH holds the licence for the electricity distribution activity in the Brčko District of BIH.

At the beginning of March 2023, a *Conclusion on update of annexes to the Licence Conditions for the electricity distribution activity* was adopted, that is, overviews of facilities used for this activity in the Brčko District of BIH.

Every year, including this one, comparing the previous year's status Elektroprenos BIH updated and reported changes in overviews of the facilities used by the Company for performance of the electricity transmission activity as well as overviews of the transmission lines which are not owned by the Transmission Company and are not in the function of electricity transmission, on which SERC reached relevant conclusions in the middle of March 2023.

3.4 Monitoring of Activities of Licensed Entities

The State Electricity Regulatory Commission continuously monitors operations of the licensed entities and their compliance with the licence conditions. Monitoring is performed through analysis of regular and special reports submitted by all licensed entities as well as by visits to the licensees. The licensees submit annual, semi-annual, monthly and daily reports on individual activities of a financial, technical and organisational nature. In addition, licensees' reports on contingency events in the system are available.

Visits of SERC experts to the regulated entities enable a direct inspection of their documents and activities, which is of great relevance in particular when analysing the financial position of an entity from the aspect of application of approved tariffs.

In September and October 2023, the following regulated entities were visited:

- Independent System Operator in Bosnia and Herzegovina,
- Elektroprenos Bosne i Hercegovine, and
- JP Komunalno Brčko.

SERC pays special attention to the compliance of the Independent System Operator in Bosnia and Herzegovina with the obligations which were stated in detail in the *Licence Conditions for activities of an independent system operator*. Continuous regulatory monitoring indicate that the provisions of these conditions are complied with to a large extent. Naturally, the activities in cases of emergencies in the BIH electric power system, including outages of generation facilities, events resulting in zero-voltage of busbars and occurrences of high-voltage levels in the BIH electric power system were analysed in particular.

Taking into account some specificities of 'virtual power plants' operations, SERC continuously supports the ISO BIH in further improvement of the rules and implementation of activities which enable access to the wholesale electricity market by generators connected to the distribution system and the sustainability of the mechanism. In the context, the mechanism of assuring the balance responsible parties in the 'virtual power plants' system was analysed (bank guarantees).

The need for amendments to the Grid Code was also recognised under regulatory monitoring, in particular with regard to the interest in and the need for investments in renewables.

As part of regulatory monitoring, SERC pays particular attention to reviewing financial performance indicators of the ISO BIH, of which SERC gives its opinion in the proceedings for setting of the tariff for operation of an independent system operator and tariffs for system and ancillary services (please see Section 3.6).

Under regulatory monitoring, the obligations of Elektroprenos BIH to develop long-term transmission network development plans for a ten-year period and develop and adopt annual investment plans were pointed out in particular. The obligation of Elektroprenos BIH set under the law is to enable continuous electricity supply in accordance with the defined quality standards. The necessity to plan the transmission network development and the construction of new transmission lines in the areas where intense construction of renewable energy generation facilities is expected, was stressed in particular.

SERC has been pointing out for years that the voltage levels in the BIH power system are very often above the prescribed limits. This is one of the most serious problems in the transmission network in Bosnia and Herzegovina. In this context, a more active engagement of Elektroprenos BIH is necessary in the procurement and installation of compensation devices, i.e., shunt reactors. Elektroprenos BIH is requested by SERC to provide timely and complete pieces of information on all activities under this activity of utmost importance.

As part of regulatory monitoring, SERC pays particular attention to reviewing financial performance indicators of Elektroprenos BIH, of which SERC gives its opinion during decision-making process in the proceedings for setting of the tariffs for electricity transmission services (please see Section 3.6).

SERC permanently insists on enhancing cooperation between the ISO BIH and Elektroprenos BIH and improving the coordination of their activities, in particular the international activities from which the BIH power system may have benefits.

As part of regulatory monitoring of JP Komunalno Brčko, SERC recognised the development of legal framework on electricity in the Brčko District of BIH. SERC supports the regulated company which significantly supports the application and implementation of the adopted act within its legal and other capacities.

SERC constantly points out the lack of regulation of mutual ownership relationships between the institutions of the Brčko District of BIH and JP Komunalno Brčko over the assets in the function of electricity distribution and supply. In 2023, SERC continued to emphasise the necessity of full unbundling of accounts for distribution and supply activities as well of these activities and other non-energy activities (water production and distribution, landscaping and maintenance of public areas and collection, transport and disposal of waste materials).

As part of regulatory monitoring, SERC pays particular attention to reviewing financial performance indicators of JP Komunalno Brčko, of which SERC gives its opinion during decision-making process in the proceedings for setting of the tariff rates for electricity distribution services and tariff rates for electricity supply within the universal service in the Brčko District of BIH (please see Section 3.6).

3.5 Technical Aspect of Transmission System Operation

The BIH electric power system operation in 2023 was stable and without any bigger problems. All system users were able to operate functionally in line with the defined quality standards. All planned or additionally requested maintenance works in the transmission network were completed.

The maximum hourly load of the power system in the previous year amounting to 1,851 megawatts was reported on 9 February 2023 at the 19th hour, which is 42 MW lower in comparison to these data for 2022, and 356 MW lower than the historic maximum of 2,207 MW reported at the 18th hour on 31 December 2014. Maximum daily electricity consumption of 38,667 MWh was recorded on 8 February 2023. Minimum hourly load of 597 MW was reported on 12 June 2023 at the 4th hour, which is 8 MW lower than the previous lowest hourly load in the past several decades which was reported on 25 May 2020 at the 4th hour. Minimum daily electricity consumption of 20,855 MWh was recorded on 18 June 2023.

Maximum and minimum hourly loads in 2023 and over the past ten years are presented in Figures 1 and 2 respectively.

Figure 1. Maximum and minimum hourly load in 2023 by month (MW)

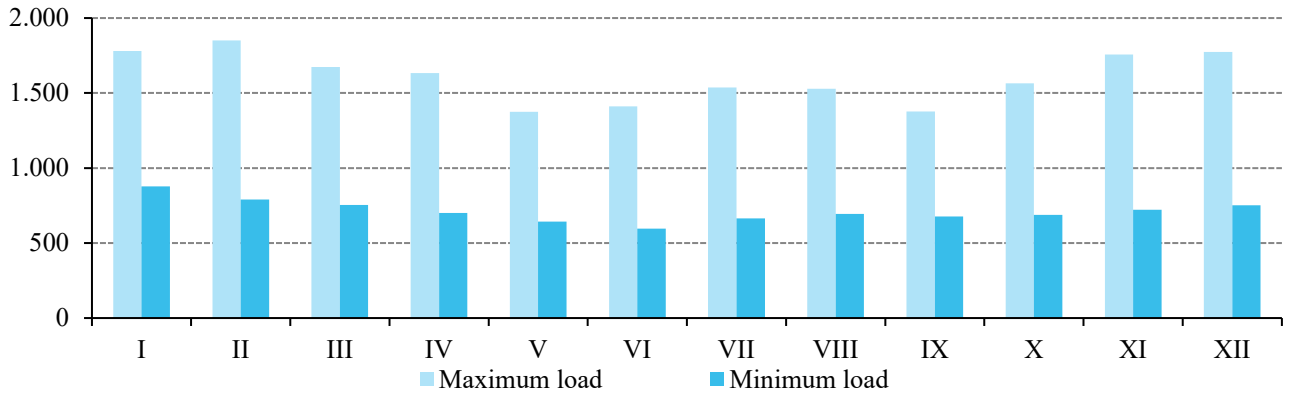
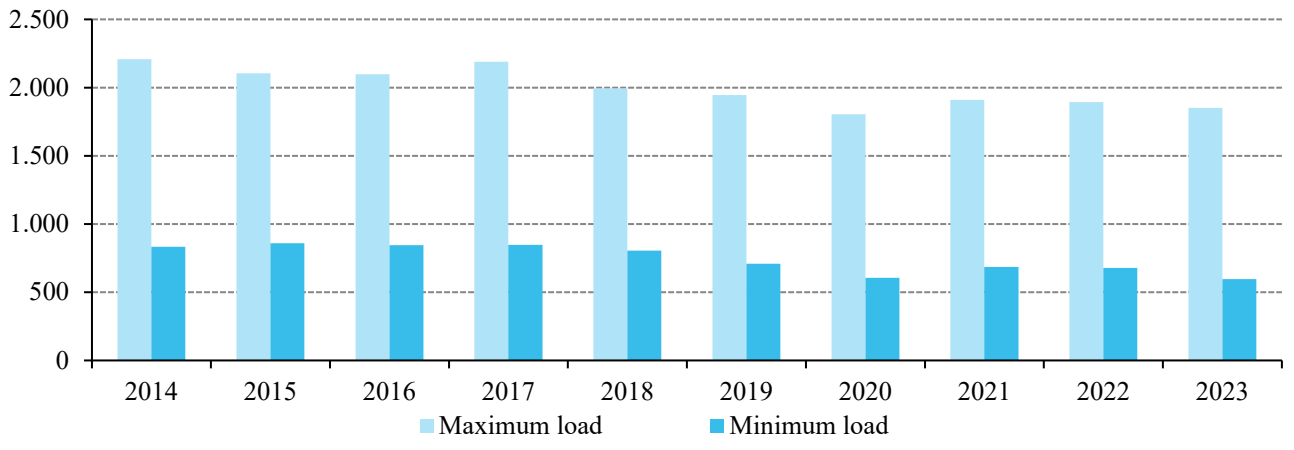


Figure 2. Maximum and minimum hourly load in the period 2014 – 2023 (MW)



Unintended deviations from declared exchange schedules towards the neighbouring power systems in 2023 amounted to 40 GWh in total at hours when an electricity deficit was registered in the BIH control area and 42 GWh in total at hours when an electricity surplus was registered. Monthly deviations of the BIH electric power system in 2023 are presented in Figure 3.

A maximum hourly electricity deficit (downward deviation) was registered in May 2023 amounting to 163 MWh/h while a maximum surplus (upward deviation) amounting to 138 MWh/h was registered in February 2023.

Total electricity in the transmission network amounted to 18,695.2 GWh, which is 2.53% more than in 2022. Transmission losses amounted to 334 GWh, or 1.79% of total energy in the transmission system. In 2023, distribution losses amounted to 909.7 GWh or 8.62% in relation to total consumption of customers connected to the distribution network, which is the lowest level in the history of the electric power sector of Bosnia and Herzegovina.

Percentage of transmission and distribution losses in the period 2014 – 2023 is presented in Figure 4.

Figure 3. Monthly deviations of BIH power system in 2023 (GWh)

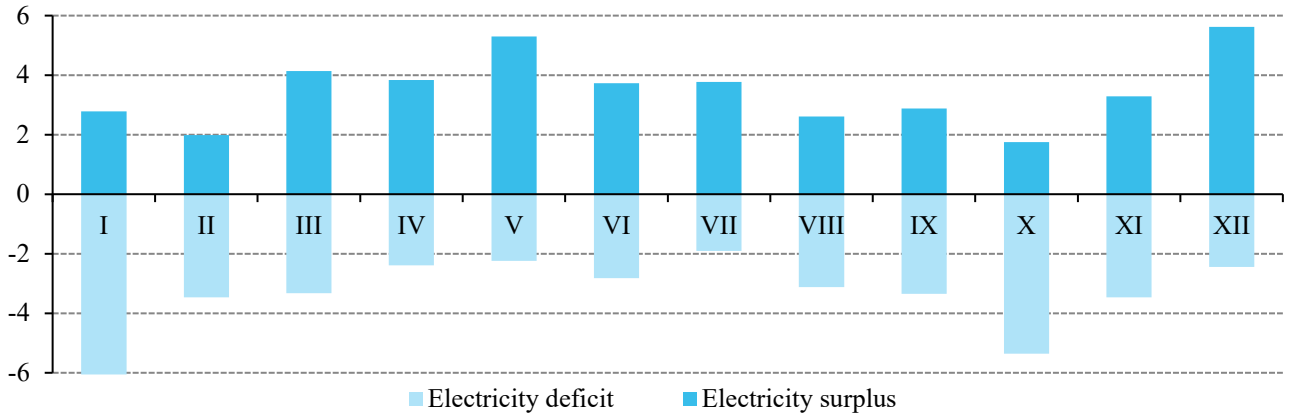
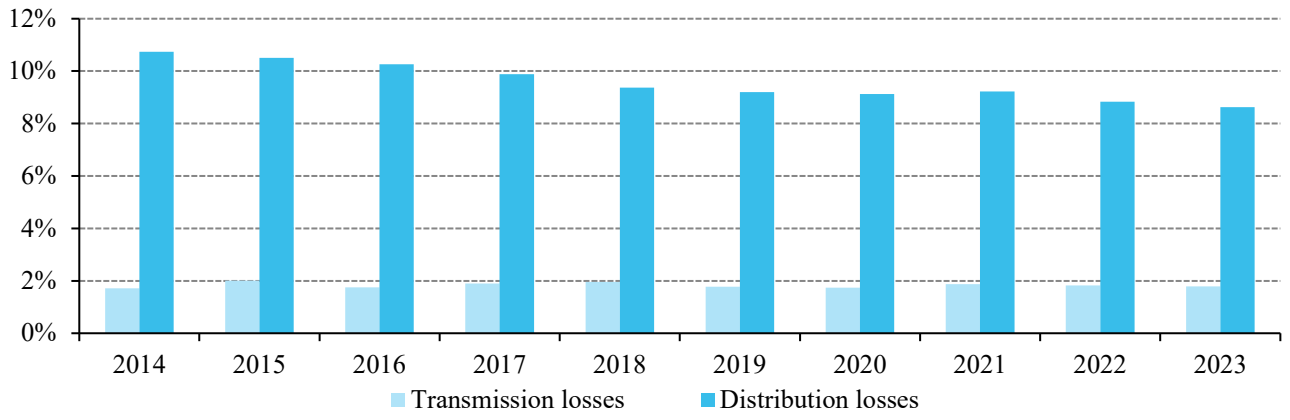


Figure 4. Transmission and distribution losses



In 2023, PHP Čapljina withdrew 15 GWh from the transmission system, while total production of this power plant amounted to 345 GWh.

Data on energy not supplied (ENS) due to unplanned interruptions (ENS_{unpl}), as well as energy not supplied due to planned interruptions (ENS_{pl}) in the BIH power system over the past five years are provided in Table 1. Table 2 contains data on continuity of supply, that is, the average interruption time (AIT) in the high-voltage transmission network.

In 2023, several contracts on construction, reconstruction and rehabilitation of transmission facilities were completed, thus increasing the security of electricity supply for customers. At the beginning of February 2023, a new 110/x kV Jelah substation was commissioned, which is connected to the transmission network with the entry/exit system to the 110 kV transmission line Doboj 1 – Teslić, thus forming two new 110 kV transmission lines, Doboj 1 – Jelah and Jelah – Teslić.

On 5 September 2023, a new 110/20 kV Petnjik SS was put into operation, which was built to connect the Petnjik solar photovoltaic power plant. This substation was also connected with the entry/exit system to a 110 kV transmission line, in this concrete case to the 110 kV transmission line Peć Mlini – Grude, thus forming two new transmission lines TL 110 kV Peć Mlini – Petnjik and TL 110 kV Petnjik – Grude.

On the same day, the Petnjik solar power plant was put into trial operation with installed capacity of 29.9 MW (peak capacity of photovoltaic modules generating direct current amounts to 45 MWp). It is the first photovoltaic plant in Bosnia and Herzegovina, and among the first ones in the Western Balkans, which is connected to the transmission network.

Table 1. Energy not supplied due to interruptions in the transmission network

	2019		*2020*		*2021*		*2022*		*2023*	
	MWh	*min*	*MWh*	*min*	*MWh*	*min*	*MWh*	*min*	*MWh*	*min*
ENS_{unpl}	1,095.03	21,370	393.01	11,825	678.07	14,788	664.03	9,086	1,063.92	12,407
ENS_{pl}	1,100.55	17,178	543.35	9,998	690.82	9,503	1,029.15	13,835	649.75	15,095
Total	2,159.59	38,548	936.36	21,823	1,368.89	24,291	1,693.18	22,921	1,713.67	27,502

Table 2. Average interruption time in the transmission network by month (min)

Month	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
AIT_{2019}	0.1233	14.0321	8.8927	10.0696	3.3278	9.0077	13.4418	3.6580	9.3859	6.2718	0.6274	0.9416
AIT_{2020}	0.5982	5.3980	1.4336	1.0986	3.6368	7.3068	4.3183	2.5052	12.0331	4.7252	3.1260	2.2014
AIT_{2021}	0.4481	0.7509	3.9080	2.1174	3.9190	5.1968	4.4001	5.9464	4.9027	5.9328	4.5592	3.7586
AIT_{2022}	0.2022	0.2739	3.7850	0.6587	17.4503	3.6111	3.6504	3.5146	0.0283	7.2689	2.1352	2.9838
AIT_{2023}	0.0000	18.7327	3.0766	2.3987	0.9050	1.2518	5.4480	0.7141	2.0729	7.7161	0.1479	0.3243

On 17 January 2023, a transformer TR3 220/110 kV, 150 mega-volt-amperes (MVA) was put into operation in the Trebinje SS after its rehabilitation and overhaul was completed.

A new 110 kV Kulen Vakuf – Mazin interconnection line was put into operation on 20 July 2023 instead of the previous interconnection line Kulen Vakuf – Gračac. The new SS Mazin was built in Croatia with the aim of taking over electricity generation in the Bruvno wind power plant.

Due to the bad weather conditions during the planned works and a range of consequent breakdowns in the transmission network, on 6 February 2023, zero-voltage of 110 kV busbars occurred at several substations, i.e. a partial collapse of the 110 kV network in the region of Banja Luka, Prijedor and the surrounding areas. The emergency lasted for one hour and ten minutes, with some substations being energised earlier than the others depending on the order of energising the transmission lines.

The procedure for repairs of the 400/110 kV, 300 MVA transformer at the SS Višegrad, continued. It is expected that the transformer would be put into operation in 2024.

The secondary control services in 2023 were provided by JP Elektroprivreda Bosne i Hercegovine d.d., Sarajevo and MH Elektroprivreda Republike Srpske – Parent Company, a.d., Trebinje. During the year, tertiary control was activated 116 times (84 times as upward tertiary control, of which 19 times in August, and 32 times as downward tertiary control, of which seven times in May 2023). However, the nominated tertiary control volumes were often insufficient.

In 2023, 492 outages were registered in the transmission network at 400, 220 and 110 kV voltage level, of which 74, 231 and 187 at 400 kV, 220 kV and 110 kV transmission lines respectively, and 20 outages of 400/220 kV, 400 MVA transformers, one outage of 400/110 kV, 300 MVA transformer and 12 outages of 220/110 kV, 150 MVA transformers.

In the past year, 45 failures of thermal power blocks and four outages of hydro generators were registered. Missing energy in the system was compensated through the activation of tertiary reserve.

In 2023, in the BIH electric power system zero-voltage of busbars was registered 26 times, of which nine times at 400 kV busbars lasting 16 hours and 57 minutes, two times at 220 kV busbars lasting 27 minutes and 15 times at 110 kV busbars lasting 7 hours and 52 minutes. Most of them took place in the period from July to September, when the highest number of atmospheric electricity charges was registered, which caused zero-voltage in most of the cases.

Similar to the previous years, in 2023 voltage levels in the power system often exceeded the values prescribed by the Grid Code, in particular in the 400 kV and 220 kV network. The highest voltage level in the 400 kV network was registered at SS Trebinje in March when the measured voltage level reached 449.30 kV. In

SS Mostar 4, the highest voltage level in the 220 kV network was measured in January (260.15 kV). In January at SS Prijedor 2 the highest voltage level was measured in the 110 kV network reaching 126.13 kV.

The main reason for occurrence and duration of high voltage levels was under-loaded 400 kV transmission lines during low demand periods which generate large volumes of reactive power. The occurrence of high voltage levels is a regional problem and, consequently, solutions to this problem are also sought at regional level. With the aim of contributing to a long-term and quality solution to this problem, SERC continues to insist on conducting investment activities for the instalment of shunt reactors in the BIH power system, in addition to implementing all other measures to keep the voltage levels within the prescribed limits.

The SAIFI index (System Average Interruption Frequency Index) indicates the average number of interruptions per customer during a year.

The SAIDI index (System Average Interruption Duration Index) indicates the average interruption duration for each customer in minutes per year.

The quality of the power system operation is monitored by analysing the Transmission Company's data on technical aspects of the transmission system operation, which, in addition to the indices of continuity of customer supply ENS and AIT, are also presented by the SAIFI and SAIDI indices.

The SAIFI and SAIDI indices are obtained by monitoring the number and duration of interruptions in the Transmission Company's facilities resulting in supply interruptions for customers directly connected to the transmission network and/or zero-voltage in middle voltage feeders exceeding three minutes.

Tables 3 and 4 show the SAIFI and SAIDI indices for the past five years. Table 3 includes only interruptions caused by events in the

Table 3. SAIFI and SAIDI for the transmission network

		2019	*2020*	*2021*	*2022*	*2023*
SAIFI	Planned interruptions	0.64	0.42	0.47	0.51	0.57
	Unplanned interruptions	0.99	0.53	0.74	0.75	0.86
	Total	1.63	0.95	1.21	1.26	1.43
SAIDI	Planned interruptions (min/customer)	73.71	39.71	51.78	61.69	66.69
	Unplanned interruptions (min/customer)	63.24	31.67	26.39	30.62	61.69
	Total(min/customer)	136.95	71.38	78.17	92.32	128.37

Table 4. SAIFI and SAIDI for the transmission network including outages of middle voltage feeders caused by interruptions in the distribution network

		2019	*2020*	*2021*	*2022*	*2023*
SAIFI	Planned interruptions	2.76	2.57	2.96	2.67	3.56
	Unplanned interruptions	4.93	4.63	4.47	3.94	4.92
	Total	7.69	7.19	7.43	6.61	8.48
SAIDI	Planned interruptions (min/customer)	239.55	189.52	205.69	316.50	287.72
	Unplanned interruptions (min/customer)	453.10	382.64	359.62	279.45	420.95
	Total (min/customer)	692.68	572.16	565.31	595.95	708.67

network under the responsibility of Elektroprenos BIH, while Table 4 also includes interruptions in middle voltage feeders in the Transmission Company's substations caused by disturbances in the distribution network which are significantly less favourable, taking into consideration outspread connections and length of the distribution network and its tendency to various failures.

The basic data on the BIH electric power system and the map of the system are provided in Annexes A and B respectively.

3.6 Tariff Proceedings

Tariffs for Electricity Transmission Services

In 2023, Elektroprenos Bosne i Hercegovine did not file an application for modification of the electricity transmission tariffs. Within the continuous regulatory monitoring and monitoring of Elektroprenos BIH activities, the State Electricity Regulatory Commission concluded that the revenues realised by the regulated company are sufficient to cover the existing costs.

The fact that the increase in the wholesale prices on the regional market resulted in an increase in revenues which Elektroprenos BIH realises through auctions for allocation of cross-border capacities was not neglected. Consequently, based only on the annual auctions for 2023 (which were held in December 2022), an amount of EUR 8,777,301 was collected. In 2023, the revenues based on the monthly auctions amounted to EUR 8,156,874 while the revenues based on the daily and intraday auctions amounted to EUR 816,974. In the previous years the revenue based on auctions amounted between EUR 3.07 million and EUR 3.58 million on an annual basis (please see Section 3.7).

Therefore, the SERC Decision effective as of 1 May 2017 practically continues to apply. Consequently, the part of the transmission network charge pertaining to energy remains 0.30 euro cents/kWh while the part of the transmission network charge pertaining to capacity amounts to 0.753 EUR/kW (an average transmission network charge amounts to 0.45 euro cents/kWh).

The SERC rules enable Elektroprenos Bosne i Hercegovine to file a new application for approval of a tariff for electricity transmission services in line with its estimations based on the latest financial and energy values.

Tariff for Operation of an Independent System Operator; Tariffs for System and Ancillary Services

Pursuant to the legal obligation to submit for consideration the applications for revenues and expenditures in the following year as well as costs that the Company plans to include in its tariffs, the Independent System Operator in Bosnia and Herzegovina by its act of 18 October 2023 (received by SERC on 31 October 2023) filed such an application, in which it presented and explained the planned revenues, expenditures and costs in 2024.

The revenue requirement for 2024 amounting to EUR 8,567,425 was requested, the requested tariff for operation of an independent system operator paid by producers for electricity injected into the transmission system amounted to 0.059 EUR/MWh (a 59.72% increase), while the tariff paid by customers for electricity withdrawn from the transmission system amounted to 0.758 EUR/MWh (a 68.33% increase).

The proposed tariff for system service amounted to 5.151 EUR/MWh, which is 103.78% more that the tariff determined on 28 December 2022.

A formal public hearing in these tariff proceedings, in which, in addition to the regulated company, three interveners actively participated, was held on 27 November 2023 in Tuzla. *The Presiding Officer's Report* was distributed to the participants in the proceedings for comments on 7 December 2023.

On the basis of the Presiding Officer's Report, comments received from the regulated company and the interveners, and following the analyses of the applicant's required costs and expenditures and all other available documents, the State Electricity Regulatory Commission passed the *Decision on tariff for operation of an independent system operator* and the *Decision on tariffs for system and ancillary services* on 20 December 2023, which are effective from 1 January 2024.

It is determined that the annual revenue requirement of the ISO BIH in 2024 amounts to EUR 6,308,394. The Decision specifies that the tariff for operation of an independent system operator which is paid by producers for energy injected into the transmissions system amounts to 0.043 EUR/MWh (a 18.06% increase) while customers for energy withdrawn from the transmission network pay the tariff in an amount of 0.558 EUR/MWh (a 23.95% increase).

According to the *Decision on tariffs for system and ancillary services*, the financial scope of the system service in 2024 amounts to EUR 45,029,947. When determining the tariff for system service, based on the available data, it was concluded that it was possible to reduce the tariff for system service.

Taking into account the present facts and respecting the precautionary principle due to a high number of variables affecting the revenues and expenditures in the balancing mechanism, the Commission decided to keep the tariff for system service at the same level of 2.449 EUR/MWh, announcing that on a needs basis it would initiate its adjustment when deemed appropriate.

Tariffs for Customers in the Brčko District of BIH

The proceedings for setting of the tariff rates for electricity distribution services and electricity supply within the universal service in the Brčko District of BIH were initiated on 28 December 2022, following an application which was submitted by the regulated company on 23 December 2022.

Public Utility Komunalno Brčko, as the public supplier in the area of the Brčko District of Bosnia and Herzegovina which purchases all electricity for the supply of its customers on the wholesale electricity market, requested an increase in the tariffs applicable since 1 January 2022, i.e., amendments to the decisions on tariffs which would enable the following:

- A 15% increase in the costs of distribution network charge for all customers,
- A 29.14% increase in an average price for supply within the universal service for the category 'other consumers' and households by 24.89% and 29.48% respectively,
- A profit amounting to 2% of electricity purchase costs for the supply within the universal service,
- An additional 15% price increase in the tariff element 'active electric power' for the first tariff group under the category 'other consumers',
- An increase in the charge per customer's metering point, and
- The elimination of differentiated tariff rates per seasons.

The regulated company stated an increase in the electricity purchase price for 2023 amounting to 7.41 euro cents/kWh as the main reason for initiating the tariff proceedings, which is 33.15% more in comparison to the price contracted in 2022. As a new tariff for operation of an independent system operator is applicable as of 1 January 2023, the real increase of the electricity purchase price amounted to 33.6%.

A formal public hearing in these proceedings, in which there were no interveners, was held on 31 January 2023 in Brčko. The Presiding Officer's Report was submitted to the applicant on 1 February 2023, which communicated on 7 February 2023 that it did not have any comment or observation on the submitted document.

On 16 February 2023, SERC passed the *Decision on tariffs for electricity distribution services in the Brčko District of Bosnia and Herzegovina* and the *Decision on tariffs for electricity supply within universal service in the Brčko District of Bosnia and Herzegovina*, which are effective from 1 March 2023.

An average electricity price for the customers supplied within the universal service increased by 26.36%, amounting to 10.10 euro cents/kWh for households and 11.09 euro cents/kWh for other consumers, that is, commercial customers connected to 0.4 kV and whose annual consumption does not exceed 35,000 kWh

An average tariff for electricity distribution increased by 5.03% amounting to 2.99 euro cents/kWh.

While setting the tariff rates for electricity distribution services as well as tariff rates for electricity supply within the universal service, the seasonal tariff rates were calculated in 1:1 ratio, instead of the previous ratio of 1.3:1, thus accepting the arguments of Komunalno Brčko regarding the need to equalise the seasonal tariff rates.

In the decision-making process SERC took into account the measures of the Brčko District Government under which a part of electricity costs for vulnerable customers is subsidised, which includes over 37% of households, and the possibility of other forms of assistance in line with applicable practice in the countries in the region and Europe during the energy crisis.

3.7 Electricity Market

In Bosnia and Herzegovina electricity generation amounting to 15,822 GWh was reached in 2023, which is 786 GWh or 5.3% more in comparison to the previous year. The hydrological conditions were significantly more favourable than in the previous year, so generation by hydropower plants increased by 1,825 GWh or 40.9% amounting to 6,284 GWh. On the other hand, due to a decrease in coal production by the coalmines which operate as part of the Concern Elektroprivreda BIH, generation by thermal power plants decreased by 1,224 GWh, or 12.7%, amounting to 8,405 GWh.

Generation by the wind power plants connected to the transmission system amounted to 356 GWh, which is 34 GWh or 8.8% less in comparison to 2022. Generation by all wind power plants decreased.

The Petnjik solar power plant, the first solar power plant connected to the transmission network of Bosnia and Herzegovina, which was put into trial operation on 5 September 2023, produced an amount of 14.4 GWh.

Renewable electricity generation by the power plants connected to the distribution system amounted to 742.87 GWh, or 38.4% more than in 2022. The favourable hydrological conditions reflected on electricity generation in this category as well, where the dominant share is held by small hydropower plants with 485.82 GWh (406.75 GWh in 2022).

A significant increase (104.1%) by solar (photovoltaic) power plants connected to the distribution network was registered – in 2023, their generation amounted to 238.9 GWh while in 2022 their generation amounted to 117.05 GWh. A dynamic increase in generation by solar power plants was noticeable although certain share of capacities (according to estimations some 23 MW) and generated energy from these sources was not possible to register due to the specific status of self-consumption.

Generation by the four existing biomass and biogas power plants totalled 18.13 GWh (13.06 GWh in 2022). Electricity generation by the wind power plants connected to the distribution system amounted to 0.03 GWh in 2023, the same as in the previous year.

Industrial power plants produced 19.22 GWh.

A breakdown of generation over the last ten years is provided in Figure 5 while a breakdown of consumption in BIH is provided in Figure 6.

Total electricity consumption in BIH amounted to 11,635 GWh, which is 423 GWh, or 3.5%, less in comparison to the previous year. Consumption by the customers connected to the transmission system (HV customers) reduced even by 36.2% amounting to 718 GWh. Due to the unfavourable situation on the global metal market, consumption by one of the largest electricity customers in Bosnia and Herzegovina – Metalleghe Silicon d.o.o., Mrkonjić Grad was less than one tenth of its last year's consumption. The data on consumption by other customers, from the group of the largest customers, show that only Heidelberg Materials Cement BIH d.d. Kakanj (the former Kakanj Cement Factory) increased consumption while ArcelorMittal Zenica d.o.o., Zenica and Alumina d.o.o., Zvornik reduced their consumption.

Consumption of customers connected to the distribution network amounted to 10,548 GWh, which is only 2 GWh more than in the previous year. The increase was registered in consumption by the customers connected to 35 kV, in the category of 'other consumers' (commercial customers connected to 0.4 kV) and in consumption by households, while a decrease was registered in consumption by the customers connected to 10 kV (1.4%) and public lighting. The consumption of households amounted to 5,000 GWh (a 1.5% increase).

Figure 5. Breakdown of electricity generation in BIH over the last ten years (GWh)

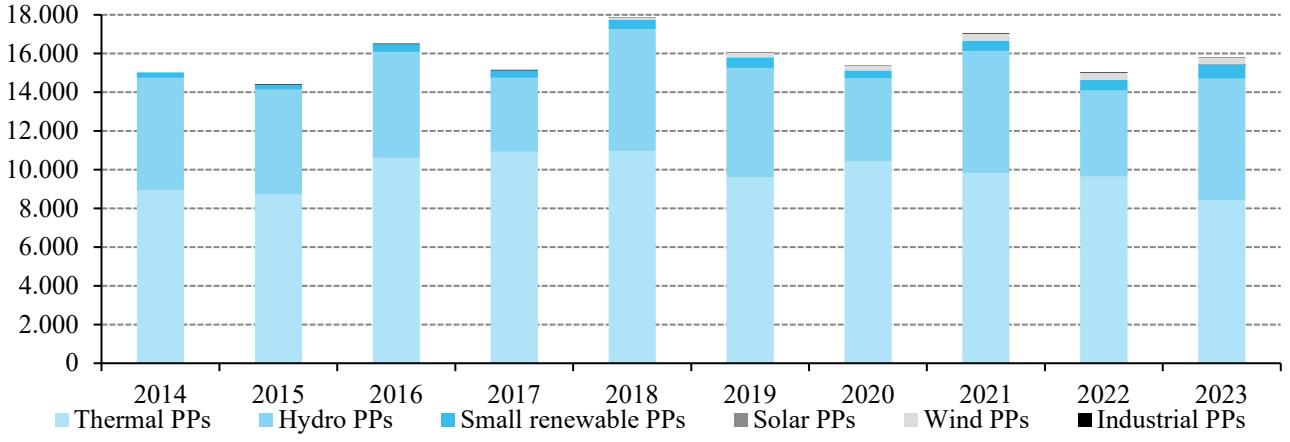


Figure 6. Breakdown of electricity consumption in BIH over the last ten years (GWh)

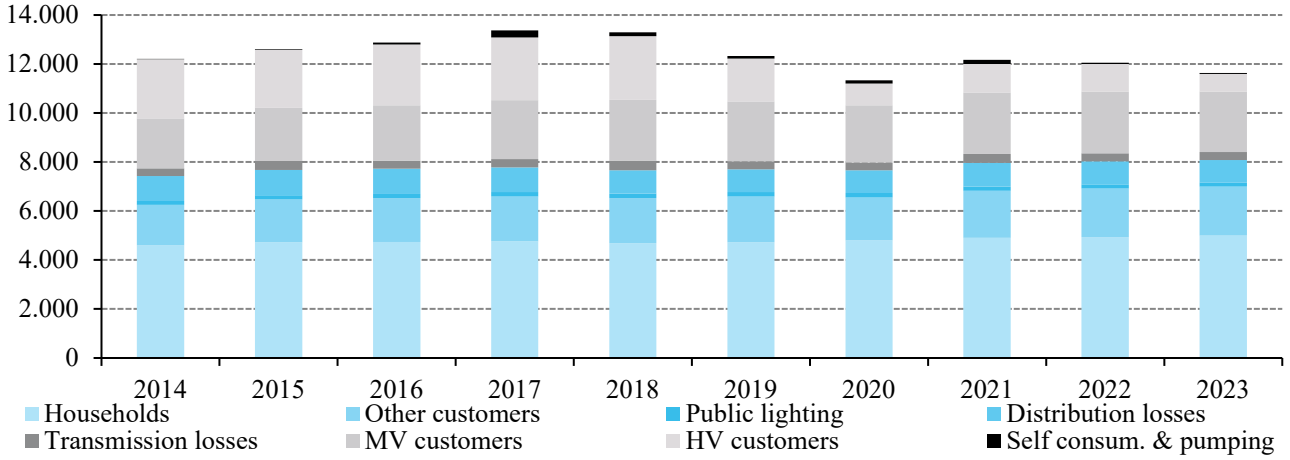


Figure 7. Energy withdrawn from the transmission network in BIH – monthly data (GWh)

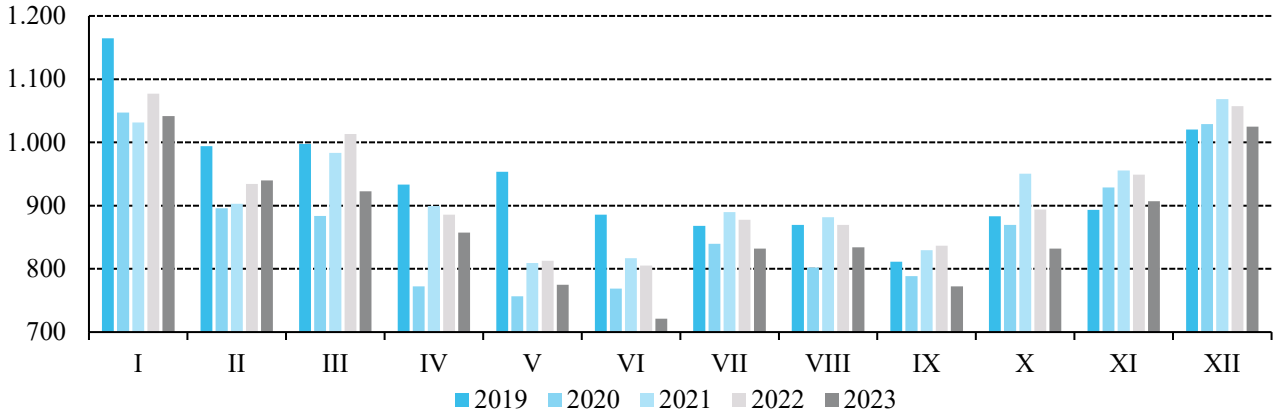
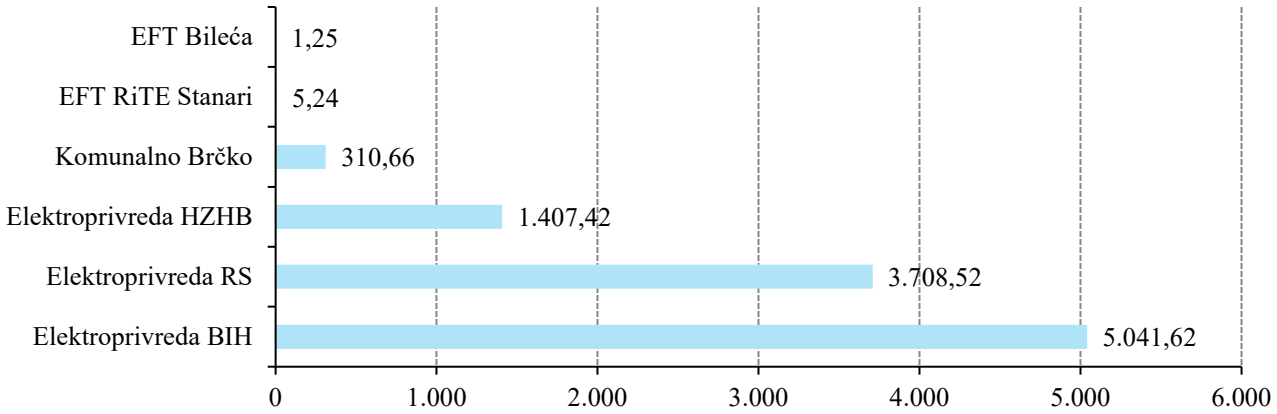


Figure 8. Energy withdrawn from the transmission network in 2023 per supplier (GWh)



A total of 10,475 GWh of electricity was withdrawn from the transmission system, which is 572 GWh, or 5.2% less in comparison to 2022. Data on energy withdrawn from the transmission system by months and suppliers are presented in Figures 7 and 8 respectively.

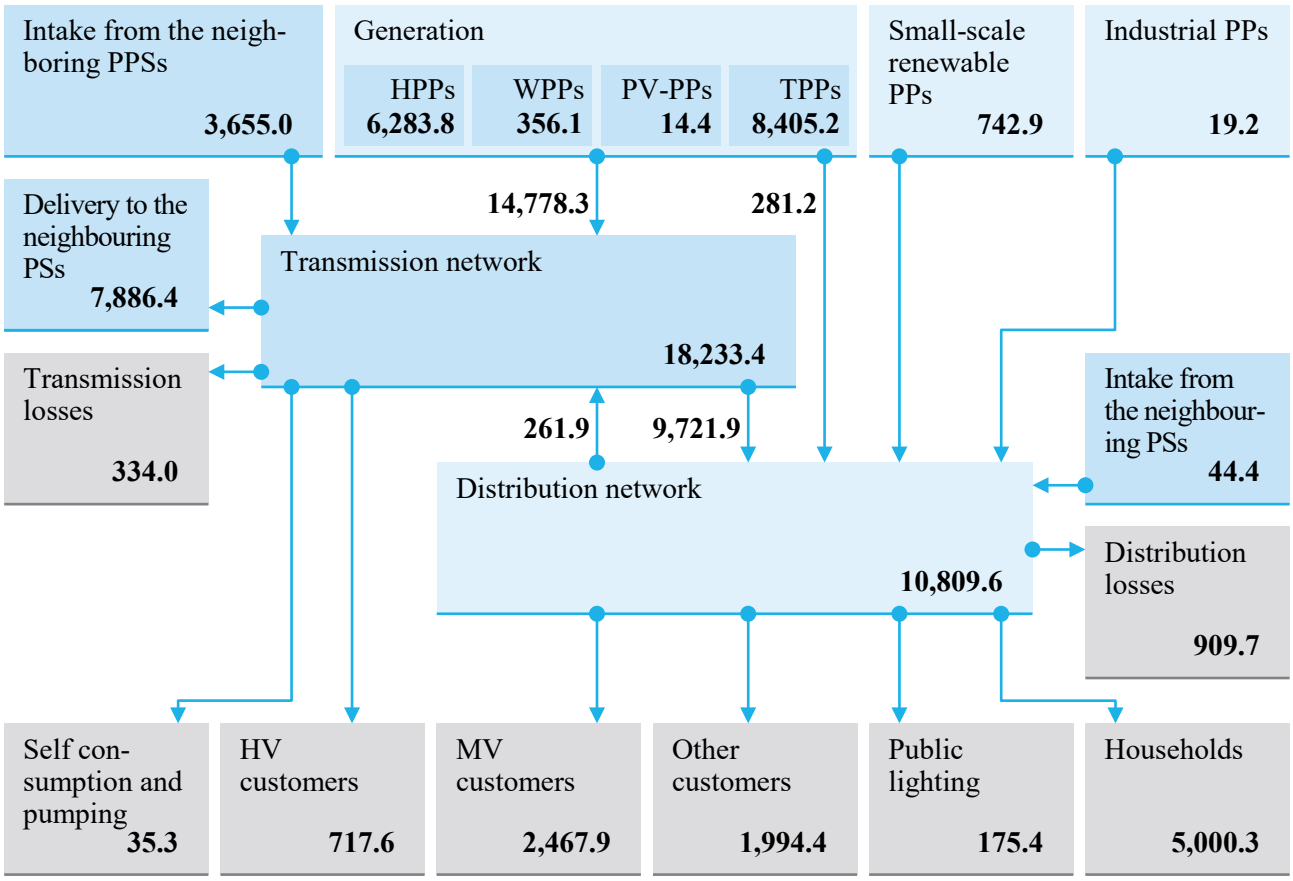
The difference between total generation and total consumption, that is, the balance surplus in 2023 amounted to 4,187 GWh, which brings Bosnia and Herzegovina in the lead position in South East Europe, in front of Bulgaria, which was the largest electricity exporter in the region for a longer period of time. Generation by the thermal power plants in Bulgaria became unprofitable due to a decrease in wholesale electricity prices and the implementation of the *EU Emissions Trading System*.

An overview of electric power balance volumes realised in 2023 is provided in Figure 9. The detailed balance volumes and electric power indicators of BIH are provided in Annexes C and D respectively.

European Electricity Market

The trend of decreasing wholesale electricity prices at the European power exchanges, in the period from the middle of August

Figure 9. Balance volumes realised in 2023 (GWh)



until the end of 2022, also continued in 2023. An average price in January was around 150 €/MWh while in December it went down to 81.72 €/MWh (HUPX DAM index). The average annual price amounted to 106.82 €/MWh, which is 60.7% less than the average in the previous year (Table 5).

In 2023, the downward trend in electricity consumption continued in the European Union, by 93 terawatt-hours (TWh) or 3.3%, which is the consequence of a decline in the economic activity, warmer weather and the slow electrification of the transportation sector which may increase the consumption. On the supply side, a significant increase was registered, primarily due to the favourable weather conditions (a 14.8% increase in generation by hydro power plants). The operational readiness of the French nuclear power plants was improved, so their generation increased by 41 TWh, which put France back to the position of the leading exporter in Europe with 50.3 GWh. Furthermore, a number of wind power plants (17 GW) and solar power plants (56 GW) were constructed in the European Union in 2023, with which its installed capacity reached a total of 518 GW. The lower costs of solar power plants construction put their installed capacities (236 GW) in front of the wind power plants (255 GW).

The share of fossil fuels in electricity generation in the European Union fell down below 30% for the first time (Table 6). At the

Table 5. Electricity prices at power exchanges (€/MWh)

PX indices	*Average price*	*Maximum price*	*Minimum price*
EPEX Germany	95.56	202.73	-53.87
EPEX Austria	102.49	202.84	-17.32
SIPX	104.59	201.16	-6.86
HUPX DAM	106.82	206.34	-0.37
IBEX	103.72	198.28	0.00
SEEPEX	103.85	198.50	12.78
CROPEX	104.13	195.16	-4.58

EPEX Germany – European Energy Exchange (EEX) index for Germany
EPEX Austria – European Energy Exchange (EEX) index for Austria
SIPX – Slovenian Power Exchange index
HUPXDAM – Day-ahead index of Hungarian Power Exchange (HUPX)
IBEX – Bulgarian Power Exchange index
SEEPEX – Serbian Power Exchange index
CROPEX – Croatian Power Exchange index

Table 6. Electricity generation in the EU (TWh)

Type of power plant	*2022*	*2023*	*Change (%)*
Nuclear power plants	609	619	1.5
Gas-fired power plants	535	452	-15.4
Hydropower plants	276	317	14.8
Coal-fired power plants	449	332	-25.9
Wind power plants	420	474	13.0
Biomass and biogas	165	153	-7.5
Solar power plants	211	247	25.0
Others	112	102	-3.9
Total	2,777	2,696	-2.9

same time, generation by the wind and solar power plants increased, so the wind power plants took the second place in electricity generation, just after the nuclear power plants, overtaking the gas power plants. A historical turnover is expected in 2024 with the joint share of the wind and solar power plants for the first time exceeding the share of the thermal power plants using fossil fuels (coal and natural gas). This development is in accordance with the EU goals of total decarbonisation of the electricity sector by 2030, that is, 2035.

In the forthcoming period, wholesale prices on the European power exchanges will mostly depend on the generation-side response with the key factor being the pace of the construction of renewable energy facilities, primarily solar photovoltaic capacities which take primacy over other technologies.

Regional electricity market

The trends on the European Union electricity market reflected also on the market in South East Europe, which is of direct interest to the electric power entities in BIH. An average value of the HUPXDAM index, which is dominant in the region, amounted to 106.82 EUR/MWh in 2023 (271.95 €/MWh in 2022). Due to the balance deficit and a large share of fossil fuels in electricity generation, wholesale prices in South East Europe were higher than in the other European regions and may be compared only to the prices in Italy. An overview of generation and consumption is provided in Table 7, which indicates that the deficit in the region amounted to 3.2 TWh, which is due to the better hydrological conditions by 11.9 TWh lower than in the previous year.

The implementation of the *EU Emissions Trading System*, with the decreasing wholesale prices, is the reason for an accelerated coal phase-out in electricity generation. This trend has been present in Romania and Greece, and since 2023 is also registered in Bulgaria where generation by thermal power plants was reduced by 10.2 TWh. At the same time, a number of solar power plants is built, so these capacities reached the significant levels in some countries (Greece 7.2 GW, Hungary 5.6 GW, Slovenia 1.1 GW). The problems with coal exploitation and availability of thermal blocks are still present (Bosnia and Herzegovina, Serbia, North Macedonia, Kosovo*). Serbia and North Macedonia imported the missing quantities, while the reductions in coal delivery in Bosnia

Table 7. Electricity generation and consumption in the region in 2023 (TWh)

Country	*Generation*	*Consumption*	*Difference*
Albania	8.9	8.0	0.9
Bosnia and Herzegovina	14.9	10.7	4.2
Bulgaria	39.7	36.4	3.3
Montenegro	3.4	2.6	0.8
Greece	38.2	43.0	-4.8
Croatia	15.2	17.4	-2.2
Kosovo*	5.2	6.2	-1.0
Hungary	30.9	4.1	-11.2
Romania	55.6	52.4	3.2
North Macedonia	6.7	6.2	0.5
Slovenia	13.9	12.4	1.5
Serbia	33.4	31.8	1.6
Total	266.1	269.3	-3.2

* This designation is without prejudice to positions on status, and is in line with the United Nations Security Council Resolution 1244 and the International Court of Justice Opinion on the Kosovo Declaration of Independence.

and Herzegovina and Kosovo* caused a 13% decrease in generation by thermal power plants. Unlike the EU where the installed capacity of wind and solar power plants increases significantly, the pace of this process in the Western Balkans countries does not guarantee the fulfilment of energy transition goals towards clean energy.

The establishment of national power exchanges was completed in the Western Balkans countries in 2023, except in Bosnia and Herzegovina, which is now the only country in the region without the institutionalised wholesale market. The newly established power exchanges in Albania, Montenegro and North Macedonia still operate with a low turnover in electricity so their integration into the single day-ahead and intraday European market is expected in the upcoming period.

Electricity Market in Bosnia and Herzegovina

In 2023, total electricity consumption in Bosnia and Herzegovina amounted to 11,635 GWh, or 3.5% less than in the previous year. Customers connected to the transmission system withdrew 717 GWh, or 36.2% less, while customers connected to the distribution system withdrew 10,546 GWh, without any increase in comparison to the previous year. Of this amount 9,638 GWh pertain to the withdrawal by end customers and 910 GWh to losses in the distribution network. Total sale to end customers amounted to 10,356 GWh, which is a 3.6% decrease.

The number of electricity customers in BIH reached 1,607,251 at the end of the year, of which 1,476,602 are households and 130,649 customers in all other consumption categories (Table 8).

The competent regulatory commissions do not to set tariff rates for those consumption categories which cannot be regulated any longer under the applicable legislation. With the end of 2014, regulation of supply tariffs for all customers was abolished except for households and customers belonging to the category of 'other consumers' (commercial customers at 0.4 kV). Since 1 January 2015, all customers in BIH have the possibility to choose their suppliers on the market. Customers that do not choose their supplier on the

Table 8. Number of electricity customers in BIH by consumption category

Supplier	*110 kV*	*35 kV*	*10 kV*	*Other Customers (market-based supply)*	*Other Customers (public supply)*	*Households*	*Public lighting*	*Total*
Elektroprivreda BIH	11	67	961	310	67,750	731,603	5,026	805,728
Elektroprivreda RS	5	30	1,055	3,872	27,965	528,537	99	561,563
Elektroprivreda HZHB	3	1	292	2	16,762	183,729	2,145	202,934
Komunalno Brčko		1	75	309	3,449	32,733	455	37,022
Other suppliers			1	3				4
Total	19	99	2,384	4,496	115,926	1,476,602	7,725	1,607,251

market may be supplied by public suppliers at public supply prices, while households and small customers may be supplied within the public, that is, universal service at regulated prices.

In 2023, 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 8.18 euro cents/kWh and it was 1.85% higher than in 2022 when it amounted to 8.06 euro cents/kWh. An average price for households amounted to 7.65 euro cents/kWh (a 3.7% increase), while an average price for customers belonging to the category of 'other consumers', that are supplied under the public, that is, universal service, was 9.89 euro cents/kWh, or 1.9% higher in comparison to 2022.

The average electricity prices for end customers in BIH are presented in Figure 10, while Figure 11 gives an overview of average electricity prices per public suppliers in 2023.

The Regulatory Commissions in BIH work on the gradual elimination of inherited cross-subsidies among some categories of electricity customers, which is done in accordance with best international regulatory practice in order to avoid so-called 'tariff

Figure 10. Average electricity prices by customer category, excluding VAT (euro cents/kWh)

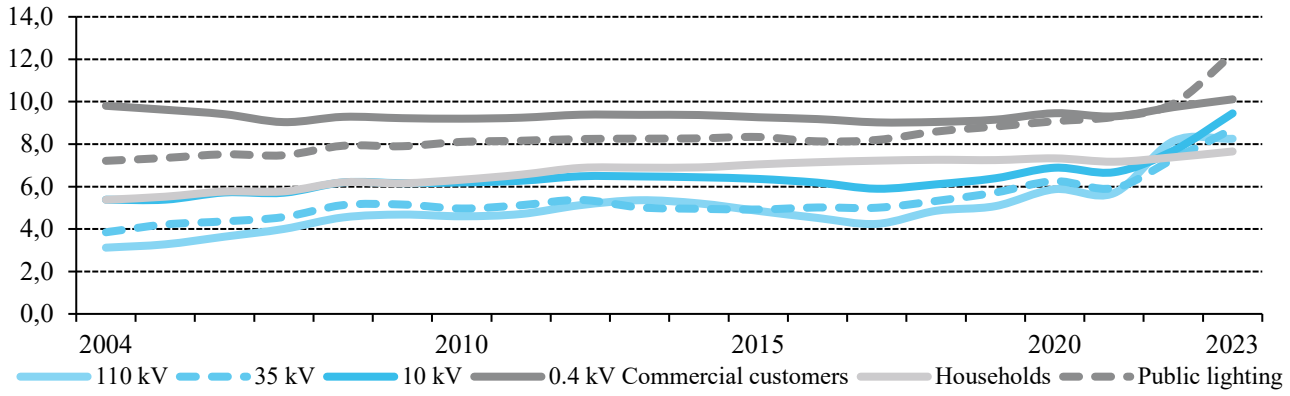
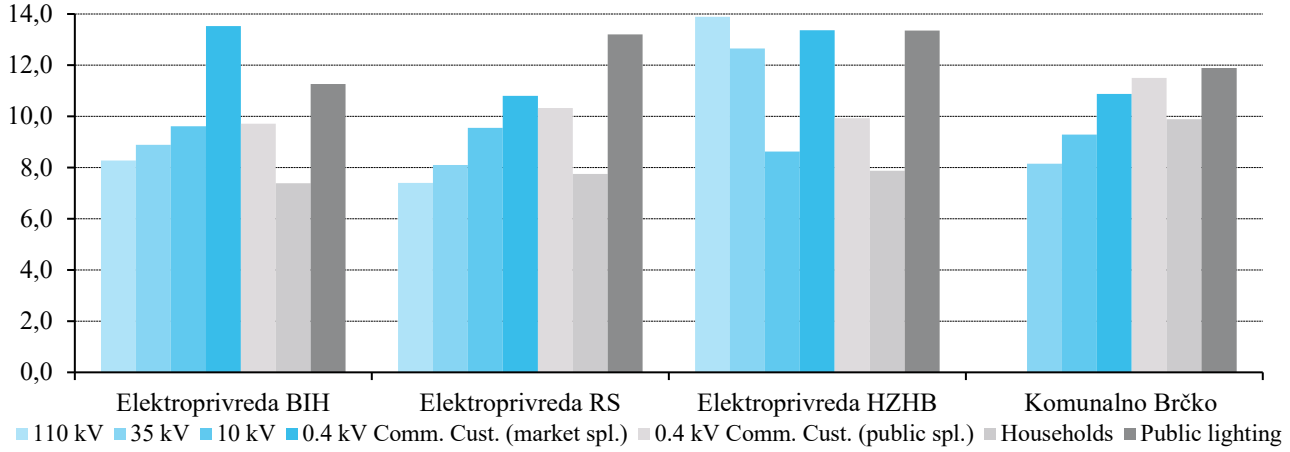


Figure 11. Average electricity prices by public utility, excluding VAT (euro cents/kWh)



shocks.' The trend of changing the ratio of the average prices between small commercial customers and households is visible in Figure 10. According to the 2023 data, cross-subsidies between these categories amount to 29.2% on average, with the lowest values recorded among the customers supplied by Komunalno Brčko (16.3%), while the highest values were recorded among the customers supplied by Elektroprivreda RS (33.4%). There is an obvious need for further reduction of cross-subsidies, thus complying with the basic regulatory principle of reflecting real costs in price formation. This would facilitate market competition also in supply of households, i.e., open up possibilities for suppliers on the market to offer more favourable prices and become competitive in this market segment as well.

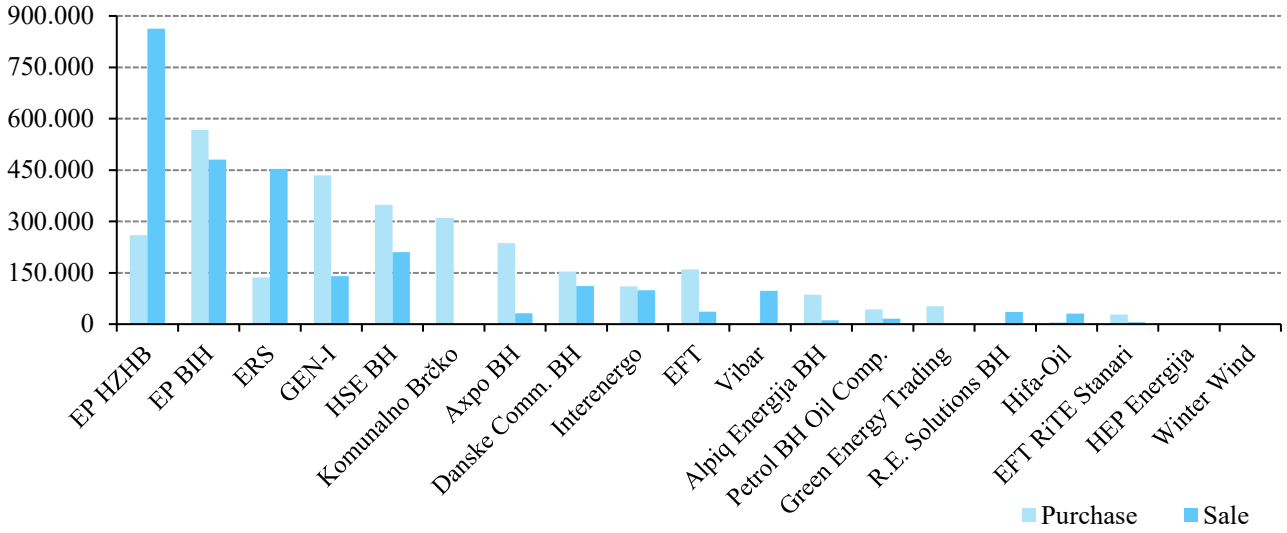
As of 1 January 2016, on the retail market in Bosnia and Herzegovina the first cases of supplier switching were registered among the customers connected to the distribution system since when their number varies on a monthly basis. In 2023, the largest number of customers was supplied by their traditional suppliers (the so-called 'incumbents'). A significant increase in wholesale prices decreased competition on the retail market, so, in addition to the incumbents, three more suppliers were active on the retail market: HEP Energija d.o.o., Mostar, Petrol BH Oil Company d.o.o., Sarajevo and Energy Financing Team d.o.o., Bileća. They delivered to the customers connected to the medium voltage network and the customers falling under the category 'other consumers' a total of 9.98 GWh. The incumbents supplied all the customers connected to the transmission system, except an amount of 9.82 GWh which was delivered by Elektroprivreda RS to the production facilities which Metalleghe Silicon d.o.o., Mrkonjić Grad has in Jajce. Elektroprivreda BIH supplied one 10 kV customer located in the distribution area operated by Elektroprivreda HZHB with a delivery amounting to 3.10 GWh.

In conclusion, in 2023 a total of 22.90 GWh was delivered to customers that switched suppliers, or only 0.2% of total energy withdrawn by end customers in BIH. In the previous period, tens of thousands of customers changed the conditions of supply by modifying the contract with their previous traditional suppliers, thus choosing on the open market the supply offer that suited them best.

A total of 6,520.97 GWh was delivered to the customers supplied within the public, that is, universal service (63.0% of total consumption by end customers), while 3,834.69 GWh (37.0%) was delivered to the customers for whom prices are not regulated.

Trading on the wholesale market in Bosnia and Herzegovina, which is based on bilateral sales contracts between suppliers, is significantly more dynamic (Figure 12.). Although this market has not been institutionalised yet (there is no either market operator or power exchange), the result of numerous bilateral contracts is significant – a total of 20 active licensed entities traded 2,902 GWh on the internal market. Furthermore, cross-border transactions were also registered totalling 6,065 GWh, of which exports amounted to 5,148 GWh while imports amounted to 917 GWh.

Figure 12. Overview of trading on the wholesale market in BIH in 2023 (MWh)



In addition to the wholesale and retail markets, in Bosnia and Herzegovina the balancing market operated by the ISO BIH is also functional. Essentially, it is a *monopsony* market, where on the demand side there is only one entity – the ISO BIH, while on the supply side there are mostly generators providing ancillary services. The calculation of deviations (imbalances) of balance responsible parties from the daily schedule is also conducted on the balancing market in terms of energy and prices. Imbalance prices are determined based on prices of balancing energy on an hourly basis. All transactions between suppliers on one side and the ISO BIH on the other are conducted based on the market principles through annual and monthly bids while prices of the balancing energy are formed a day ahead through offers by suppliers on an hourly basis.

The total value of ancillary services purchased on the balancing market in 2023 amounts to EUR 30.84 million of which EUR 20.43 million pertains to the purchase of energy to cover losses in the transmission system, EUR 0.87 million to payment of deviations towards the SHB Load Frequency Control Block (SHB LFC Block) – the so-called *FSKAR* calculation, and EUR 9.52 million to payment of balancing capacity and balancing energy (Table 9).

The upward balancing energy was activated in an amount of 45.04 GWh (of which 3.39 GWh pertain to positive frequency containment reserve – FCR, 37.87 GWh to automatic frequency restoration reserve – aFRR, and 3.79 GWh to manual frequency restoration reserve – mFRR). The downward balancing energy was activated in an amount of 78.82 GWh (of which 4.09 GWh pertain to negative FCR, 74.28 GWh to aFRR, and 0.45 GWh to mFRR). As far as imbalances of the balance responsible parties are concerned, deviations in the direction of deficit (shortage) and the direction of surplus (excess) were recorded totalling

Table 9. Values of purchased ancillary services

Ancillary service	*2022 (EUR)*	*2023 (EUR)*	*Difference (%)*
FCR – capacity		424,738	
aFRR – capacity	2,518,241	3,715,163	47.5
mFRR – capacity	1,588,879	4,060,378	155.5
'Upward' balancing energy	12,231,345	6,140,813	-49.8
'Downward' balancing energy	-6,899,590	-4,822,130	-30.1
Losses in the transmission system	19,761,297	20,432,180	3.4
Deviations towards SHB LFC Block (*FSKAR* calculation)	16,590,350	884,909	-947
Total	45,790,523	30,836,051	-32.7

46.14 GWh and 45.67 GWh respectively, which resulted in a deficit towards SHB LFC Block amounting to 0.47 GWh. The average imbalance prices reached 104.97 EUR/MWh and 39.93 EUR/MWh for energy deficit and surplus respectively.

By the provision of system service, from suppliers withdrawing energy from the transmission system and through the calculation of deviations from the daily schedule by balance responsible parties, the ISO BIH made revenue of EUR 38,874,565 of which EUR 25,648,161 and EUR 13,226,404 were collected for the system service tariff and imbalances respectively.

With a decrease in the wholesale electricity prices in 2023 the prices of balancing energy also decreased, and, consequently, the prices of imbalances as well. That resulted in a decrease in the revenues from imbalances, after a significant increase of these revenues had been registered in the previous two years. Furthermore, exports and imports of cross-border balancing services were registered amounting to EUR 256,219 and EUR 2,800 respectively.

Cross-Border Trade

Good connections of the BIH system with the neighbouring electric power systems enable a high level of cross-border electricity exchange. Due to an increase in generation and a decrease in consumption, electricity exports increased, so in 2023 a total of 5,148 GWh was exported, or 30.4% more than in the previous year. A total of 18 entities exported electricity, among which EFT – Rudnik i Termoelektrana Stanari with 1,997 GWh was the leader in terms of the export scope, followed by Elektroprivreda Republike Srpske with 1,010 GWh, GEN-I with 370 GWh, HSE BH with 332 GWh etc.

Electricity imports amounted to 917 GWh, which is a 6.1% increase compared to the previous year. Among the 16 entities importing to BIH, the highest electricity imports were achieved by HSE BH (194 GWh), Elektroprivreda Republike Srpske (139 GWh), HEP Energija (124 GWh), Danske Commodities BH

Table 10. Cross-border trade per border, including registered transits (GWh)

Country	*Exports*	*Imports*
Croatia	2,489.4	2,008.4
Serbia	2,810.1	1,534.1
Montenegro	3,084.1	610.0
Total	8,383.6	4,152.5

(106 GWh), etc. The largest scope of cross-border electricity trading was achieved on the border with Croatia followed by Serbia and Montenegro (Table 9). An overview of cross-border transactions by company in 2023 is provided in Figure 13.

In 2023, registered electricity transits through the BIH transmission system amounted to 3,235 GWh, which is a decrease of 162 GWh, or 4.8% in comparison to the previous year. Transit flows are of special importance because they are used as the basic element to calculate revenues and expenditures within the *Inter-TSO Compensation Mechanism* (ITC mechanism). As the calculation of the ITC mechanism is significantly delayed due to a complex procedure, the complete data for 2022 were published just at the end of 2023. According to these data, the expenditures of BIH amount to a total of EUR 2,061,866, which is the third time in a row without any revenues in the specified timeframe. According to the rules, increased transit flows increase revenues, while increased import and export flows increase expenditures.

The total revenue of BIH based on the auctions for allocation of cross-border transmission capacity on an annual basis, which were held at the beginning of December 2023 for the upcoming year, amounts to EUR 7,482,958, which is the second highest revenue (Table 12). For the second year in a row, the highest price was reached on the border with Montenegro amounting to 3.11 €/MWh

Figure 13. Overview of cross-border transactions by company in 2023 (MWh)

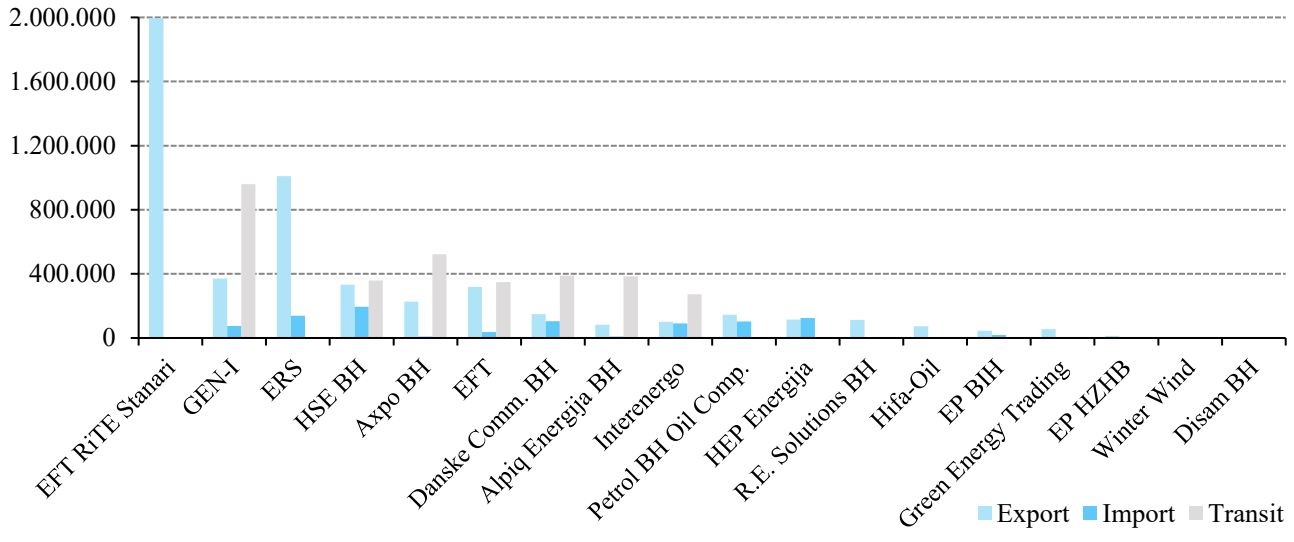


Table 11. Revenues generated from annual auctions

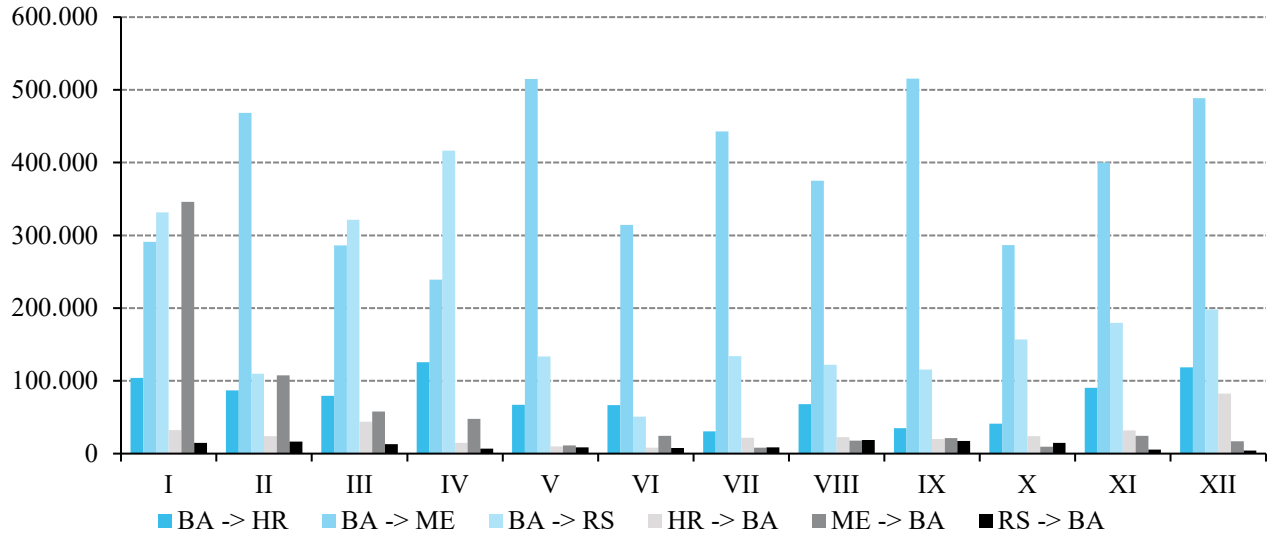
Year	*Revenue (EUR)*	*Year*	*Revenue (EUR)*
2013	1,041,054	2019	1,372,254
2014	1,485,638	2020	1,332,094
2015	558,187	2021	1,806,487
2016	486,765	2022	4,046,638
2017	1,033,461	2023	8,777,301
2018	599,097	2024	7,482,958

for 200 MW of transmission capacity in the direction from BIH. In the direction from BIH to Croatia (for capacity of 400 MW) and in the direction from BIH to Serbia (for capacity of 150 MW), the same price of 1.67 €/MWh was reached. On all borders in the direction to BIH, the price for the same amounts of offered capacities are several times lower.

Figure 14 provides an overview of revenues based on monthly auctions per border and direction. In 2023, these revenues decreased by 20.5% in 2023 amounting to EUR 8,156,874. Daily and intraday auctions of cross-border transmission capacities in 2023 resulted in the revenues of EUR 816,974, which is 61% less in comparison to the previous year.

In accordance with the rules, Elektroprenos BIH is the user of all revenues based on the allocation of the right to use cross-border transmission capacities as well as the revenues achieved by the application of the ITC Mechanism.

Figure 14. Revenues based on monthly and daily auctions, per border and direction (EUR)



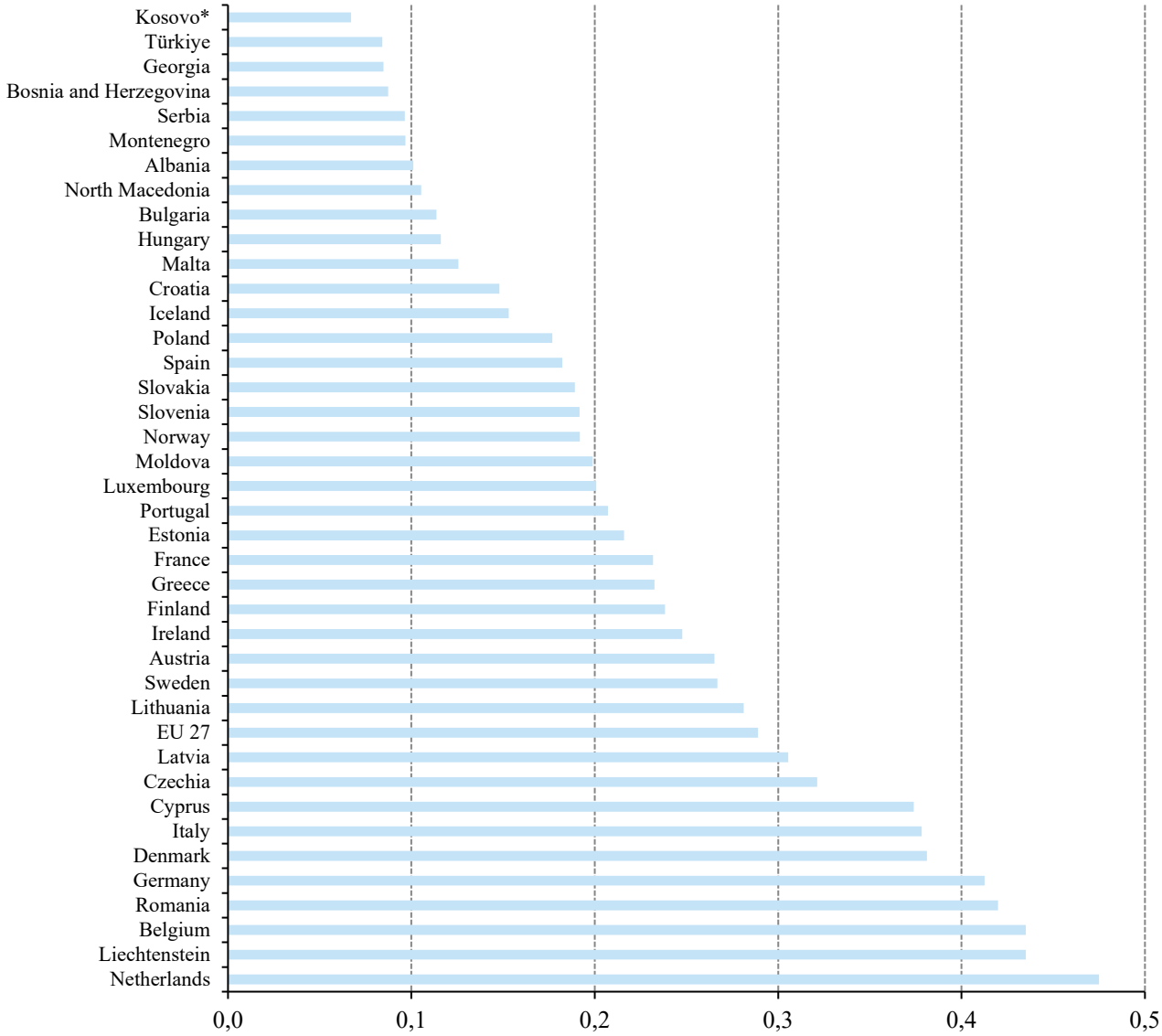
3.8 Energy Statistics

Aware of the relevance of objective presentation of data on energy volumes and electricity prices, in 2023 SERC continued to pay particular attention to enhancing its performance in the segment of energy statistics.

Agency for Statistics of Bosnia and Herzegovina

The key partner in the exchange of energy volumes and data is the Agency for Statistics of Bosnia and Herzegovina (BHAS) with which SERC has been cooperating for many years, in particular with regard to fulfilling the reporting requirement of international bodies in line with prescribed methodologies and reporting dynamics. The cooperation between the two institutions contributes to energy statistics development and harmonisation of the BIH official system of statistics with statistics of the EU countries in all fields, in particular in the field of energy statistics.

Figure 15. Electricity prices expressed in EUR/kWh for households (annual consumption from 2,500 to 5,000 kWh) in the first half of 2023, using Eurostat methodology



Note: All taxes and levies included

Figure 16. A geographic overview of electricity prices for households (in EUR/kWh) in the first half of 2023, using Eurostat methodology

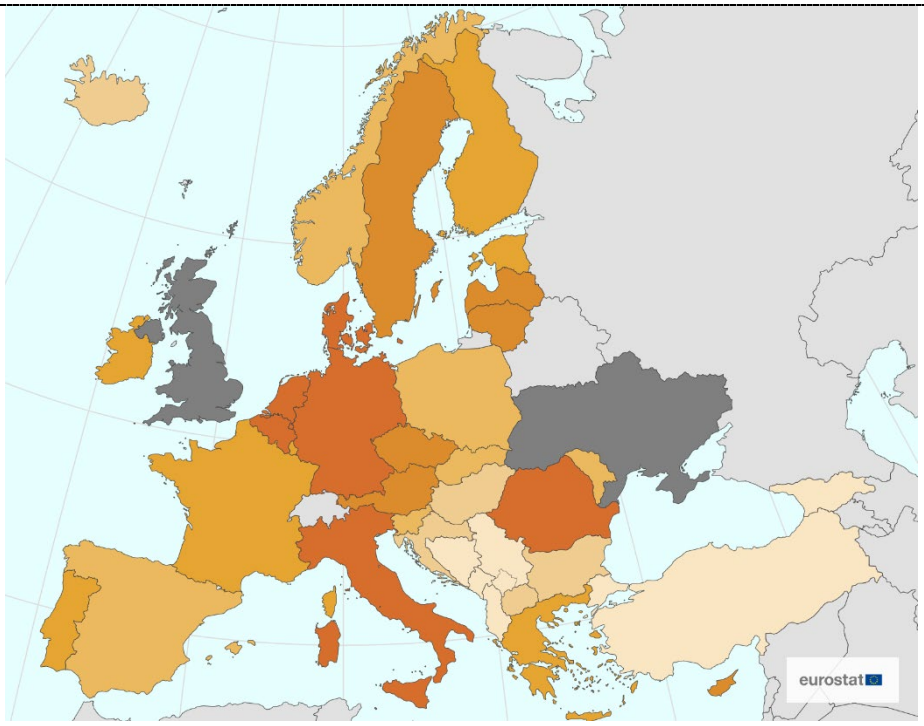
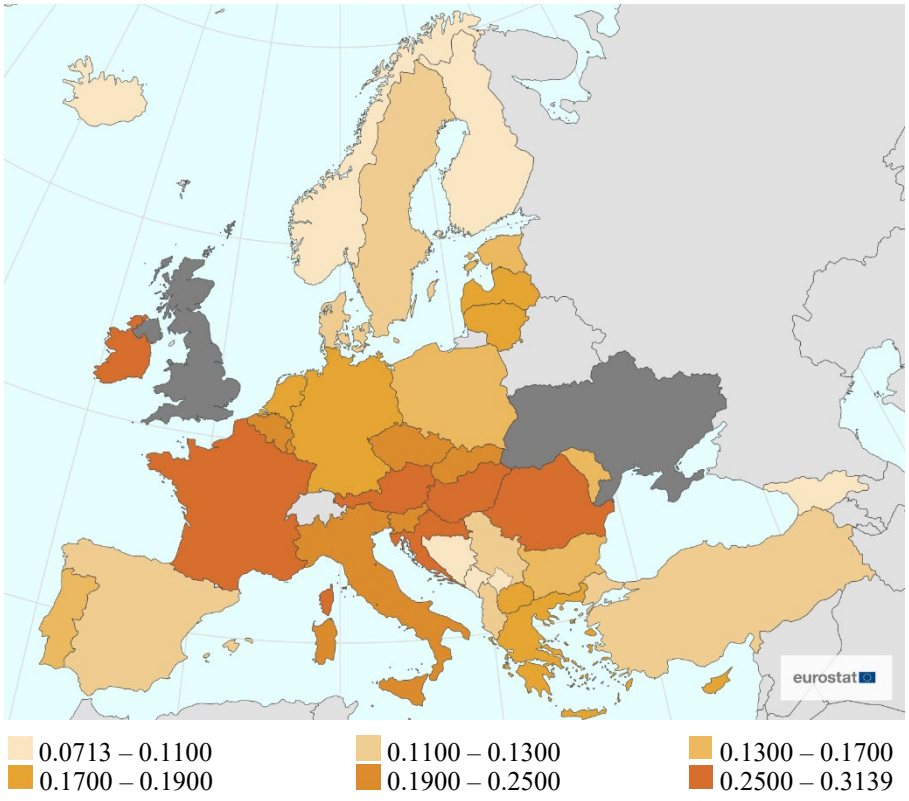


Figure 17. A geographic overview of electricity prices for industrial customers (in EUR/kWh) in the first half of 2023, using Eurostat methodology



The results of cooperation between the two institutions are recognisable in Eurostat's reports, which include data on electricity prices in Bosnia and Herzegovina since 2011, thus enabling their comparison with the EU countries and some countries that are in the EU accession process (Figures 15 – 18).

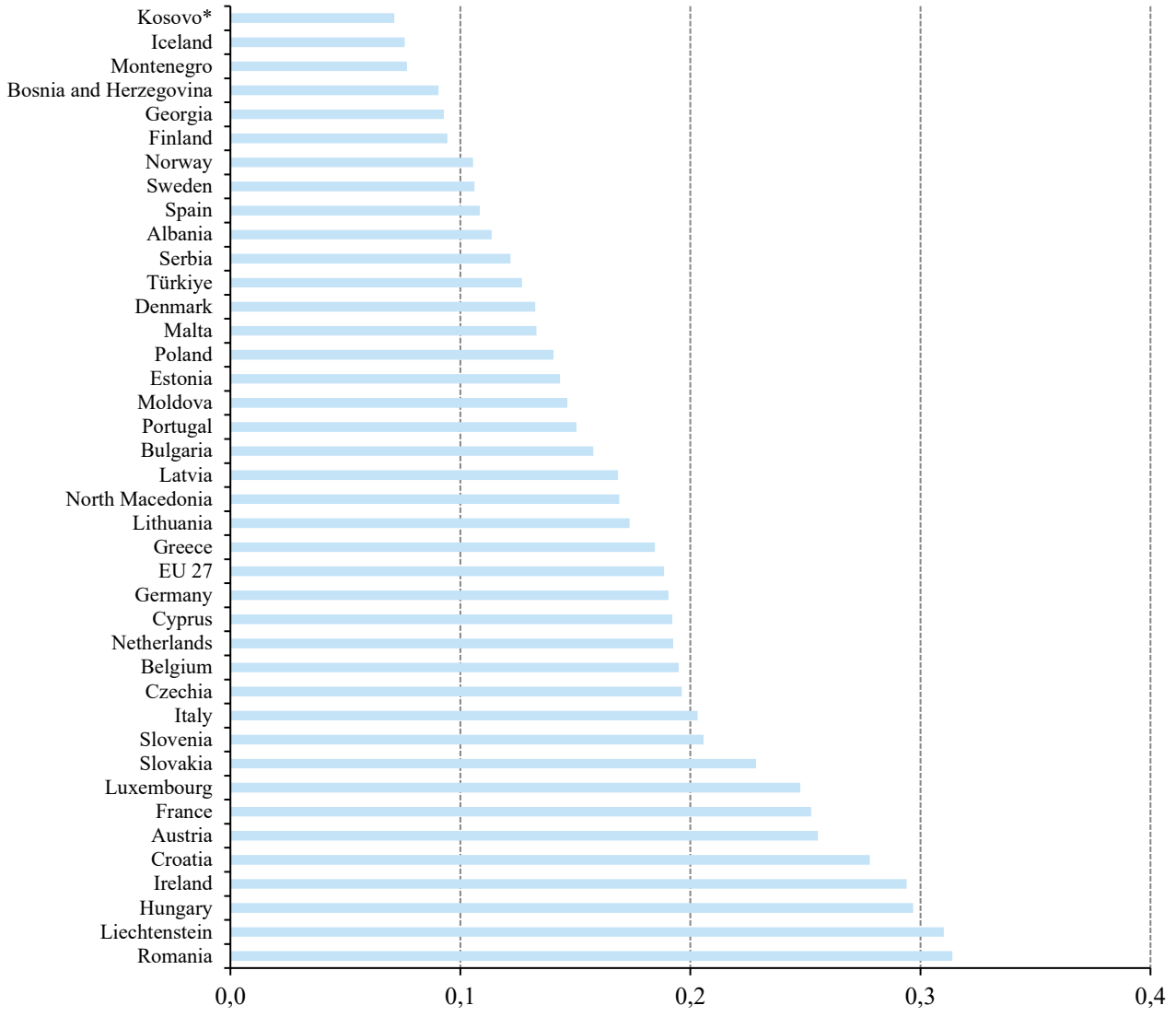
In addition to analysing data on the BIH electric power sector, SERC continuously collects and analyses data on regional markets, including data on the power exchanges seated in Leipzig, Budapest, Bucharest, Ljubljana, Belgrade and Zagreb (Table 5).

Based on a systematic approach to numerous electric power indicators, SERC provided quality answers to a number of inquiries by national and international institutions also in 2023 by presenting statistical data on the electric power sector of Bosnia and Herzegovina.

eurostat

Eurostat is the statistical office of the European Union situated in Luxembourg. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.

Figure 18. Electricity prices expressed in EUR/kWh for industrial customers (annual consumption from 500 to 2,000 MWh) in the first half of 2023, using Eurostat methodology



Note: All taxes and levies included

3.9 Judicial and Other Disputes

All six judgements of the Court of Bosnia and Herzegovina so far have confirmed the lawfulness of the SERC decisions that were disputed before court by the legal persons whose applications were decided upon after the completion of the tariff proceedings or dispute settlement procedures. In 2023, there were no new applications for revision of any decision from the SERC regulatory practice by any person that has standing to commence an action.

One of the regulatory specifics is the adjudicative function of the regulator, that is, the competence to resolve disputes among the users and service providers in the regulated sector. Pursuant to the *Law on Transmission of Electric Power, Regulator and System Operator of BIH*, part of SERC competences and powers includes dispute resolution pertaining to the transmission system. In 2023, there were no new dispute resolution requests under SERC competence.

In addition to directly ensuring the right to fair and non-discriminatory access to the transmission network and the active protection of customers through dispute resolution, the State Regulatory Commission makes every effort to act in an educative and preventive manner and these efforts significantly prevent these disputes. The preventive activities are carried out in several ways – by monitoring the regulated entities and the quality of services they provide, by collecting, analysing and processing data on rules and actions of the regulated entities with regard to access to the transmission network and the protection of customers and by the active participation of SERC representatives in creating various platforms and educative tools for system users and electricity customers.

3.10 Other Key Activities

The State Electricity Regulatory Commission continued to exchange data with a number of state institutions in 2023, including the Council of Ministers of Bosnia and Herzegovina, Ministry of Foreign Trade and Economic Relations of BIH, Directorate for European Integrations of the BIH Council of Ministers, Competition Council of BIH and BIH Agency for Statistics,[4] and prepared different types of information they needed. SERC gave a particular contribution to activities of the Stabilisation and Accession Committee and a Subcommittee on Transportation, Environment, Energy and Regional Development. In line with its legal powers to act in the area of Brčko District of BIH as a regulatory authority, through its activities SERC also cooperates with the Brčko District Government.

Since their establishment, the State Regulatory Commission and Entity Regulatory Commissions – the Regulatory Commission

[4] The State Electricity Regulatory Commission signed Memoranda of Understanding with the BIH Agency for Statistics and Competition Council of BIH on 19 April 2011 and 28 May 2014 respectively.

for Energy in the Federation of BIH (FERK) and the Regulatory Commission for Energy of Republika Srpska (RERS) cooperate and harmonise their activities.

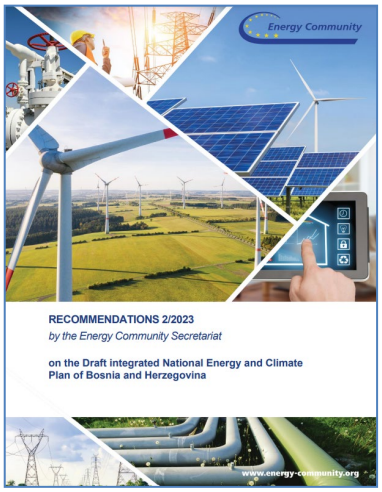
SERC continues its active engagement in the reform and the development of an EU-*acquis* compliant legislative framework for electricity. In this process, based on the obtained regulatory experience in the implementation of laws in the electricity sector and previous education and cooperation with the relevant international institutions, SERC expressed its commitment to provide support and concrete assistance in the fulfilment of obligations of Bosnia and Herzegovina through various normative activities.

At the request of the Ministry of Foreign Trade and Economic Relations of BIH, which is the competent authority for policy creation under the *Law on Transmission of Electric Power, Regulator and System Operator of BIH*, SERC nominated its representatives for *the Working Group for continuation of activities on the development and harmonisation of the Law on Electricity and Natural Gas Regulator, Transmission of Electric Power and Electricity Market in Bosnia and Herzegovina*. SERC expects that transposition of the legally-binding part of the *Third EU Energy Package* and *Clean Energy for All Europeans* Package into national legislation would be completed with the developments of the new state law.

It should be noted that a new package of electricity market rules in the Energy Community was completed, with the obligation to transpose them into the national legislation and ensure their implementation by the end of 2023 (please see Section 4.1 and Annex E).

Acting in line with its competence, SERC supports the development of an *Integrated Energy and Climate Plan of Bosnia and Herzegovina (NECP)*. The Ministry of Foreign Trade and Economic Relations of BIH together with the relevant entity ministries is in charge of its development. SERC participates in the activities of an intradepartmental working group established to develop this plan as well as in activities of the Energy Efficiency Task Force, Task Force on Renewables and the Security of Supply and Internal Energy Market Task Force.

The draft NECP was submitted to the Energy Community Secretariat for its review on 30 June 2023. At the end of December of the same year, pursuant to Article 9 of *Regulation (EU) 2018/1999 on the governance of the energy union and climate action*, the Secretariat assessed the draft Plan and provided its detailed recommendations. It was pointed out that the Plan is missing the analytical part, which is essential for the necessary overview of Bosnia and Herzegovina's planned path towards achieving its 2030 targets in renewables, energy efficiency and the reduction in greenhouse gas emissions. A more concrete formulation of policies and measures is required reflecting the precise actions which the authorities of Bosnia and Herzegovina are planning to take to facilitate the green transition.



Bosnia and Herzegovina is invited to bring its 2030 targets regarding energy efficiency (maximum level of primary energy consumption) in line with the Energy Community's 2030 targets. Under *Regulation (EU) 2018/1999 on the governance of the energy union and climate action* the Contracting Parties are required to take due account of all recommendations from the Secretariat in their final NECP, which should be adopted and submitted by 30 June 2024.

Upon invitation of the Ministry of Foreign Trade and Economic Relations of BIH, SERC actively participates in activities of the Working Group for the Establishment of the Energy Management Information System and Energy Efficiency Information System in the BIH institutions (EMIS).

SERC also provides significant support within the *Program of Integration of Bosnia and Herzegovina into the European Union*, through active participation in the activities under Chapter 15 – Energy, Chapter 21 – Trans-European Networks, and Chapter 28 – Consumer and Health Protection.

In 2023, SERC representatives continued to actively participate in the implementation of a World Bank project, under which a *Study on electricity storage and balancing services in Bosnia and Herzegovina* is prepared.

In 2023, SERC representatives actively participated in the projects of the German Agency for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit – GIZ*): *Decarbonisation of the Energy Sector in Bosnia and Herzegovina,* which was finalised in the previous year, and the project titled *Community Action for Energy Transition in Bosnia and Herzegovina*, which was launched in December 2023 as well as in the regional project *Green Agenda: Decarbonisation of the Electricity Sector in the Western Balkans* launched in the middle of 2023.

Acting as a national regulator in representing the interests of Bosnia and Herzegovina, SERC participated in several regional projects in 2023. Among them, the projects organised by the United States Agency for International Development (USAID) and the National Association of Regulatory Utility Commissioners (NARUC) on the following topics should be pointed out:

- Women's Global Development and Prosperity Initiative: Advancing Women Leaders in Energy,
- Preparing transmission system operators for the winter season,
- The role of regulators in the implementation of energy efficiency obligation schemes,
- Cybersecurity, and
- Communications and public outreach.

In these areas a number of training sessions were organised in 2023 as part of the Regulatory Partnership of energy regulators in Bosnia

and Herzegovina (SERC, FERK and RERS) with NARUC, which is supported by USAID. *A Memorandum of Understanding* between the parties to the Regulatory Partnership was signed in January 2014. Since then, information and experience had been exchanged, and the best practices introduced enabling the regulators to continue to create and implement non-discriminatory and independent regulation with the aim of ensuring efficient, transparent and stable functioning of the power sector and, at the same time, protecting interests of customers and investors.

USAID Energy Policy Activity

In September 2019, the United States Agency for International Development launched a five-year *USAID Energy Policy Activity* (USAID EPA) under which USAID is helping Bosnia and Herzegovina attract investors and integrate its energy market into regional and EU markets.

This project provides technical assistance to coordinate, manage, and improve the legal framework and transparency in the gas and electricity sectors. Through these activities, legislative and other measures at all levels of government will be developed and recommended to ensure that the BIH energy sector legislation is compliant with EU requirements. The project also supports an appropriate public outreach and awareness program to promote a liberalised market-based energy sector and educate general public about the benefits of the changes taking place in the energy sector.

Creating a transparent and competitive legislative and regulatory framework and integrating the BIH energy sector into the regional and EU markets is vital to attract new investments which contribute to the diversification of sources, prevention of corruption and the increased security of supply. In this context under the USAID EPA project several analyses, recommendations and other documents were prepared in 2023 among which *Concept design for the day-ahead and intraday markets, Recommendations for systematic energy efficiency approaches in BIH* and *Analysis of the compliance of the BIH Grid Code* should be emphasised.

SERC representatives directly participate in the activities under this project which are conducted by the Working group for day-ahead and intraday markets, the Working group for cybersecurity in the energy sector, the Working group for the demand side management system development, the Working group for balancing of households and small commercial customers and Public outreach working group.

After the successful organisation of the previous Energy Summits whereby a new model of dialogue was established on the latest issues in the energy sector, the United States Government through the Energy Policy Activity of the United States Agency for International Development (USAID EPA), the British Embassy in Sarajevo, the EU Delegation to BIH, the German Agency for International Cooperation (GIZ) on behalf of the Government of the Federal Republic of Germany, the United Nations Development

Programme (UNDP) and the Ministry of Foreign Affairs of the Czech Republic organised the Energy Summit 2023 in Bosnia and Herzegovina.

The Summit was held in Neum from 26 to 28 April 2023, under the auspices of the Ministry of Foreign Trade and Economic Relations of BIH, the State Electricity Regulatory Commission, the Regulatory Commission for Energy in the Federation of Bosnia and Herzegovina and the Regulatory Commission for Energy of Republika Srpska.

This gathering brought together representatives from the national and entity parliaments, ministries and regulatory authorities, municipalities, electric power utilities, chambers of commerce, small and medium enterprises, non-governmental organisations and media, and representatives of international organisations and donors active in the sector. It was announced that the Energy Summit 2024 in Bosnia and Herzegovina will be held in Neum from 23 April to 26 April 2024.

EU4Energy

In November 2022, the three-year *EU4Energy* programme was launched, that is, European Union technical assistance to the energy sector in Bosnia and Herzegovina.

The purpose of this project is to provide the necessary technical assistance to support the systematic energy sector reform in the country, including the fulfilment of the obligations of Bosnia and Herzegovina under the *Energy Community Treaty, Paris Agreement* and other relevant international documents.

The project focuses on implementing and monitoring a new legislative framework, improving institution capacity building, and providing knowledge and technical assistance in effective energy sector management. The project supports investment in the public sector and sustainable pilot projects in local communities that will promote the transition to a greener, environmentally friendly, and more sustainable circular economy, which in turn will increase political stability across the country.

The project includes the following components:

- Energy sector reforms, including the development of new energy and climate policies and the harmonization of relevant legislation with the EU and Energy Community *acquis*,
- Capacity building at all levels of government for the energy sector transition,
- Increasing public awareness of energy-related matters,
- Supporting dialogue with both the public and energy sector stakeholders to inform and help them understand the benefits of energy reform.

The areas covered by the project include electricity, gas, internal energy market, security of supply, environment/climate, competition, renewable energy sources, energy efficiency, oil, statistics and infrastructure.

The State Electricity Regulatory Commission participates in the implementation of this project in line with its competences.

4. ACTIVITIES IN INTERNATIONAL INSTITUTIONS

4.1 Energy Community

The Treaty establishing the Energy Community, which was signed in Athens on 25 October 2005, and came into effect on 1 July 2006, provides for the creation of the biggest internal market in the world for electricity and gas, with effective participation of the European Union on one side, and the following nine Contracting Parties: Albania, Bosnia and Herzegovina, Georgia, Kosovo*, Moldova, Montenegro, North Macedonia, Serbia and Ukraine.[5]

In accordance with the expression of interest, the following countries participate in the work of the Energy Community bodies: Austria, Bulgaria, Croatia, Cyprus, the Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Poland, Romania, Slovakia, Slovenia and Sweden. These 19 countries have the status of Participants and directly participate in the work of the Energy Community bodies; in the voting procedure their positions are expressed by votes of the European Commission.

Armenia, Norway and Turkey have observer status in the Energy Community.

By signing the Treaty, the Contracting Parties from the region are obligated to establish a common electricity and gas market that will operate in accordance with the standards of the EU energy market into which it will integrate. It is to be achieved by gradual transposition of the EU *acquis*, which means the implementation of the relevant EU directives and regulations pertaining to electricity, gas, security of supply, oil, environment, renewables, energy efficiency, infrastructure, competition and statistics (Annex E).

To ensure an adequate process of establishing and functioning of the Energy Community, the following institutions were established: Ministerial Council, Permanent High Level Group, Regulatory Board and Secretariat. Whereas the Electricity Forum (Athens Forum) and the Gas Forum were established by the Energy Community Treaty, the Oil Forum was established by a Ministerial Council Decision in 2008. The Law Forum, Just Transition Forum, Competition Forum, Dispute Resolution Forum and Forum for Advancing Renewable Investments convene on the basis of the Secretariat's initiative.

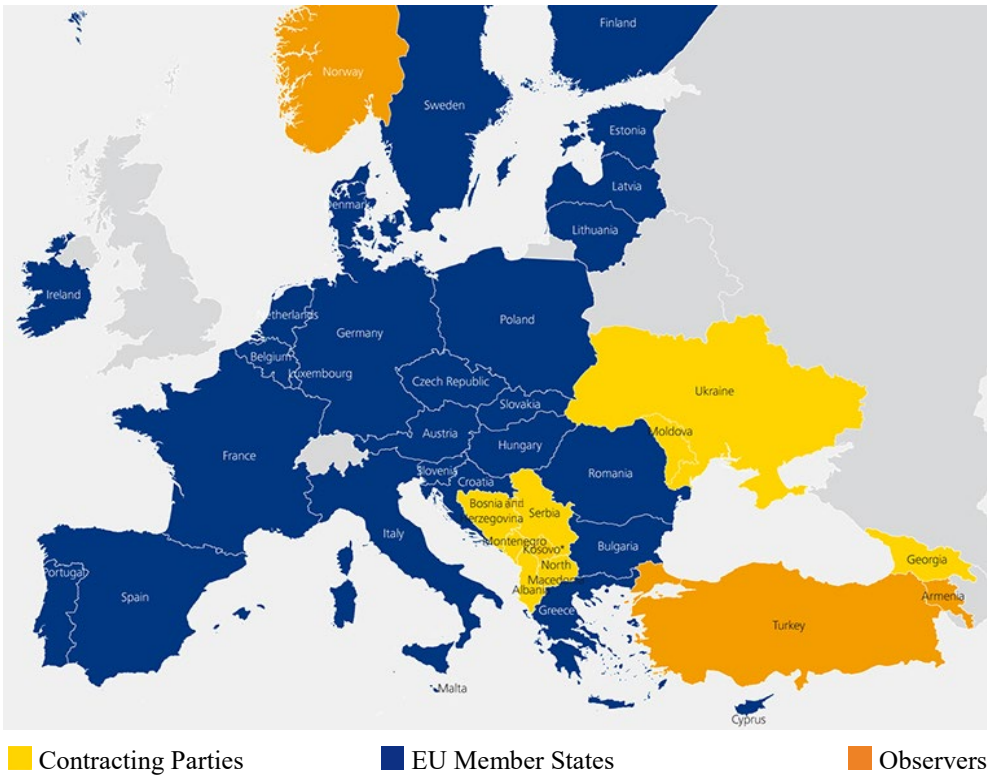
The Ministerial Council, as the highest body of the Energy Community, ensures the achievement of Energy Community goals. It consists of one representative of each Contracting Party and two representatives of the European Union.

The main goals of the Energy Community are the creation of a stable and single regulatory framework and market space that ensures reliable energy supply and attracts investments in the electricity and gas sectors. In addition, it assumes the development of alternative sources of gas supply and improvement of the environment, with the implementation of energy efficiency and the utilisation of renewable sources.

[5] The list shows the Contracting Parties on 31 December 2022. Moldova, Ukraine and Georgia have Contracting Party status as of 1 May 2010, 1 February 2011 and 1 July 2017 respectively.

When the Treaty entered into force, Bulgaria and Romania were also the Contracting Parties which joined the European Union on 1 January 2007 as well as Croatia which is an EU Member State as of 1 July 2013.

Figure 19. Geographic scope of the Energy Community



The Permanent High Level Group (PHLG) brings together senior officials from each Contracting Party and two representatives of the European Commission, ensuring continuity of and follow-up to Ministerial Council's meetings and deciding on implementation of measures in certain cases.

The Energy Community Regulatory Board (ECRB), seated in Athens, is composed of representatives of the regional national regulatory bodies, while the European Union is represented by the European Commission, with the assistance of one regulator of each EU participant and one representative of the Agency for the Cooperation of Energy Regulators (ACER). The ECRB considers the issues of regulatory cooperation and may become a body issuing regional regulatory decisions and serving as a dispute resolution institution. The Regulatory Board has a key role in expanded market operation.

The Energy Community Fora bring together all interested stakeholders – representatives of governments, regulators, industry, customers, international financial institutions etc.

The Energy Community Secretariat, seated in Vienna, represents the key administrative actor and, together with the European Commission, ensures the necessary coordination and supports the work of other institutions. The Secretariat is responsible for reviewing the proper implementation of Contracting Parties' obligations under the Treaty, and it submits yearly progress reports to the Ministerial Council. To this extent, the Secretariat acts as a '*guardian'* of the Treaty, while the European Commission plays a general coordinator role.

In the past period, the Energy Community has grown into a mature organisation, which provides a solid institutional framework for co-operation, mutual support and exchange of experiences and, therefore, serves as a model for regional cooperation on energy matters.

The significant support to the energy market development is provided by the measures adopted in the framework of the 'Berlin Process', i.e. the initiative of six Western Balkans countries (WB6 initiative) which includes Albania, Bosnia and Herzegovina, Kosovo*, North Macedonia, Montenegro and Serbia. The Berlin Process is a high-level political and diplomatic initiative launched in 2014 with the aim of supporting the reform efforts of the countries in South East Europe on their European path.

Nine years after its establishment, the Berlin Process Summit was held in Tirana on 16 October 2023. The summit brought together heads of states or governments from the Western Balkans and their counterparts from nine EU Member States (Austria, Bulgaria, Croatia, Greece, Germany, France, Italy, Poland, Slovenia), the United Kingdom and high-level EU representatives with the participation of the most relevant international financial institutions and regional and international organisations.

On that occasion, in the current context of the geopolitical uncertainty and war on the European soil, the importance of regional cooperation was stressed in particular. The importance of strengthening trade, energy and transport ties in the Western Balkans as well as between the region and the EU was highlighted. The necessity of bridging the socio-economic gap between the Western Balkans and the EU was emphasised.

Olaf Scholz, Chancellor of the Federal Republic of Germany:
"Climate change is having a particularly marked effect on Western Balkan states. Through a regional German-Western Balkan Climate Partnership we want to support the fight against climate change and give specific support for the use of renewable energy... Germany would provide 1.5 billion euros in the period up to 2030 for these goals."

(Tirana, 16 October 2023)

The leaders of the Western Balkans Six and the Federal Republic of Germany supported the *Joint Declaration of Intent on the Regional Climate Partnership*. They declared their intention to deepen their strategic dialogue on climate and expand cooperation in socially just and green energy transition focusing on energy efficiency and renewable energy sources, sustainable urban development, tourism, transport and agriculture.

With regard to *the Declaration on Energy Security and Green Transition in the Western Balkans* from 2022, the Summit participants emphasized the strong commitment to the joint green transition goals which is supported by the *Decarbonisation Roadmap for the Contracting Parties of the Energy Community*, which was adopted in November 2021 in the context of the *Green Agenda for the Western Balkans*.[6]

The participants highlighted the importance of aligning legislation with the European Union in the energy sector, with a view of enabling full market integration, decarbonization, acceleration of the uptake of renewables and reducing greenhouse gas emissions in accordance with the Energy Community legal framework.

[6] The Sofia Declaration on the *Green Agenda for the Western Balkans* was signed on 10 November 2020 in the context of the Berlin Process.

The Brussels Declaration, adopted at a summit of the European Union and the Western Balkans countries on 13 December 2023 within the implementation of the *EU Strategic Agenda for the period 2019 – 2024*, also has a coherent content. On that occasion, the leaders of the European Union and its Member States, in consultation with Western Balkans leaders, and in the presence of regional and international stakeholders, adopted a number of conclusions which directly pertain to the energy sector.

It was reiterated, among other things, that the European Union is determined to support the Western Balkans' leaders in fulfilling their commitment to fully implement the Green Agenda for the region, including their climate commitments under the Paris Agreement, the Energy Community and the Sofia Declaration on a Green Agenda for the Western Balkans, as a key driver for the transition to modern, climate-neutral, climate-resilient and resource-efficient economies. The EU will continue to support the region in developing and implementing climate and energy transition policy, including carbon pricing based on robust monitoring, reporting and verification of emissions.

The European Union will continue its support for the Western Balkan partners in tackling the negative effects on their economies and societies, notably through the EU's Energy Support Package, worth EUR 1 billion in grants of which one half was disbursed in grants as direct support in 2023 to the most vulnerable families and small and medium enterprises. The remaining EUR 500 million in grants is provided through the Western Balkans Investment Framework (WBIF) to advance the energy transition and energy independence, to support renewable energy projects, to finance improvements to energy infrastructure and interconnectors, including LNG, to upgrade energy transmission systems, district heating and to improve the energy efficiency of private and public infrastructures in the region.

The implementation of the *Economic and Investment Plan for the Western Balkans* (EIP) and the *Green and Digital Agendas for the Western Balkans* will help strengthen the region's economy and resilience, including through further support for secure and resilient connectivity, energy transition and diversification of energy supplies. The support provided through the EIP comprises of EUR 9 billion in grant funding from IPA III and up to EUR 20 billion in investments for the period 2021-2027. Of the almost EUR 30 billion investment package for the region, EUR 16.6 billion has already been mobilised. In this context, the Western Balkans partners should strengthen the rule of law and decisively undertake economic and social reforms, including those contained in their economic reform programmes and in the joint conclusions of the economic and financial dialogue.

The Energy Community Ministerial Council held its annual meeting on 14 December 2023. On that occasion, the Decision on extending the duration of the Treaty establishing Energy Community Treaty for ten years was adopted, thus extending the Treaty until 30 June

Charles Michel, President of the European Council: "Here are a number of messages conveyed in a political declaration we have adopted and which we are sharing with you. First, this was an opportunity to reaffirm, with strong political conviction, that the future of the Western Balkans lies within the European Union: this concerns a reaffirmation of the prospect of European Union membership for the six Western Balkans. We also wish to strengthen cooperation in all areas, and we have been able to discuss the idea of gradual integration in a very practical way…
The second concerns the economic dimension: increased investment; supporting economic growth. This is also a crucial point and many have highlighted the importance of energy cooperation."

(Brussels, 13 December 2023)

2036. By the Ministerial Council decisions, with the necessary adaptation, the following regulation was included in the *acquis*:

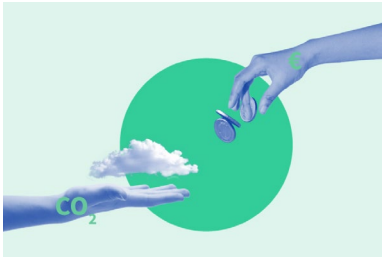
- Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013.

In this regard, the focus was on fostering market integration competition, security of supply and climate neutrality objectives. The implementation of the Regulation will start already in 2024, with the identification of the List of Projects of Energy Community Interest.

The Ministerial Council adopted the Procedural Act determining Ukraine as the future host of the Gas Forum as soon as conditions allow, and until then the Gas Forum will be held in Vienna.

The Energy Community Ministerial Council decision from December 2022 enabling the transposition into the *acquis* of Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, Commission Implementing Regulation (EU) 2018/2066 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC and Commission Implementing Regulation (EU) 2018/2067 on the verification of data and on the accreditation of verifiers pursuant to Directive 2003/87/EC, enables the Contracting Parties to have an accurate and verified overview of total emissions from energy and other installations, which forms the basis for a potential future carbon pricing mechanism.

It is the first important step to ensure the compliance with the requirements stemming from *Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism* (CBAM). The Regulation is part of the *Fit for 55* package, which was described in more details in the Report on Activities of the State Electricity Regulatory Commission in 2022.The *Fit for 55* package sets an intermediate target of reducing net emissions of greenhouse gases by at least 55% by 2030 compared to 1990 levels.



Energy Community activities in 2023 were conducted under the Albanian Presidency, while in 2024 Bosnia and Herzegovina will take over the Presidency.

The State Electricity Regulatory Commission has prepared the translation of the Energy Community *acquis*, which is presented in Annex E to this report for easy reference, and published it on its internet site (www.derk.ba).

Bosnia and Herzegovina and the Energy Community

By active participation in the Energy Community, Bosnia and Herzegovina confirms its commitment to the energy sector reforms, energy market liberalisation and harmonisation of its policies with those of EU Member States.

By signing the *Stabilisation and Association Agreement between the European Communities and their Member States, of the one part, and Bosnia and Herzegovina of the other part* (SPP), on 16 June 2008 the state took over the obligation to gradually harmonise its future and existing legislation and its proper application and implementation by the end of the transitional period of six years from the day the Agreement enters into force. As the SPP entered into force on 1 June 2015, the deadline to fulfil this obligation expired on 1 June 2021.

It is obvious that additional efforts should be made at different administrative levels in Bosnia and Herzegovina to transpose and implement the Energy Community *acquis*. The deadlines for the fulfilment of all obligations have already expired, except for the transposition and implementation of Regulation (EU) 2022/869 on guidelines for trans-European energy infrastructure, which should be implemented by the end of 2024 (Annex E).

This is also indicated by a number of the Energy Community Ministerial Council decisions on the breaches which pertain to the provisions of the Second Energy Package in the gas sector, the transposition of the Third Energy Package, the reduction of sulphur dioxide emissions resulting from the combustion of heavy fuel oils and petroleum-derived liquid fuels and legal and functional unbundling of distribution system operators.

In 2023, the Energy Community Secretariat submitted to the Energy Community Ministerial Council its Reasoned Requests as part of the procedures pertaining to the failure to transpose Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage, and non-compliance with the emission limits determined in the National Emission Reduction Plan.

Bosnia and Herzegovina will assume the rotating Presidency of the Energy Community on 1 January 2024. In this role, the focus of BIH will be the facilitation of energy sector reforms with a particular focus on energy and climate policies. The main priorities include the adoption of comprehensive energy and climate plans, facilitation of a just transition, coordination of decarbonisation initiatives, implementation of the regional system for guarantees of origin and finding solutions to eliminate trade barriers in renewable energy.

The key priorities on the agenda include the integration of electricity markets, discussions on Cross-Border Adjustment Mechanism (CBAM) and the fulfilment of other obligations.

SERC Activities in the Energy Community Bodies

The work of the State Electricity Regulatory Commission in the Energy Community was carried out with the necessary cooperation of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina, through support and contribution to the implementation of different projects supporting the Energy Community development, and in particular, through proactive involvement in surveys which were planned and implemented by different groups with the wider thematic spectrum bringing together energy regulators from the region and the European Union.

SERC activities in the Energy Community continue to focus on the Energy Community Regulatory Board (ECRB), which was established on 11 December 2006 in Athens. Since then SERC

actively participates in its activities, representing the interests of Bosnia and Hercegovina. The SERC chairmanship of the ECRB Customers and Retail Markets Working Group contributes to the affirmation of Bosnia and Herzegovina.

In 2023, during which the Regulatory Board held three meetings, it gave a significant contribution to the creation of Energy Community policies in the field of electricity and gas market development. A number of documents were prepared which include, *inter alia*, the results of electricity and gas wholesale and retail markets monitoring with a particular emphasis on the energy crisis, quality of supply analyses, cybersecurity, renewable sources integration and flexibility, the implementation of the European network codes and the development of consumer protection, awareness and education mechanisms.

In the past year, the ECRB continued the joint activities with the Agency for the Cooperation of Energy Regulators (ACER), the Council of European Energy Regulators (CEER) and the Mediterranean Energy Regulators (MEDREG).

The Regulatory Board organises a considerable part of its activities through several working groups (Customers and Retail Markets Working Group, Electricity Working Group, Gas Working Group and Wholesale Energy Market Integrity and Transparency – REMIT Working Group), with the support of the ECRB Section of the Secretariat.

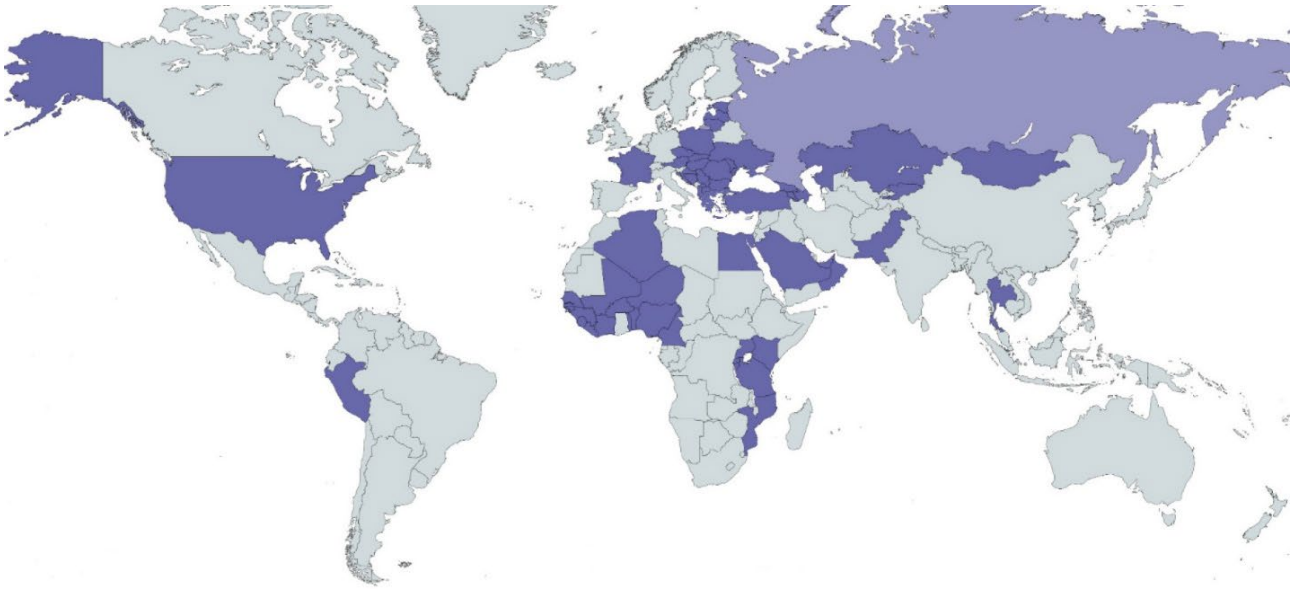
4.2 Energy Regulators Regional Association – ERRA

The Energy Regulators Regional Association (ERRA) is an organisation composed of independent energy regulatory bodies from Europe, Asia, Africa and America. Amendments to the ERRA Constitution made in 2015 removed barriers for joining of regulators from new regions and allowed active participation of all members. ERRA has 35 full members and 12 associate members and brings together the regulatory authorities from 43 countries and two regional regulatory institutions from almost all continents – Europe, Asia, Africa, North and South America (Figure 20).

The State Electricity Regulatory Commission is a full ERRA member as of 19 May 2004. In May 2010, the two Entity Regulatory Commissions from Bosnia and Herzegovina – the Regulatory Commission for Energy in the Federation of BIH and the Regulatory Commission for Energy of Republika Srpska, became ERRA associate members.

The goals of ERRA are the improvement of energy regulation in the member countries, facilitating the development of independent and stable energy regulators, improvement of cooperation among regulators, exchange of information, research and experience among the members, better access to information on world-wide experience on regulation of energy activities. ERRA also promotes and organises training courses in the field of energy regulation.

Figure 20. ERRA membership



The most current topics in the energy sector were discussed during 2023 including energy transition, price regulation in the electricity markets in transition, deregulation, regulatory policy for electricity and gas sector coupling, efficient way of administering possible gas shortages, guarantees of origin for electricity and gas, challenges in the renewable integration process, hydrogen strategy and progress, e-mobility, new entities in the energy markets (such as aggregators and energy communities), flexibility and demand-side management programs.

In line with their competences, SERC representatives actively participate in the activities of the ERRA General Assembly, the Electricity Markets and Economic Regulation Committee, the Renewable Energy Committee and the Customer Protection Working Group. In addition to participation in the ERRA bodies, the State Electricity Regulatory Commission fulfils its role as an ERRA member by providing relevant information on the power sector of Bosnia and Herzegovina and regulatory practice in particular.

4.3 Mediterranean Energy Regulators – MEDREG

The Association of Mediterranean Energy Regulators (MEDREG) was established in 2007 in order to facilitate cooperation among the energy regulators from the countries of Northern, Southern and Eastern shores of the Mediterranean basin. The Association gathers regulatory authorities from Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Israel, Jordan, Lebanon, Libya, Malta, Montenegro, Morocco, North Macedonia, Palestine, Portugal, Slovenia, Spain, Tunisia and Turkey (Figure 21).

Abdellatif Bardach, MEDREG President: "The Mediterranean energy market has the potential to attract greater investment from around the world, given its extent and interconnection predisposition. Moreover, our region holds enormous potential in terms of renewable energy and new vectors, particularly green hydrogen. In this perspective, only a fully independent energy regulator can ensure the transparency and the neutrality needed to exploit this valuable opportunity."

(Rhodes, 15 June 2023)

Figure 21. Geographic scope of MEDREG

The main objective of the Association is the promotion of clear, stable and harmonised legal and regulatory frameworks in the Mediterranean region with the aim of facilitating investments in energy infrastructures and supporting market integration. Towards this goal, MEDREG promotes a permanent exchange of know-how, data collection and diffusion of expertise through comprehensive studies, recommendation reports and specialised training sessions in the field of energy regulation. The Association is also dedicated to consumer protection focusing on access to information and awareness-raising regarding changes in the sector.

Its organisation is structured around the General Assembly, the Secretariat seated in Milan and the working groups on: institutional issues, electricity, gas, environment, customer issues and renewable energy sources and energy efficiency.

SERC representatives contribute to the affirmation of BIH in MEDREG by direct participation in the work of the General Assembly and co-chairing the Consumers Working Group as well as by the provision of required information and comments during the development of various reports and other documents. In 2023, the focus of MEDREG activities was, *inter alia*, on renewable energy, energy transition, energy storage and demand management and regulatory support to the consumer protection.

4.4 Council of European Energy Regulators – CEER

The Council of European Energy Regulators (CEER) is a non-profitable association of independent statutory bodies responsible for energy regulation at national level. CEER brings together 39 national regulatory authorities (30 full members and nine observers) from European Union Member States, European Free Trade

Association (EFTA) and EU accession countries including Contracting Parties of the Energy Community Treaty.

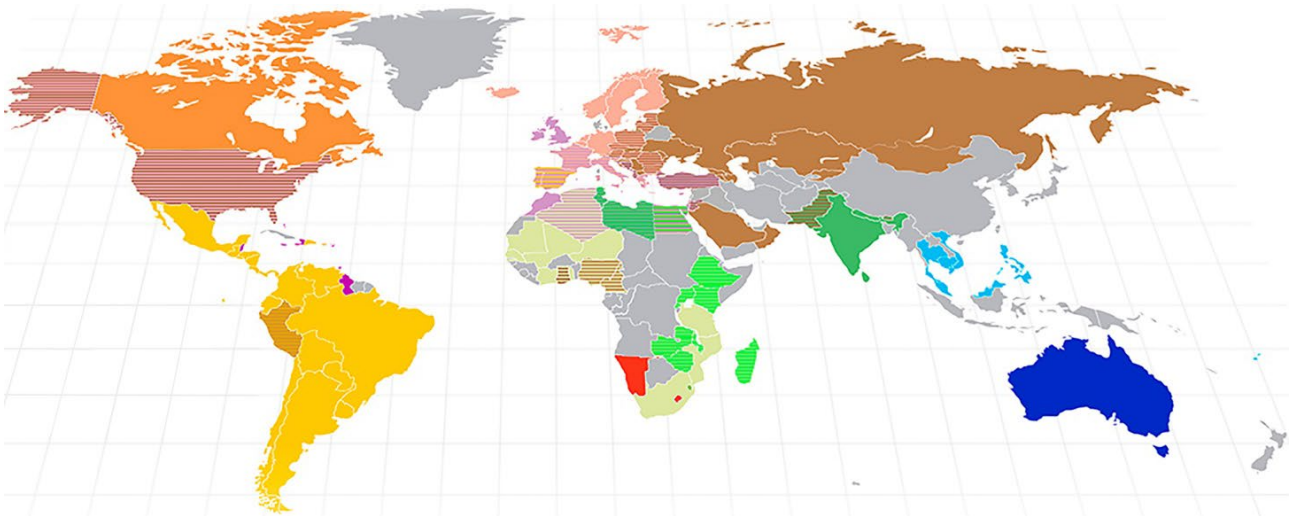
The overall aim of CEER is to facilitate the creation of a single, competitive, efficient and sustainable market for gas and electricity in Europe. The Council of European Energy Regulators acts as a platform for cooperation, information exchange and assistance between Europe's national energy regulators in the energy sector.

The State Electricity Regulatory Commission has observer status in CEER as of 1 January 2017. As Observers, SERC staff participates in activities of the CEER General Assembly and CEER's working groups. Furthermore, the State Electricity Regulatory Commission has access to the CEER's established regulatory network and cooperation tools, and the possibility of a deep understanding of European Union energy policies and practices. In this regard, participation in activities of the Council of European Energy Regulators is also helpful on the path of Bosnia and Herzegovina towards EU membership, and the full obligations this will entail in terms of implementation of the *acquis* in the field of energy.

4.5 International Confederation of Energy Regulators – ICER

The International Confederation of Energy Regulators (ICER), established in October 2009, is a voluntary framework for cooperation between energy regulators from around the globe. ICER's aim is to improve public and policy-maker awareness and understanding of energy regulation and its role in addressing a wide spectrum of socio-economic, environmental and market issues.

Figure 22. ICER members



Over 270 regulatory authorities are included in the ICER's membership through 15 regional regulatory associations (Figure 22).

SERC participates in and follows the activities of ICER through ERRA, MEDREG and CEER, and provides support to ICER's activities in different ways, including the provision of responses regarding different activities and surveys, thus enabling an insight into and the exchange of practice in the area of relevance to regulatory activities.

ICER's work is focused around several key areas, in line with the topics defined during each World Forum on Energy Regulation (WFER), the leading international conference on energy regulation, held once every three years. The Eighth World Forum on Energy Regulation was held from 22 to 25 August 2023 in Lima, Peru. The main theme of this forum was the energy transformation challenge with four main pillars: competitiveness, institutionality, universal access to energy and energy transition. The Ninth World Forum on Energy Regulation will be held in Georgia in 2026.

The Forum promoted the advancement of women in energy by streamlining gender perspective in all of its activities, which is the continuation of activities launched in October 2013 in ICER's *Women in Energy* initiative. In the same year, ICER launched its Chronicle as a means to further promote exchange of regulatory research and expertise.

4.6 Balkan Energy School – BES

On 16 December 2022, at the initiative of the Italian Regulatory Authority for Energy, Networks and Environment (ARERA), the energy regulatory authorities of Albania, Bosnia and Herzegovina, Italy, Monte Negro and North Macedonia established the *Balkans Energy School* (BES). The Balkan Energy School, which is seated in Milan, Italy, will promote the harmonisation of the regulatory framework at the regional level to support the development of the Balkan energy market and its effective integration at EU level. Its activities will be focused on the development of electricity and gas networks, RES integration, market coupling, and other relevant activities, under the umbrella of energy transition and through an intense activity of capacity building and know-how exchange.

The Balkan Energy School was born from the successful experience of the *Know How Exchange Program* (KEP), that is, *Support for Strengthening Energy Regulatory Authorities in the Western Balkans*, promoted and coordinated by ARERA over the last four years as part of the funding program of the Central European Initiative (CEI).

In 2023, the General Assembly of the Balkan Energy School held three meetings in which it adopted, *inter alia*, Internal Rules, Financial Rules, Work Plan and Budget for 2024. Four educational workshops were organised dedicated to operation and risks at

day-ahead and intraday power exchange, balancing of the electric power system, forward capacity allocation and market coupling.

4.7 Cross-Regional Cooperation

Various forms of cooperation between regional energy regulators associations exist for a certain period of time through organisation of joint training events, workshops and relevant working group meetings. While some regulators are members of several associations of energy regulators at the same time, these associations operate in regions that substantially differ in their degree of integration, meaning that common challenges are often met with different means. At the same time some common memberships of the associations promote convergence of goals and principles. This is the reason why cooperation of these associations in terms of exchanging experiences and regulatory practices becomes more important.

Recognising the relevance of these forms of cooperation and the commitment to foster a compatible and transparent energy regulation by promoting best practices and exchanging experiences, the Council of European Energy Regulatory (CEER), the Energy Community Regulatory Board (ECRB) and the Association of Mediterranean Energy Regulators (MEDREG) signed a *Cooperation Arrangement* on 12 December 2018 in Vienna.

Under the existing cooperation mechanism, in 2023 the ECRB, CEER and MEDREG held several joint workshops dedicated to the latest regulatory topics with a focus on consumer issues, sustainable energy sector development and renewable energy sources.

SERC is a member of both the ECRB and MEDREG and has observer status at CEER. This position of SERC enables further strengthening of its professional capacities in terms of gaining more knowledge and exchanging experience and regulatory practice.

5. AUDIT REPORT

Pursuant to the Law on Transmission of Electric Power, Regulator and System Operator of BIH, the State Electricity Regulatory Commission is funded from its own revenues. The basic revenue in 2023 was the regulatory fee, which was paid, pursuant to the SERC Decision adopted in September 2022, by the holders of licences for performance of the activity of electricity transmission, independent system operator, international electricity trading and supply of customers with electricity and electricity distribution in the Brčko District of BIH. The regulatory fee is determined so as to cover SERC's costs, while the obligations to pay the regulatory fee in the forthcoming period are reduced by an excess of revenues over expenditures. SERC passed *the Decision determining the regulatory fee for 2024* on 13 September 2023, thus enabling timely planning by the licence holders.

In addition to efforts to attain the mentioned own funding, SERC financial dealings also include the following activities:

- incurrence and settlement of financial obligations for the needs defined in the approved Financial Plan,
- short-term planning and cash flow management,
- regular monitoring of the Financial Plan implementation in the current year,
- an analysis and estimate of future cash flows for the purpose of developing a new financial plan,
- preparation of the financial plan for the following year,
- monitoring and development of financial management and internal control,
- internal financial reporting as the basis for adoption of the relevant business decisions, and
- financial reporting to external bodies, authorised institutions and the public.

With the aim of enhancing the financial management and control system, SERC established, *inter alia*, the internal audit function through *the Internal Audit Agreement* signed with the Internal Audit Unit (JIR) of the Ministry of Foreign Trade and Economic Relations of BIH. In accordance with the audit risk assessment and the approved annual and long-term work plan of JIR, the internal audit of the Financial management and control process was carried out in September 2023.

In the opinion of the internal auditors, internal controls in the audit process received an audit rating "satisfactory" with smaller significant deficiencies. According to the auditor's statements, the given opinion means that the observed deficiencies were not substantially significant but that an efficient internal control system was not fully developed in this process, and that through the implementation of four given recommendations the system can

be improved before long. SERC implemented all internal audit recommendations by the end of 2023 and informed JIR accordingly.

The final outcome of the aforementioned activities and adopted decisions are financial reports presenting business results at the end of a business year. SERC financial reports are audited on an annual basis in order to have an independent and impartial audit of the stated business results as well as to check the compliance of these procedures with the applicable regulations.

The audit of SERC financial reports for the previous year was performed in the first quarter of 2023 by the Auditing, Accounting and Consulting Company Revik d.o.o., Sarajevo, with whom a contract was concluded in the process carried out in accordance with public procurement procedures.

While performing an audit pursuant to the International Standards on Auditing, the auditors collected evidence on transactions and other data published in the financial reports to be confident beyond doubt that they did not include any relevant material errors. In addition to determining the objectivity of the financial reports as a whole, the audit included the evaluation of accounting policies applied and relevant estimates made by the SERC management.

Based on the collected data, the independent auditor gave a positive assessment of SERC financial reports for 2022. It is the opinion of the independent auditor that the presentation of financial reports, recognising and measuring of transactions and business events, objectively and realistically present the state of assets, liabilities, capital and financial results of business performance.

With the mentioned opinion, SERC maintained the highest audit opinion for compliance of its financial reports with the applicable international accounting standards and legal regulations, which SERC was given by external auditors since its establishment, including the opinions by the Audit Office of the Institutions of Bosnia and Herzegovina.

Through external auditing, SERC ensures an independent and reliable report on the use of property and management of revenues and expenditures. Lead by the commitment to the principles of objectivity and transparency in its work, with the aim of providing information on its financial standing and business results, the State Electricity Regulatory Commission publishes its audit report on an annual basis. In addition to the publication in the legally prescribed register and the Official Gazette of BIH, number 35/23, the audited financial reports for 2022 were also published on the SERC website.

"In our opinion, the enclosed annual financial reports show realistically and objectively the financial standing of SERC on 31 December 2022, its financial performance and cash flow for the year which ended at that point, in accordance with the Law on Accounting and Auditing of the Federation of BIH and the International Financial Reporting Standards (IFRS)."

Revik d.o.o., Sarajevo, 15 March 2023

Revik d.o.o. Sarajevo
Member of HLB International

6. MAIN ACTIVITIES IN 2024

The State Electricity Regulatory Commission will continue its activities on ensuring the conditions for free trade and unhindered electricity supply in accordance with the pre-defined quality standard to the benefit of citizens of Bosnia and Herzegovina, and in compliance with international agreements, national laws, the relevant European regulations and directives as well as other internal electricity market rules.

SERC will continue also in 2024 to cooperate with the Parliamentary Assembly of Bosnia and Herzegovina (PABIH), in particular with the Committee on Traffic and Communications of the House of Representatives of PABIH and the Committee on Foreign and Trade Policy, Customs, Traffic and Communications of the House of Peoples of PABIH. In addition, the focus of interest will remain on the information exchange and harmonisation of key regulatory activities with the Ministry of Foreign Trade and Economic Relation of BIH, which is competent for policy creation in accordance with the *Law on Transmission of Electric Power, Regulator and System Operator of BIH*.

All existing modalities of mutual follow up and harmonisation of activities will be used also in 2024 in relationships with the Regulatory Commission for Energy in the Federation of BIH and the Regulatory Commission for Energy of Republika Srpska as well as with other regulatory bodies established at national level, primarily the Competition Council of BIH.

In order to meet the need of different decision-making levels for quality and reliable statistical energy data, SERC will remain a reference source and an active generator of these data. To this end, SERC will follow developments of EU rules and comply with the Energy Community agenda continuing its cooperation with the BIH Agency for Statistics.

Furthermore, SERC will follow activities and trends in the whole energy sector and directly participate in all relevant events.

Through its activities SERC will focus on:

- Setting tariffs in line with SERC competencies,
- Issuance, modification, suspension and revocation of licences,
- Regulatory monitoring of licensed entities,
- Creation of new regulatory rules and analysis of the regulatory rules already adopted and the existing practice, together with review and revision of SERC acts,
- Monitoring the procurement of ancillary service and provision of the system services and balancing of the BIH power system, and, on a needs basis, continuing the development of a design for these services,
- Fostering a higher degree of integration of the national electricity market,

- Contribution to organising and functioning of the wholesale market, including the establishment of an institutional framework for an organised day-ahead and intraday market,
- Contribution to organising and functioning of the fully open retail market in BIH,
- Development of rules regulating connection of users to the transmission system,
- Capacity building in terms of the fulfilment of international obligations with regard to regulatory reporting,
- Approving and monitoring rules developed by the Independent System Operator in Bosnia and Herzegovina, Elektroprenos BIH and Komunalno Brčko,
- Approving the *Indicative Generation Development Plan for the Period 2025 – 2034* and the *Long-Term Transmission Network Development Plan* for the upcoming ten-year period as well as an *Investment Plan of Elektroprenos BIH*,
- Monitoring the implementation of the Inter-TSO Compensation Mechanism (ITC mechanism) and operation of the Coordinated Auction Office in South East Europe (SEE CAO),
- Regulatory activities regarding the network codes and guidelines and the Regulation on wholesale energy market integrity and transparency,
- Regulatory activities regarding the improvement of cybersecurity in the BIH power sector,
- Sharing information on regulatory practice with the regulated entities and the public, and
- Performing other tasks within competences vested in SERC.

While conducting its activities SERC will take into account the protection of customers and give its full contribution to the creation of best applicable solutions in accordance with competences vested in SERC under law.

Taking into account the fact that under the Treaty establishing the Energy Community Bosnia and Herzegovina is obligated to transpose the rules of the European Union on the internal energy market ('Third Energy Package') into its national legislation and apply them in practice, SERC will contribute to the legal framework development in line with its competences and through optimal coordination with other stakeholders.

The State Electricity Regulatory Commission will take the same approach regarding the extension of the *acquis*, that is, legal framework of the Energy Community, which from 15 December 2022 includes the whole package of European Union energy rules the goal of which is to provide competition needed to facilitate the clean energy transition (*Clean Energy for All Europeans)* as well as all network codes, thus, with the required adaptations and adoption of the *Procedural Act on Regional Market Integration*,

completing the new package of electricity market rules in the Energy Community.

The implementation of the energy transition and the power sector reform in Bosnia and Herzegovina, harmonisation of secondary legislation and efficient coordination among the bodies participating in its drafting and development is in the interest of all stakeholders. The aim is to create a clear and stable legal framework based on the European directives and rules on the internal electricity market.

In this context, SERC is planning to continue to actively participate in the development of an EU-*acquis*-compliant legislative framework in the field of electricity in Bosnia and Herzegovina, and removal of shortcomings in the electricity sector as specified in the reports of the European Commission on BIH.

In line with its competences, the State Regulatory Commission will contribute to the implementation of recommendations of meetings of the BIH Stabilisation and Association Committee and Subcommittee on Transport, Energy, Environment and Regional Development. SERC will continue to participate in the *Program of Integration of Bosnia and Herzegovina into the European Union*, through its contribution to the activities under Chapter 15 – Energy, Chapter 21 – Trans-European Networks, and Chapter 28 – Consumer and Health Protection.

Acting in line with its competence, SERC will support the development of an *Integrated Energy and Climate Plan of Bosnia and Herzegovina*. SERC will continue to participate in the activities of an intradepartmental working group established to develop this plan as well as in activities of the Energy Efficiency Task Force, Task Force on Renewables and the Security of Supply and Internal Energy Market Task Force.

SERC will participate in supporting and implementing regional priorities and Energy Community projects as well as the priorities identified for the BIH power sector within the Energy Community as specified in the Conclusions of the BIH Council and the *Annual Implementation Report of the Energy Community*. SERC will fully contribute to the implementation of measures in the energy sector as agreed within the 'Berlin Process'.

SERC is also planning to contribute to the continued implementation of several regional projects of the United States Agency for International Development (USAID) and the National Association of Regulatory Utility Commissioners (NARUC).

In 2024, the multiannual *USAID Energy Policy Activity* will continue so SERC will follow up its activities and participate in the implementation of some components which are of relevance for the regulatory activities. Furthermore, SERC plans to actively participate in the next Energy Summit in BIH, which will be held in April 2024 under this project.

The State Electricity Regulatory Commission will act in the same manner with regard to the three-year project *EU4Energy*, that is,

the European Union project for technical assistance to the BIH energy sector, which was launched in November 2022.

SERC will continue to cooperate with the German Agency for International Cooperation (*Deutsche Gesellschaft für Internationale Zusammenarbeit* – GIZ) and actively participate in the project titled *Community Action for Energy Transition in Bosnia and Herzegovina*, which was launched in December 2023 as well as in the regional project *Green Agenda: Decarbonisation of the Electricity Sector in the Western Balkans* launched in the middle of 2023.

SERC will also focus on the activities of international bodies pertaining to the electricity market regulation, primarily of those in the work of which SERC participates:

- ECRB – the Energy Community Regulatory Board,
- ERRA – the Energy Regulators Regional Association,
- MEDREG – the Mediterranean Energy Regulators,
- CEER – the Council of European Energy Regulators,
- ICER – the International Confederation of Energy Regulators,
- BES – the Balkans Energy School.

The State Regulatory Commission will continue to follow up the work of the Agency for the Cooperation of Energy Regulators (ACER), and depending on the legal framework development in BIH consider the possibility to directly participate in activities of this body.

In the forthcoming period SERC will analyse the contents and activities stemming from the new European Union rules. This approach takes into account the fact that all new EU regulations and directives in the energy sector become binding also for Bosnia and Herzegovina through the mechanisms developed under the Treaty establishing the Energy Community.

ANNEX A: Basic Data on the Electric Power System of Bosnia and Herzegovina

(Source: ISO BIH, Elektroprenos BIH and public electric power utilities in BIH)

Basic Data on Installed Capacity of Generating Units

Total installed capacity of generating facilities in Bosnia and Herzegovina amounts to 4,770.23 MW, with 2,076.6 MW, 2,065 MW, 134.6 and 29.9 MW installed in the major hydro power plants, thermal power plants, larger wind power plants and larger solar power plants respectively. Installed capacity of small hydro, small solar, biogas and biomass power plants and small wind power plants amounts to 185.88 MW, 182.29 MW, 2.71 MW and 0.40 MW respectively, while installed capacity of industrial powers plants amounts to 92.85 MW.

Major generating units

Hydro power plants	Capacity of power unit (MW)	Total installed capacity (MW)
Trebinje I	2×54+63	171
Trebinje II	8	8
Dubrovnik (BIH+Hr.)	126+108	234
Čapljina	2×210	420
Rama	80+90	170
Jablanica	6×30	180
Grabovica	2×57	114
Salakovac	3×70	210
Mostar	3×24	72
Mostarsko blato	2×30	60
Peć-Mlini	2×15.3	30.6
Jajce I	2×30	60
Jajce II	3×10	30
Bočac	2×55	110
Višegrad	3×105	315

Photovoltaic power plants	Installed capacity (MW)
Petnjik	29.9

Thermal power plants	Installed capacity (MW)	Available capacity (MW)
TUZLA	715	635
Tuzla G3	*100*	*85*
Tuzla G4	*200*	*182*
Tuzla G5	*200*	*180*
Tuzla G6	*215*	*188*
KAKANJ	450	398
Kakanj G5	*110*	*100*
Kakanj G6	*110*	*90*
Kakanj G7	*230*	*208*
GACKO	300	276
UGLJEVIK	300	279
STANARI	300	283

Wind power plants	Capacity of power unit (MW)	Total installed capacity (MW)
Mesihovina	22×2.3	50.6
Jelovača	18×2	36
Podveležje	15×3.2	48

Basic Data on the Transmission System

transmission lines

Nominal voltage of transmission lines	Length (km)
400 kV	865.97
220 kV	1,520.81
110 kV	4,038.66
110 kV – cable line	34.66

interconnections

Nominal voltage of transmission lines	Number of interconnectors
400 kV	4
220 kV	10
110 kV	23
Total	*37*

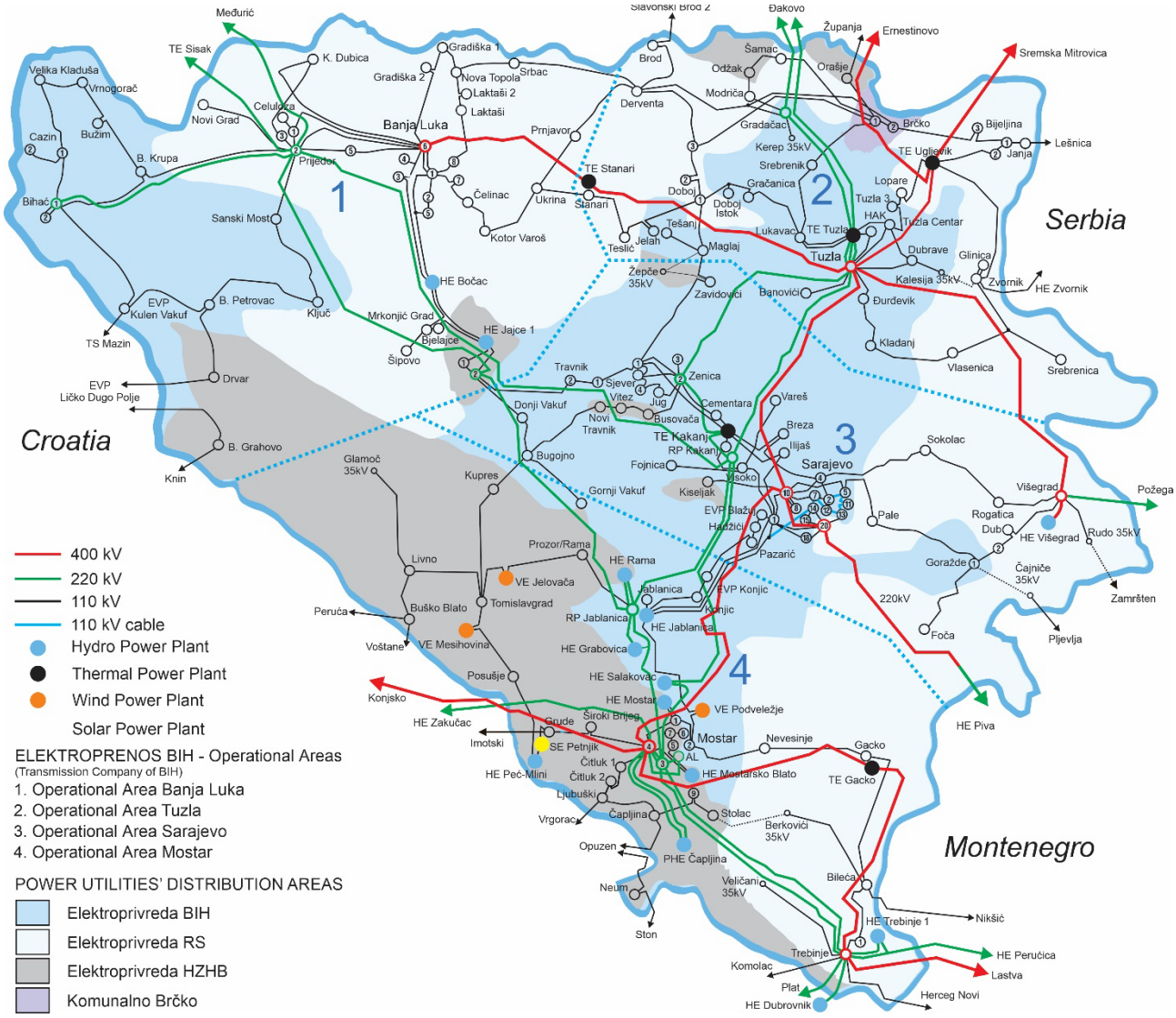
transformers

Type of substation	Number of substations	Installed capacity (MVA)
TS 400/x kV	10	6,130.5
TS 220/x kV	8	1,423.0
TS 110/x kV	136	5,789.0

transformers

Transmission ratio of transformers	Number of transformers	Installed capacity (MVA)
TR 400/x kV	14	4,900.0
TR 220/x kV	13	2,100.0
TR 110/x kV	256	6,342.5

ANNEX B: Map of the Electric Power System of Bosnia and Herzegovina with Operational Areas of Elektroprenos BIH and Distribution Areas of Public Electric Power Utilities (31 December 2023)



ANNEX C: Balance Values of the Electric Power Sector of Bosnia and Herzegovina

(GWh)

Year 2023	EP BIH	ERS	EP HZHB	Komunalno Brčko	Other entities	BIH
Generation in hydro power plants	1,565.65	2,693.75	1,931.30		93.14	6,283.84
Generation in thermal power plants	3,593.97	2,823.91			1,987.36	8,405.24
Generation in larger solar and wind PPs	100.21		151.12		119.20	370.53
Generation in small and industrial PPs	73.63	67.96			620.50	762.09
Generation	5,333.46	5,585.62	2,082.42		2,820.20	**15,821.70**
Customers connected to distr. network	5,024.59	3,805.03	1,440.27	277.84		10,547.73
Transmission losses						334.02
Large customers	503.82	188.83	24.97			717.62
PPs self-consumption and pumping	0.34	13.42	15.01		6.49	35.26
Consumption	5,528.75	4,007.28	1,480.25	277.84	6.49	**11,634.63**

Year 2022	EP BIH	ERS	EP HZHB	Komunalno Brčko	Other entities	BIH
Generation in hydro power plants	1,125.62	1,978.29	1,296.81		57.83	4,458.55
Generation in thermal power plants	4,544.09	2,957.13			2,128.21	9,629.43
Generation in larger solar and wind PPs	121.16		154.64		114.59	390.39
Generation in small and industrial PPs	58.33	40.53			458.73	557.59
Generation	5,849.20	4,975.95	1,451.45		2,759.36	**15,035.96**
Customers connected to distr. network	4,911.88	3,917.49	1,431.65	284.85		10,545.87
Transmission losses						333.03
Large customers	511.51	573.76	38.97			1,124.24
PPs self-consumption and pumping		14.68	35.03		4.79	54.50
Consumption	5,423.39	4,505.93	1,505.65	284.85	4.79	**12,057.64**

Year 2021	EP BIH	ERS	EP HZHB	Komunalno Brčko	Other entities	BIH
Generation in hydro power plants	1,665.49	2,487.46	2,082.77		78.27	6,313.99
Generation in thermal power plants	4,840.82	3,107.68			1,872.48	9,820.98
Generation in larger solar and wind PPs	107.17		162.99		111.65	381.81
Generation in small and industrial PPs	63.59	58.89			416.17	538.66
Generation	6,677.06	5,654.04	2,245.76		2,478.58	**17,055.44**
Customers connected to distr. network	4,861.66	3,896.14	1,424.27	285.65		10,467.72
Transmission losses						369.20
Large customers	549.67	422.94	12.95		184.32	1,169.88
PPs self-consumption and pumping		12.43	143.86		6.69	162.98
Consumption	5,411.33	4,331.51	1,581.08	285.65	191.01	**12,169.78**

Year 2020	EP BIH	ERS	EP HZHB	Komunalno Brčko	Other entities	BIH
Generation in hydro power plants	1,024.07	1,677.83	1,533.93		40.65	4,276.48
Generation in thermal power plants	5,155.80	3,285.61			2,001.57	10,442.98
Generation in larger solar and wind PPs			147.50		114.31	261.81
Generation in small and industrial PPs	58.05	36.07			315.28	409.40
Generation	6,237.92	4,999.51	1,681.43		2,471.81	**15,390.67**
Customers connected to distr. network	4,677.57	3,690.32	1,352.59	272.74		9,993.22
Transmission losses						317.16
Large customers	560.62	216.72	17.20		95.50	890.04
PPs self-consumption and pumping		12.57	112.59		3.92	129.08
Consumption	5,238.19	3,919.61	1,482.38	272.74	99.42	**11,329.50**

Year 2019	EP BIH	ERS	EP HZHB	Komunalno Brčko	Other entities	BIH
Generation in hydro power plants	1,443.95	1,604.74	2,537.38		63.53	5,649.60
Generation in thermal power plants	4,527.31	3,017.35			2,068.32	9,612.98
Generation in larger solar and wind PPs			165.98		87.69	253.67
Generation in small and industrial PPs	62.52	47.24			448.00	557.76
Generation	6,033.78	4,669.33	2,703.36		2,667.54	**16,074.01**
Customers connected to distr. network	4,737.34	3,726.24	1,407.10	271.87		10,142.55
Transmission losses						323.95
Large customers	493.33	374.32	571.41		311.52	1,750.58
PPs self-consumption and pumping		13.83	96.28		2.94	113.05
Consumption	5,230.67	4,114.39	2,074.79	271.87	314.46	**12,330.13**

ANNEX D: Electric Power Indicators of Bosnia and Herzegovina

		2019	2020	2021	2022	2023
Electricity generation	(GWh)	16,074.02	15,390.67	17,055.44	15,035.96	15,821.70
Net imports	(GWh)	2,824.96	3,266.28	3,312.00	3,875.64	3,699.33
Net exports	(GWh)	6,568.84	7,327.44	8,197.66	6,853.90	7,886.41
Total electricity supplied	(GWh)	12,330.13	11,329.50	12,169.78	12,057.64	11,634.63
Gross electricity consumption	(GWh)	12,330.13	11,329.50	12,169.78	12,057.64	11,634.63
Transmission losses	(GWh)	323.95	317.16	369.20	333.03	334.02
Transmission losses	(%)	1.77%	1.75%	1.87%	1.83%	1.79%
Distribution losses	(GWh)	933.29	912.62	965.04	931.12	909.69
Distribution losses	(%)	9.20%	9.13%	9.22%	8.83%	8.62%
PPs self-consumption and pumping	(GWh)	113.05	129.08	162.98	54.50	35.26
Total final consumption	(GWh)	10,959.84	9,970.65	10,672.56	10,738.99	10,355.65
Non-households		*6,233.91*	*5,175.82*	*5,761.04*	*5,810.40*	*5,355.32*
Households		*4,725.94*	*4,794.83*	*4,911.52*	*4,928.59*	*5,000.33*
Maximum system load	(MW)	1,945.00	1,804.00	1,909.00	1,893.00	1,851.00
Net maximum capacity of power plants	(MW)	4,530.64	4,530.64	4,608.26	4,655.62	4,770.23
Coal-fired power plants		2,156.23	2,156.23	2,157.85	2,157.85	2,157.85
Hydropower plants in total		2,238.84	2,248.79	2,256.78	2,258.49	2,262.48
small hydropower plants		*162.24*	*172.19*	*180.18*	*181.89*	*185.88*
pumped storage power plants		*420.00*	*420.00*	*420.00*	*420.00*	*420.00*
Total of other renewable sources		111.46	124.00	193.62	239.27	349.90
wind		*87.00*	*87.00*	*135.00*	*135.00*	*135.00*
solar		*22.35*	*34.89*	*56.51*	*101.56*	*212.19*
biomass		*1.12*	*1.12*	*1.12*	*1.12*	*1.12*
biogas		*0.99*	*0.99*	*0.99*	*1.59*	*1.59*
Transmission network	(km)	6,442.86	6,454.80	6,457.78	6,458.78	6,460.12
400 kV		*865.93*	*865.93*	*865.93*	*865.93*	*865.97*
220 kV		*1,520.09*	*1,520.09*	*1,520.09*	*1,520.09*	*1,520.81*
110 kV		*4,056.84*	*4,068.68*	*4,071.74*	*4,072.74*	*4,073.34*
Number of interconnectors		37	37	37	37	37
Installed substation capacity	(MVA)	12,783.00	13,045.50	13,065.50	13,065.50	13,342.50
Electricity customers		1,567,786	1,588,773	1,570,415	1,590,197	1,607,251
Non-households		*128,224*	*137,629*	*125,895*	*128,354*	*130,649*
Households		*1,439,562*	*1,451,144*	*1,444,520*	*1,461,843*	*1,476,602*
Eligible customers		1,567,786	1,588,773	1,570,415	1,590,197	1,607,251
Customers that switched supplier		16	17	12	7	4
Electricity supplied	(GWh)	365.92	157.90	235.55	251.34	22.90
Share in final consumption	(%)	3.34%	1.58%	2.21%	2.34%	0.22%
Customers for whom prices are not regulated		10,091	13,640	9,910	13,442	14,723
Electricity supplied	(GWh)	4,371.07	3,423.61	3,851.16	4,234.31	3,834.69
Share in final consumption	(%)	39.88%	34.34%	36.08%	39.43%	37.03%

ANNEX E: Energy Community *Acquis*

The Energy Community *acquis* (Energy Community legal framework) follows the development of the European Union legal framework, the so-called *acquis communautaire*, in the area pertaining to electricity and related sectors. When defining the new *acquis*, the Ministerial Council (MC) and the Permanent High-Level Group (PHLG) make some adaptations of the EU rules to the Energy Community institutional framework, taking into account the time limits in the region. This approach ensures that the Contracting Parties keep up with the development of the European Union and regularly harmonise their legal framework with the one in the EU.

The Energy Community *acquis* includes the key energy legislation of the EU in the fields of electricity, gas, security of supply, oil, environment, renewable energy sources, energy efficiency, infrastructure, competition and statistics. In November 2021, the first part of the *Clean Energy for All Europeans* package was included in the Energy Community *acquis* while the remainder of the Package was included in December 2022, thus making the new electricity market package complete. On that occasion, the ambitious energy and climate targets by 2030 were also adopted and the legal acts on monitoring of greenhouse gas emissions included. Regulation (EU) 2022/1032 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage and Regulation (EU) 2022/869 on guidelines for trans-European energy infrastructure were included in September 2022 and December 2023 respectively.

Note: The general deadlines for transposition into national legislation and implementation of EU regulations and directives are provided in brackets.

Cross-Cutting Acquis

- Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council, as adapted by Decision 2021/14/MC-EnC (deadline: 31 December 2022),
- Commission Delegated Regulation (EU) 2020/1044 of 8 May 2020 supplementing Regulation (EU) 2018/1999 of the European Parliament and of the Council with regard to values for global warming potentials and the inventory guidelines and with regard to the Union inventory system and repealing Commission Delegated Regulation (EU) No 666/2014, as adapted by Decision 2021/14/MC-EnC (deadline: 31 December 2022),
- Commission Implementing Regulation (EU) 2020/1208 of 7 August 2020 on structure, format, submission processes and review of information reported by Member States pursuant to Regulation (EU) 2018/1999 of the European Parliament and of the Council and repealing Commission Implementing Regulation (EU) No 749/2014, as adapted by Decision 2021/14/MC-EnC (deadline: 31 December 2022),
- Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, as adapted by Decision 2018/10/MC-EnC (deadline: 29 May 2020).

Acquis o electricity

- Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU (recast), as adapted by Decision 2021/13/MC-EnC (deadline: 31 December 2023),
- Regulation (EU) 2019/943 of the European Parliament and of the Council of 5 June 2019 on the internal market for electricity, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Regulation (EU) 2019/942 of the European Parliament and of the Council of 5 June 2019 establishing a European Union Agency for the Cooperation of Energy Regulators, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Commission Regulation (EU) 2017/2196 of 24 November 2017 establishing a network code on electricity emergency and restoration, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Commission Regulation (EU) 2017/1485 of 2 August 2017 establishing a guideline on electricity transmission system operation, as adapted by Decision 2022/03/MC-EnC (deadline: deadline: 31 December 2023),
- Commission Regulation (EU) 2016/1719 of 26 September 2016 2017 establishing a guideline on electricity transmission system operation, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Commission Regulation (EU) 2016/1447 of 26 August 2016 establishing a network code on requirements for grid connection of high voltage direct current systems and direct current-connected power park modules, as adapted by Decision 2018/04/PHLG-EnC (deadline: 12 July 2021),
- Commission Regulation (EU) No 2016/1388 of 17 August 2016 establishing a network code on demand connection, as adapted by Decision 2018/05/PHLG-EnC (deadline: 12 July 2021),
- Commission Regulation (EU) No 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators, as adapted by Decision 2018/03/PHLG-EnC (deadline: 12 July 2021),
- Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management, as adapted by Decision 2022/03/MC-EnC (deadline: 31 December 2023),
- Commission Regulation (EU) No 543/2013 of 14 June 2013 on submission and publication of data in electricity markets and amending Annex I to Regulation (EC) No 714/2009 of the European Parliament and of the Council, as adapted by Decision 2015/01/PHLG-EnC (deadline: 24 December 2015),
- Regulation (EU) No 838/2010 of the European Commission of 23 September 2010 on laying down guidelines relating to the inter-transmission system operator compensation mechanism and a common regulatory approach to transmission charging, as adapted by Decision 2013/01/PHLG-EnC (deadline: 1 January 2014).

Continued on the next page ⇨

⇨ *Continuation from the previous page*

Acquis on gas

- Commission Regulation (EU) No 2017/460 of 16 March 2017 establishing a network code on harmonised transmission tariff structures for gas, as adapted by Decision 2018/07/PHLG-EnC (deadline: 28 February 2020),
- Commission Regulation (EU) No 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems, as adapted by Decision 2018/06/PHLG-EnC (deadline: 28 February 2020),
- Commission Regulation (EU) No 2015/703 of 30 April 2015 establishing a Network Code on Interoperability and Data Exchange Rules, as adapted by Decision 2018/02/PHLG-EnC (deadline: 1 October 2018),
- Commission Regulation (EU) No 312/2014 of 26 March 2014 establishing a Network Code on Gas Balancing of Transmission Networks, as adapted by Decision 2019/01/PHLG-EnC (deadline: 12 December 2020),
- Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal natural gas market and repealing Directive 2003/55/EC, as adapted by Decision 2011/02/MC-EnC (deadline: 1 January 2015),
- Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission network and repealing Regulation (EC) No 1775/2005, as adapted by Decisions 2011/02/MC-EnC, 2018/01/PHLG-EnC, 2021/14/MC-EnC i 2022/01/MC (deadline: 1 January 2015).

Acquis on security of supply

- Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage, as adapted by Decision 2022/01/MC-EnC (deadline: 1 October 2022),
- Regulation (EU) 2019/941 of the European Parliament and of the Council of 5 June 2019 on risk-preparedness in the electricity sector and repealing Directive 2005/89/EC, as adapted by Decision 2021/13/MC-EnC (deadline: 31 December 2023),
- Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010, as adapted by Decisions 2021/15/MC-EnC and 2022/01/MC-EnC (deadline: 31 December 2022).

Acquis on oil

- Directive 2009/119/EC of the European Parliament and of the Council of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products, as adapted by Decision 2012/03/MC-EnC (deadline: 1 January 2023).

Acquis on environment

- Commission Implementing Regulation (EU) 2018/2067 of 19 December 2018 on the verification of data and on the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council, as adapted by Decision 2022/05/MC-EnC (deadline: 31 December 2023),
- Commission Implementing Regulation (EU) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012, as adapted by Decision 2022/05/MC-EnC (deadline: 31 December 2023),
- Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels, as adapted by Decision 2016/15/MC-EnC (deadline: 30 June 2018),
- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU, as adapted by Decision 2016/12/MC-EnC (deadline: 1 January 2019),
- Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), as adapted by Decisions 2013/06/MC-EnC and 2015/06/MC-EnC (deadline: 1 January 2018),
- Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, as amended by Directive 2006/21/EC, Directive 2009/31/EC and Directive 2013/30/EU, as adapted by Decision 2016/14/MC-EnC (deadline: 1 January 2021),
- Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, as adapted by Decision 2022/05/MC-EnC (deadline: 31 December 2023),
- Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on limitation of emissions of certain air pollutants by large combustion plants, as adapted by Decision 2013/05/MC-EnC (deadline: 31 December 2017),
- Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, as adapted by Decision 2016/13/MC-EnC (deadline: 31 March 2018),
- Article 4(2) of the European Community Council Directive 79/409/EEC of 2 April 1979 on conservation of wild birds (deadline: 1 July 2006).

Acquis on Renewable Energy Sources

- Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, as adapted by Decision 2021/14/MC-EnC (deadline: 31 December 2022).

Acquis on Energy Efficiency

- Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU, as adapted by Decision 2018/03/MC-EnC (deadline: 1 January 2020),
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC, as adapted by Decision 2021/14/MC-EnC (deadline: 31 December 2022),
- Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings, as adapted by Decisions 2009/05/MC-EnC and 2010/02/MC-EnC (deadline: 30 September 2012).

Continued on the next page ⇨

⇨ *Continuation from the previous page*

Acquis on Infrastructure

- Regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure, amending Regulations (EC) No 715/2009, (EU) 2019/942 and (EU) 2019/943 and Directives 2009/73/EC and (EU) 2019/944, and repealing Regulation (EU) No 347/2013, as adapted by Decision 2023/02/MC-EnC (deadline: 31 December 2024),
- Regulation (EU) No 347/2013 of the European Parliament and Council of 17 April 2013 on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009, as adapted by Decisions2015/09/MC-EnC and 2021/11/MC-EnC (deadline: 1 January 2017).

Acquis on Competition

Pursuant to Annex III of the Treaty establishing the Energy Community, the following activities are not allowed and shall be assessed pursuant to Article 101,102 and 107 of the Treaty establishing the European Community:

- Prevention, restriction or distortion of competition,
- Abuse of dominant position,
- Any state aid which distorts or threatens to distort competition.

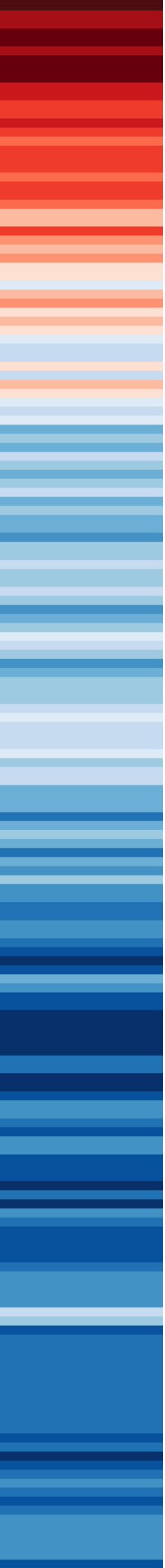
In particular, with regard to public undertakings and undertakings to which special rights have been granted, provisions of the Treaty establishing the European Community, in particular Article 106, shall be upheld.

Acquis on Statistics

- Commission Implementing Regulation (EU) 2019/803 of 17 May 2019 concerning the technical requirements regarding the content of quality reports on European statistics on natural gas and electricity prices pursuant to Regulation (EU) 2016/1952 of the European Parliament and of the Council, as adapted by Decision 2020/03/MC-EnC (deadline: 15 June 2022),
- Regulation (EU) 2016/1952 of the European Parliament and of the Council of 26 October 2016 on European statistics on natural gas and electricity prices and repealing Directive 2008/92/EC, as adapted by Decision 2018/1/MC-EnC (deadline: 1 March 2018),
- Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics, as adapted by Decisions 2012/02/MC-EnC, 2013/02/MC-EnC, 2015/02/MC-EnC, 2021/12/MC-EnC and 2022/01/PHLG-EnC (deadline: 31 December 2022).

The rules listed in this annex are available on the website of the State Electricity Regulatory Commission (www.derk.ba).

Additional information on the activities and procedures conducted by the State Electricity Regulatory Commission may be obtained on the website at www.derk.ba, by phone on +387 35 302060 and +387 35 302070, fax +387 35 302077, e-mail info@derk.ba or at the SERC seat in Tuzla, Đorđa Mihajlovića 4/II.



Cover page illustration:
Ed Hawkins Warming Stripes
Ed Hawkins