BOSNIA AND HERZEGOVINA

STATE ELECTRICITY REGULATORY COMMISSION

REPORT ON ACTIVITIES

OF THE STATE ELECTRICITY REGULATORY COMMISSION IN 2012

Bosnia and Herzegovina

STATE ELECTRICITY REGULATORY COMMISSION

REPORT ON ACTIVITIES OF THE STATE ELECTRICITY REGULATORY COMMISSION IN 2012

Tuzla, December 2012

Content

"*…there are some problems of their very nature so technical that neither the courts nor the legislatures are competent to handle them...*

...that require specialized knowledge by trained experts."

(In 1930, Representative Celler justified in these terms reinforcing the powers of the USA federal power regulator)

1. INTRODUCTION

The energy sector is undergoing a period of significant changes, both at global and local levels, designed to promote its sustainable development. Decisions reached both at national and European levels by policy makers, regulators, companies and customers affect each other and determine how energy needs are met, at what economic and environmental cost. These changes affect the way energy is produced, transported and consumed and influence not only the present situation but also future generations.

Also in 2012, the power sector of Bosnia and Herzegovina (BIH) was marked by acceptance of the European energy market principles for which security of supply, competition and sustainability are an imperative. The implementation of the European Union energy *acquis* on the internal energy market remains the task of the institutions in Bosnia and Herzegovina and provides a solution to complex relations in the sector.

The State Electricity Regulatory Commission is an independent institution of Bosnia and Herzegovina, which acts in accordance with the principles of objectivity, transparency and equality, 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 Brčko District BIH.

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

The joint interests of the European Union and the Energy Community, including BIH, were emphasized on a number of occasions, in particular on 15 June 2012 – on the "Day of BIH in the Energy Community." On that occasion, over seventy top officials and representatives of the Energy Community Secretariat, Council of Ministers of BIH and governments at lower levels, competent ministries, regulators and energy companies, confirmed BiH's interest in being an equal partner in the region as well as in the EU, that the level of integration in its energy sector was more advanced than in the other sectors of the economy of Bosnia and Herzegovina, as well as the fact that progress in fulfilling a number of accepted obligations had to be seen before the completion of the integration process.

As part of this process, BIH also made steps forward towards market integration in 2012, by active participation in the establishment of the Project Team Company of the South East Europe Co-ordinated Auction Office and more efficient planning and energy infrastructure development in the Energy Community by accepting its regional Strategy. BIH expressed its readiness to implement the Energy Community legal framework also expanded by EU directives and regulations in the field of renewables, minimum oil stocks and statistics.

In 2012, the BIH power system operated steadily, except in February when a number of outages occurred in the transmission network due to exceptionally heavy snowfalls accompanied by very low temperatures. Disturbances in security of supply in the whole region had an impact on BIH, too. However, the sector as a whole successfully overcame the challenges of operating under exceptionally unfavorable weather conditions, while the operation of PHP Čapljina in a pumping and generating mode helped maintain the technical stability of the system.

Total generation in BIH in 2012 amounted to 12,935 GWh, which is a 7.9% reduction in comparison to the previous year. This was the result of unfavorable hydrological conditions for the second consecutive year, but also of reduced availability of generating units at thermal power plants due to unplanned and planned interruptions (regular overhauls, reconstructions). Electricity generation by hydro power plants amounted only to 4,149 GWh, which is 4.1% less than in 2011, while thermal power plants produced 8,620 GWh (10.1% less than in the previous year).

Total consumption, the highest ever, amounted to 12,624 GWh, i.e., it was 0.3% higher than in the previous year, with a surplus of 311 GWh. Customers connected to the transmission and distribution networks took 2,702 GWh or 2% less, and 9,533 GWh or 0.6% more than in the previous year, respectively.

The maximum load of the power system in 2012 amounted to 2,143 MW, which is lower than the historic maximum of 2,173 MW reached on 31 December 2010 at 18:00 hrs.

When it comes to electricity losses in the transmission and distribution networks, positive trends continued. Transmission losses amounted to 308 GWh, that is, 1.84% in relation to the total energy in the transmission network, the absolute value being lower by 16 GWh in comparison to the previous year. Distribution losses were also reduced and amounted to 1,188 GWh or 12.5% in relation to gross distribution consumption, which is the lowest level in the past twenty years.

A total of 1,569 GWh was exported, which is a 39.5% reduction in comparison to 2011. Total import amounted to 1,245 GWh, which exceeds the 2011 import by 13.5%. Registered electricity transit through the transmission network amounted to 2,111 GWh, which is a reduction of 9.6% in comparison to the previous year.

The BIH retail electricity market is still characterized by the domination of public power utilities, which traditionally supply 1,475,934 customers, each in its own (*de facto* but not *de jure*) exclusive geographic area.

The SERC Report on Activities in 2012 gives an overview of the objectives of several programs and projects of different institutions, in particular, the European Commission and the Energy Community, which support the fulfillment of obligations by the BIH energy sector.

The auditing report for yet another business year indicates that SERC disposes of its assets rationally following the recommendations and requirements of the relevant working bodies and both Houses of the Parliamentary Assembly of BIH (PA BIH), presenting their use and status in an objective and transparent manner.

2. COMPOSITION AND ORGANIZATION OF WORK OF THE STATE REGULATORY COMMISSION

SERC 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 appointing the Commissioners.

Commissioners from the Federation of Bosnia and Herzegovina are:

- Mr. Mirsad Salkić, with his second five-year term (from 30 December 2009 to 29 December 2014) and
- Mr. Nikola Pejić, with a five-year term (from 25 September 2007 to 24 September 2012).

The Commissioner from the Republika Srpska is

- Mr. Milorad Tuševljak, with a five-year term (from 10 August 2011 to 9 August 2016).

It is clear that the first five-year term of one Commissioner from the Federation of Bosnia and Herzegovina expired on 24 September 2012. Having in mind 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. Nikola Pejić continues to perform this function until the completion of the procedure for appointment-reappointment of one Commissioner from the Federation of Bosnia and Herzegovina.[1]

Since the establishment of State Electricity Regulatory Commission, the Commissioners rotate in the position of the Chairman equally on an annual basis. Until 30 June 2012, this function was performed by Mr. Nikola Pejić. Mr. Milorad Tuševljak is the current Chairman of the Commission until 30 June 2013 when this position will be taken over by Mr. Mirsad Salkić.

The work of SERC is organized within four departments:

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

[1] At the time of the creation of this report, the procedure for appointment of one commissioner from the Federation of Bosnia and Herzegovina has been in process before the Government of this Entity. After the Government's proposal is confirmed by the Parliament of the Federation BIH, the nomination will be submitted to the Council of Ministers of Bosnia and Herzegovina, which will propose the appointment to the Parliamentary Assembly of Bosnia and Herzegovina.

SERC follows the requirements of regulatory practice by using different ways to improve its knowledge and experience by strengthening its professional capacities. The improvement of knowledge is achieved by participation in different professional consultations, conferences and topical seminars, in the country and abroad, and by distance e-learning, which is becoming ever more dominant in the practice of the Commission. A continuous contribution to professional training is also provided by special workshops organized by the Energy Community Secretariat, training programs of the Energy Regulators Regional Association (ERRA) and Florence School of Regulation (FSR), and seminars of the Directorate for European Integration aimed at the process of accession and integration of Bosnia and Herzegovina into the European Union.

In 2012, contribution to continuing education in the energy sector was also provided by the United States Agency for International Development (USAID) through *the Regulatory and Energy Assistance Project (REAP)*, within which the following workshops were organized at the end of the year: Case Study Workshop and Load Research Workshop. In addition to representatives of the regulatory commissions, the workshops were attended by representatives of all key institutions of the BIH energy sector, including the relevant state and entity ministries, the Government of Brčko District BIH, all three power utilities and Public Utility "Komunalno Brčko," the Independent System Operator in BIH (ISO BIH) and the Company for Transmission of Electric Power of BIH - TRANSCO ("Elektroprijenos/Elektroprenos BIH").

Two specialized symposia presented a special contribution to professional knowledge exchange in 2012, in whose organization the BIH Parliamentary Assembly participated and where SERC representatives had well-received presentations:

- "Framework, benefits and costs of renewable energy sources in the Western Balkans" – a regional symposium organized by the Joint Committee for Economic Reforms and Development of both Houses of PA BIH in cooperation with the Konrad Adenauer Foundation,
- "Independent and Regulatory Bodies in Bosnia and Herzegovina" – a professional symposium organized by the Committees for Constitutional and Legal Matters of both Houses of PA BIH, with support of the OSCE Mission in BIH and the USAID *Parliamentary Strengthening Project in BIH*.

SERC will continue to develop human resources through well-established and new training methods, using online courses. The

The Report on Activities of the State Electricity Regulatory Commission in 2011 was considered and adopted at the sessions of both Houses of the Parliamentary Assembly of Bosnia and Herzegovina,

- *at the 27th session of the House of Representatives, held on 10 May 2012, with a majority vote in favor, one vote against and one abstention,*
- *and, at the 15th session of the House of Peoples, held on 15May 2012, unanimously.*

justification of this approach has been confirmed by professional knowledge and experience in regulatory practice acquired up to now, which is ever more successfully presented at regional international professional gatherings by the staff with improved information, communication and presentation skills.

In addition to the professional training of its employees, SERC also informed about and shared experiences on regulatory practice with regulated companies' employees, and participated in professional training of staff of other regulatory authorities in the region. SERC also recognized the need for and works on the provision of quality professional information on the energy sector and its reform not only to specialists in the sector but also to the general public.

Large volumes of different documents have been created as a result of SERC activities. The number of documents and information is constantly increasing. Keeping, evaluation, extraction and protection of the registry office material are organized by SERC, as the creator, 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 familiarization of the two institutions.

In 2012, the Administration Inspectorate of the Ministry of Justice of Bosnia and Herzegovina conducted two administrative inspections, one *ex-officio* concerning the application of rules on the method of keeping records of work activities and in organization of office management, and the second one upon an individual request for the Administrative Inspectorate to conduct an inspection of the application of employment rules concerning the entitlements of employees to education and training. The inspections were completed without determined irregularities and shortcomings in the work, that is, without any violation of law or any other rule the application of which is monitored by the Administrative Inspectorate.

In the reporting period only technically defective or written-off and functionally obsolete equipment was replaced.

3. KEY ACTIVITIES

During 2012, the State Electricity Regulatory Commission held 19 regular sessions, 35 internal meetings and organized 14 public hearings, one of them having a formal character.

In the reporting period, the Commission adopted or approved several documents. This Report presents the most important ones, which, as a rule, were adopted through the process of public hearings.

Transparency toward 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 electricity regulatory authorities in Bosnia and Herzegovina.

Documents under regulatory competences are reviewed and determined in regular sessions, in accordance with the authorities prescribed by the law; issues and documents of an organizational 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 organizes general hearings; technical hearings, which are organized to resolve technical issues during the proceedings, e.g., the processing of procedural or essential issues; and formal hearings, which are organized to establish decisive facts, based on which SERC may resolve certain applications or disputes.

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

3.1 SERC Rules

Rules on Amendments to the Connection Rules

The Connection Rules prescribe the procedure for connection of new generators´ or customers´ facilities to the transmission network at 400, 220 and 110 kV voltage level, connection of facilities to 35, 20, 10 and 6 kV medium voltage level at 110/x kV substations of the Transmission Company, as well as connection of the existing facilities in case of an increase in granted capacity, upgrade or reconstruction of facilities.

The issue of construction and connection of wind power plants has been present in Bosnia and Herzegovina for a longer period. In line with its competences SERC got involved in its regulation, with the intention to encourage and facilitate faster definition of the missing framework for construction and connection of wind power plants to the BIH power system through its initiatives. While achieving this aim, realistic technical limitations were taken into account in accordance with the result of the study "An Analysis of Integration of Wind Power Plants into the Power System and Market Rules."

In addition to the Study, the adoption of the Rules was preceded by approval of "An Assessment of Maximum Capacity for Wind Power Plant Integration into the Transmission Network," as well as approval of an Indicative generation development plan.

Rules on Amendments to the Connection Rules were adopted in July 2012, after conducting proceedings that included a general public hearing on the proposal of the document.

Licensing Rule

The Licensing Rule defines conditions and criteria for the granting of licenses by the State Electricity Regulatory Commission, including procedures for filing an application, a review of the application and the granting, suspension and revocation of licenses. Development of a new Licensing Rule (the previous Rule regulating this issue was adopted in April 2005) was primarily created by the need to implement the expanded SERC competences and completing the regulatory framework in the field of electricity generation, distribution and supply of customers in Brčko District BIH with electricity, instead of applying the temporary rules used for the same purpose.

At the same time and based on current experience, this opportunity was used to expedite the procedure for the granting of licenses in cases when there are no disputable issues or comments of the public, while keeping all mechanisms of transparency of the procedure. With the aim of monitoring a single electricity market in Bosnia and Herzegovina and on the basis of the competence over the creation and maintenance of a competitive market, the Rule established a register of traders with data on all licensed electricity traders in Bosnia and Herzegovina.

The new Licensing Rule was adopted in October 2012.

Decision on Format and Content of License Application Forms

The new Licensing Rule simplified the procedure for the granting of licenses and both changed and significantly reduced the number of required documents to be filed during the licensing procedure. For the same purpose, the forms previously used by licensing applicants were adjusted accordingly and were expanded with new forms for licensing regulated activities in the area of Brčko District BIH.

The SERC decision defining the name, format and content of nine forms for the granting of licenses in procedures conducted by SERC was adopted in November 2012.

Decision on Amendments to the Decision on Establishing Forms for Submitting Data in Tariff Proceedings

In order to efficiently regulate tariffs for electricity distribution and tariffs for supply of non-eligible customers in the area of Brčko District of Bosnia and Herzegovina with electricity, SERC initiated the creation of additional forms that should

enable the Company "Komunalno Brčko" to submit all required data on the activities of electricity distribution and supply of non-eligible customers in a simple manner within tariff proceedings.

A Decision on Amendments to the Decision on Establishing Forms for Submitting Data in Tariff Proceedings was adopted in October 2012.

3.2 Documents Approved by SERC

Indicative Generation Development Plan for Period 2013-2022

An *Indicative Generation Development Plan* is developed for a ten-year period every year. The goal 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 covers the issue of new cross-border lines and which should also be developed every year covering a ten-year period.

The main objective of the Indicative Generation Development Plan is to analyze the balance of capacity and energy in the transmission network for the following ten years, primarily to satisfy domestic needs. The development of this document is also in the function of fulfilling obligations pursuant to the Operational Manual of 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 714/2009/EC on conditions for access to the network for cross-border exchanges in electricity.[2] In this context, ISO BIH is obligated to submit BIH power system development plans, which are based on consumption, generation including new sources, and planned reinforcements of the internal transmission network and interconnectors. 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.

Relying on the experience acquired during preparation of the six previous Indicative Plans, for development of the Indicative Generation Development Plan for the Period 2013-2022, the ISO

[2] After a two-year effort, the first TYNDP was published by ENTSO-E on 5 July 2012. The Agency for the Cooperation of Energy Regulators published its opinion of this TYNDP on 5 September 2012.

BIH ensured qualitative input data that not only expanded the plan for one more year, but also updated and improved it. The study "An Analysis of Integration of Wind Power Plants into the Power System and Market Rules" was used for the development of the Indicative Plan, which enabled the adoption of adequate proposals and conclusions regarding the time schedule for construction of wind power plants in BIH. A previously conducted public hearing on the Indicative Plan confirmed the matching of provided consumption forecasts, new generation capacities and capacity and energy balances in the transmission network.

When analyzing the realization of the previous Indicative Plans, it can be concluded that they were very ambitious with regard to construction of new generation capacities. However, in the preceding period, no construction of a single new generation unit began in accordance with the planned time schedule.

The balances of capacity and energy for the following ten years lead to the conclusion that it is necessary to start the realization of the planned time schedule for construction of new generation capacities as soon as possible. If deadlines for commissioning of new generation capacities are prolonged again, there is a realistic possibility for Bosnia and Herzegovina to face lack of generation in comparison to total electricity consumption in BIH.

The State Electricity Regulatory Commission adopted a Decision on approval of the Indicative Generation Development Plan for the Period 2013-2022 in May 2012. In line with the changed time schedule for development and approval of an indicative plan as defined in the Grid Code, a Decision was adopted three months earlier compared to the previous practice, with the aim of ensuring the required data for further activities on development plans in a timely manner, in particular for the development of A *Long-Term Transmission Network Development Plan* for the following ten-year period.

Conclusion on Acceptance of "An Assessment of Maximum Capacity for Wind Power Plant Integration into the Transmission Network"

The relevance of climate change, the issue of greenhouse gas emissions and global warming impose the need for an increased use of renewable energy sources. However, integration of renewable energy sources into the power system is followed significantly by problems caused by the unmanageable sources, in particular wind power plants. Due to the characteristics of their operation, they have a negative impact on regulation performances of the system, due to which it is necessary to ensure increased secondary reserves to compensate for unwanted variations of capacity caused by volatile wind intensity.

Taking into consideration a number of existing applications for construction of wind power plants and limitations due to the regulation possibilities of the BIH power system, in cooperation with ISO BIH, SERC initiated the study "An Analysis of Integration of Wind Power Plants into the Power System and Market Rules." Based on the study findings, ISO BIH prepared a document "An Assessment of Maximum Capacity for Wind Power Plant Integration into the Transmission Network," which SERC accepted by its conclusion in April 2012. According to this document, installed capacity of wind power plants amounting to 350 MW can be approved for connection to the BIH transmission network by 2019.

The accepted document instigated additional activities by the relevant authorities on unblocking the stalemate in procedures for the granting of required licenses to potential investors for construction and connection of wind power plants in BIH.

It can be expected that the October 2012 decision of the Energy Community Ministerial Council on inclusion of new Directive 2009/28/EC on the promotion of the use of energy from renewable sources in the Energy Community *acquis* and its transposition into national law and practical implementation would give a new impetus to the use of energy from renewable sources in Bosnia and Herzegovina.

Activities Related to Approval of New Market Rules

The Market Rules govern the interactions between the ISO BIH and licensed market participants in the electricity market. The Rules define participants and the scope of their activities and commercial relations in the electricity market. The Market Rules also define the way in which the ISO fulfills its obligations in terms of the management of balancing mechanism, administration of agreements for provision of ancillary services, provision of data for energy transaction settlements (commercial metering), control, monitoring and compensations for unintentional deviations with external control areas, issuing invoices for ancillary services and balancing, and the like.

The first Market Rules were prepared and approved in 2006. Taking into account regional changes in the field regulated by these Rules, the procedure for development of new Market Rules was initiated. To this end, comments of the relevant Technical Committee were obtained. The Market Rules are an extremely demanding document in technical terms, which includes the basic concept of the market re-design, legislative regulatory framework of market design, technical prerequisites for market functioning and lists a number of procedures regulating technical and commercial relations in the market. A proposal for Market Rules submitted to SERC in May 2012 was not approved.

3.3 Licensing Proceedings

In 2012, SERC granted eleven licenses for various activities in the power sector, while at the time of writing this Report, activities on solving six additional applications were pending.

Due to the expiration of the term of the previously issued *temporary* two-year licenses, proceedings were conducted and *new* five-year licenses were granted for the activity of international trade to the following holders of previous temporary licenses:

- "Repower Adria" d.o.o. Sarajevo (January 2012), and
- "HSE BH" d.o.o. Sarajevo (October 2012).

Furthermore, three power utilities renewed their five-year licenses:

- MH "Elektroprivreda Republike Srpske" Parent Company, a.d. Trebinje (December 2012),
- JP "Elektroprivreda Hrvatske zajednice Herceg Bosne" d.d. Mostar (December 2012), and
- JP "Elektroprivreda Bosne i Hercegovine" d.d. Sarajevo (December 2012).

Temporary licenses for performance of international electricity trading activity were also granted to the following entities that filed their applications for the first time:

- ČEZ BIH d.o.o. Sarajevo (February 2012),
- "KTG Zenica" d.o.o. Zenica (April 2012),
- "COMSAR ENERGY TRADING" d.o.o. Banja Luka (June 2012),
- EL-EN SOLUTIONS d.o.o. Banja Luka (October 2012), and
- Axpo BH d.o.o. Sarajevo (November 2012.).

"Independent System Operator in Bosnia and Herzegovina" also renewed its license for performance of the independent system operator activity with a seven-year term.

Procedures for processing licensing applications are in progress:

- for international trading: "PETROL BH OIL COMPANY" d.o.o. Sarajevo, "ENERGY FINANCING TEAM" d.o.o. Trebinje and PROFECTIO ENERGIJA d.o.o. Široki Brijeg,
- for performance of the electricity transmission activity: "Elektroprijenos/Elektroprenos Bosne i Hercegovine" , a.d. Banja Luka,
- for performance of the electricity distribution activity in Brčko District BIH: JP "Komunalno Brčko" d.o.o. Brčko District BIH, and

- for performance of the activity of supplying non-eligible customers in Brčko District BIH with electricity: JP "Komunalno Brčko" d.o.o. Brčko District BIH.

As licensees for the activity of international electricity trading, the following entities also have been registered: EZPADA d.o.o. Čapljina, "GEN-I" d.o.o. Sarajevo, "Rudnap" d.o.o. Banja Luka, "Interenergo" d.o.o. Sarajevo, "KORLEA" d.o.o. Mostar, "Alpiq Energija BH" d.o.o. Sarajevo, as well as "ALUMINIJ" d.d. Mostar and "B.S.I." d.o.o. Jajce (import of electricity for self-consumption).

Every year, including this one, the Company "Elektroprijenos/Elektroprenos Bosne i Hercegovine" a.d. Banja Luka updated and reported changes in Overviews of facilities used by the Company for performance of the activity of electricity transmission as well as Overviews of 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 May 2012.

3.4 Monitoring of Activities of Licensed Entities

Throughout the year, SERC monitors compliance of the licensed entities´ operations with their licensing conditions, first by monitoring regulated activities performed by ISO BIH, "Elektroprijenos/Elektroprenos BIH" and JP "Komunalno Brčko." Monitoring of activities is performed by the analysis of regular and special reports submitted by the licensed entities as well as by the announced or unannounced visits to licensees. Licensees submit annual, semi-annual, monthly and daily reports on individual activities of a financial, technical and organizational character. Licensees' reports on contingency events in the system are also available.

Visits of SERC experts to regulated entities enable direct insight into their documents and activities, as well as a more complex analysis of the operation and financial position of the entity from the aspect of application of approved tariffs.

In line with the conclusions reached, the following regulated entities were visited in the function of regulatory monitoring:

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

The first visit in the function of regulatory monitoring to JP "Komunalno Brčko" as a license holder of a temporary license

for performance of the activities of electricity distribution and supply was conducted in June 2012. On that occasion, the necessity of fulfilling obligations pertaining to unbundling of accounts for non-energy activities was especially emphasized to the licensee and the obligation to adequately register any income received on the basis of operation of the Work Unit *Elektrodistribucija*, separately from incomes that the Company receives on the basis of other activities (water production and distribution, maintenance of public areas and transport and disposal of waste materials). The obligation to regulate ownership relations over the fixed assets in the function of electricity distribution and supply was pointed out, and the Brčko District Government was also asked to resolve this issue. It was suggested to the licensee to develop a long-term investment plan which would include a method of ensuring necessary funding. The regulated entity was warned due to a significant increase in labor costs that was observed. These costs, the second by size in the entire cost structure of the Company, will be the center of regulatory monitoring in the forthcoming period as well. "Komunalno Brčko" was instructed to keep the register of continuity of supply and commercial quality indicators in accordance with *General Conditions for Electricity Supply in Brčko District BIH*.

Visits in the function of regulatory monitoring to "Elektroprijenos/Elektroprenos BIH" and ISO BIH were conducted in September 2012. After an analysis of the reports and collected documentation adequate conclusions were reached.

Members of both the ISO BIH Board of Directors and Steering Committee were asked to strictly comply with the scope of approved costs and take all necessary measures to improve cost and expenditure management of the company, in particular labor costs. ISO BIH was instructed to provide detailed information on the method of ensuring cross-border transmission capacities in specific cases, information on the procedure for ancillary services, submission of monthly reports on the operation of the *Project Team Company of the South East Europe Co-ordinated Auction Office*. In cooperation with power utilities, ISO BIH was tasked to reduce unintended deviations in the ENTSO-E control area encompassing Slovenia, Croatia and Bosnia and Herzegovina (SHB area).

"Elektroprijenos/Elektroprenos BIH" was instructed to immediately conduct activities on the adoption of a Long-Term Transmission Network Development Plan and an Annual Investment Plan as well as to provide information on steps undertaken with regard to placing a part of the cash fund on time deposit, and conduct activities on carrying out investment

activities in a situation where no approved development plans exist. In accordance with conclusions upon regulatory monitoring, "Elektroprijenos/Elektroprenos BIH" should finalize activities on the adoption of its documents required for application of the Connection Rules, prepare a thorough and comprehensive analysis of specific contingency events, constantly improve the quality of supply and ensure access of ISO BIH to distance meter reading from those locations from which it has not been possible thus far.

The year 2012 was also a year in which the operation of the Company was accompanied by a number of problems. At the beginning of the year, at a special meeting of the Assembly of Shareholders, general principles were agreed on investments in the transmission network, the number and structure of employees in the Company, the decision-making approach of the Board of Directors and Steering Committee, running the Company's policy, the issue of revising the Statute and other internal acts of the Company, the issue of selection of management staff of the Management Board and the Steering Committee of the Company, all of which should contribute to gradual overcoming of the obvious problems. Due to disagreements among the members of both the Management Board and the Steering Committee, not a single conclusion of the Assembly of Shareholders was implemented in practice.

Again, SERC had reason to reiterate and emphasize its concerns over the situation and obstructions in the operation of the Company to the BIH Ministry of Foreign Trade and Economic Relations – the policy maker in respect of the transmission system in Bosnia and Herzegovina, as well as the entity governments – owners and members of the Assembly of Shareholders of "Elektroprijenos/Elektroprenos BIH."

3.5 Technical Aspect of Transmission System Operation

The BIH power system operated steadily throughout the year except in February when some major problems occurred due to severe weather conditions. Namely, due to exceptionally heavy snowfalls accompanied by very low temperatures a number of outages occurred in the transmission network.

Data on both energy-not-supplied (ENS) due to unplanned interruptions of energy supply (ENS_{unpl}) and energy-not-supplied due to planned interruptions of energy supply (ENS_{pl}) in the BIH power system in the period 2009-2012, is provided in Table 1. The share of February in the parameter ENS_{unpl} (total energy-not-supplied due to outages) in 2012, amounts to 72% of the total annual amount of parameter ENS_{unpl}.

Table 1. Energy-Not-Supplied due to interruptions in the transmission network

	2008		*2009*		*2010*		*2011*		*2012*	
	MWh	*min*	*MWh*	*min*	*MWh*	*min*	*MWh*	*min*	*MWh*	*min*
ENS_{unpl}	1,526.60	17,642	1,570.86	17,683	1,340.79	22,865	906.80	14,593	2,499.08	110,506
ENS_{pl}	2,991.66	40,241	2,252.23	35,225	2,042.28	33,842	2,106.92	36,032	1,081.15	47,807
Total	4,518.26	57,883	3,823.09	52,908	3,383.07	56,707	3,013.72	50,625	3,580.23	158,313

Table 2. Average Interrupted Time in HV transmission network by month (min)

month	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
AIT_{2011}	0.7698	0.6631	1.9833	10.9127	8.3742	10.6196	13.6533	4.2118	17.9519	15.3561	5.7561	6.4662
AIT_{2012}	1.7559	66.6730	0.9586	10.4317	11.5640	5.8708	5.6832	4.4618	13.2911	11.3357	12.6825	3.4717

Problems in the transmission system in February 2012 can be easily noted in Table 2, which contains data on continuity of supply, that is, the average interrupted time (AIT) in the high-voltage transmission network.

Taking into account the scope and type of failures and the weather conditions under which the failures were fixed, "Elektroprijenos/Elektroprenos BIH" responded to challenges brought by extremely unfavorable weather conditions in a quality manner. Under conditions of disturbed safety of system operations and security of supply, the operation of PHP Čapljina in the pumping and generating mode contributed greatly to maintaining the technical stability. In 2012, PHP Čapljina withdrew from the transmission network 67.26 GWh and delivered 288 GWh.

Further, for the purpose of general safety and extinguishing large forest fires all over BIH during the summer months, it was necessary to disconnect a specific transmission line, which had a minimum impact on supplying end-customers with electricity.

Several outages occurred during the year that could have resulted in a total collapse of the BIH power system. The most important event of this nature was recorded on 26 August 2012 when several concurrent outages occurred on transmission lines at the voltage levels of 400 kV and 220 kV, transformers 400/x kV and a higher number of transmission substations at the voltage level of 110 kV. Elektroprijenos/Elektroprenos BIH and ISO BIH made a special analysis of this failure and undertook the necessary steps to prevent similar occurrences.

In the BIH power system, throughout 2012 voltage levels exceeding the allowed range were registered, primarily in the 400 kV network, and then in the 220 kV network also. Voltage levels in the 110 kV network were within allowed limits primarily due to successful regulation of 110/x kV transformers under load.

The main cause of occurrences and duration of high voltage levels are underloaded 400 kV transmission lines as emphasized in the Study "Technical and Economic Evaluation of Voltage Regulation as an Ancillary (System) Service – Identification and Improvement of Non-allowed Voltage Levels in the BIH Transmission Network." The occurrence of high voltage levels can have as a consequence the reduction of life span of equipment and facilities, thus increasing maintenance costs, and in some cases investments costs also. The aforementioned Study provides an overview of possible solutions. Thus, it is necessary to continue activities to prevent negative effects of high voltage levels in the transmission network.

The status of the transmission network in 2012 remained unchanged in comparison to the previous year as no new transmission lines or transformers were put into operation.

In a nutshell, it can be concluded that the system responded to a number of demands, that is, the functional operation was enabled for all system users in line with the defined quality standards while producers were able to fully realize the planned generation balance.

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

Table 3. SAIFI and SAIDI for the transmission network

		2008	*2009*	*2010*	*2011*	*2012*
SAIFI	Planned interruptions	2.49	1.89	2.06	0.90	0.87
	Unplanned interruptions	1.58	1.73	1.00	0.94	1.16
	Total	4.07	3.62	3.06	1.84	2.03
SAIDI	Planned interruptions (min/customer)	503.58	324.46	213.07	142.69	146.62
	Unplanned interruptions (min/customer)	103.03	77.14	94.17	52.00	142.24
	Total (min/customer)	606.60	401.6	307.24	194.69	288.87

Table 4. SAIFI and SAIDI including outages of MV feeders caused by interruptions in the distribution network

		2008	*2009*	*2010*	*2011*	*2012*
SAIFI	Planned interruptions	6.18	6.16	7.08	4.93	4.27
	Unplanned interruptions	11.99	11.85	10.04	9.07	8.53
	Total	18.17	18.01	17.12	14.00	12.80
SAIDI	Planned interruptions (min/customer)	847.61	810.02	533.78	516.17	393.93
	Unplanned interruptions (min/customer)	877.17	661.66	742.87	459.32	729.96
	Total (min/customer)	1,724.78	1,471.68	1,276.65	975.49	1123.90

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

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

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 network under TRANSCO jurisdiction, while Table 4 also includes interruptions in MV feeders in TRANSCO substations caused by events in the distribution network.

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

ENS - Energy Not Supplied

3.6 Tariff Proceedings

Tariff proceedings for setting of tariffs for electricity transmission services and tariffs for operation of independent system operator finalized in 2012

Tariff proceedings for setting of tariffs for electricity transmission services were launched on SERC's initiative in November 2011, and finalized by the adoption of the April 2012 Decision on tariff. The relevance of adopting this decision is mirrored in the application of a new concept of charging for transmission service in accordance with the amended *Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services – Revised Text* (hereinafter: Tariff Methodology) that was harmonized with Regulation 1228/2003/EC of the European Parliament and of the Council of June 26, 2005 on conditions for access to the network for cross-border electricity trade.

In principle, this regulation pertains to the ban on charging for transmission flows that are the result of cross-border trading transactions because these flows are treated within the inter-transmission system operator compensation mechanism (ITC mechanism), which is described in more detail in the earlier SERC reports on activities. The ITC mechanism elaborates in detail the energy and financial aspects of cross-border flows and provides financial standing for all European countries, that is, transmission system operators.

The new tariff basically resulted in a decrease in the price of electricity transmission services and reduction of revenues of Elektroprijenos/Elektroprenos BIH, which is in line with the operation costs incurred by this Company under the conditions of reduced activities due to obstructions in its operation, an increase of income on other grounds and reduction of planned profit, the amount of which is set by the regulator.

Tariff proceedings for operation of independent system operator and ancillary services were launched at the initiative

of the regulated entity in November 2011, and finalized by the adoption of a decision in April 2012. The concept of charging services in accordance with the amended Tariff Methodology was applied in this case also.

It was evident that the Independent System Operator makes stable expenditures in spite of the obvious increase in costs incurred through international cooperation, which are mostly associated with membership fees in international associations and activities in their working groups. The intensive work at the international level is a consequence of the ever greater degree of integration of European energy networks and systems.

Tariff proceedings for operation of independent system operator and ancillary services launched in 2012

Pursuant to the legal obligation to submit for consideration applications for revenues and expenditures in the following year as well as costs that the Company plans to include in its tariffs for system operation, ISO BIH filed a tariff application in November 2012, in which it presented and reasoned planned revenues, expenditures and costs in 2013.

Although the application as a whole was acceptable to the SERC commissioners, due to different views on the amount of some categories of costs, the adoption of a decision was postponed. SERC is planning to conduct additional analyses as part of the tariff proceedings, approve the revenue requirement for the operation of the regulated company and set the tariff by the end of January 2013.

Aware of all shortcomings of the existing model for the provision of ancillary services, the Commission decided to undertake steps to enhance this extremely important segment of the power system operation, and until then continue to apply the Decision on Determination of Tariffs for Ancillary Services adopted earlier.

3.7 Electricity Market

Power Indicators

In 2012, the BIH power sector operated under unfavorable hydrological conditions that also existed in the previous year. Generation by hydro power plants amounted only to 4,149 GWh, which is 4.1% less than in 2011. Generation by thermal power plants amounted to 8,620 GWh, and it was reduced by 10.1% in comparison to the realization in the previous year due to the reduced availability of generating units at thermal power plants caused by unplanned and planned interruptions (regular overhauls, reconstruction). Generation by small hydro and solar power plants, and industrial power amounted to 162.5 GWh and 3.8 GWh respectively.

In 2012, the first solar power plants in Bosnia and Herzegovina were put into operation, with generation reaching 157 MWh. Although the strong expansion in construction of renewable sources exists, their generation is still modest, amounting to 1.3% of total generation in 2012.

Total generation of all power plants reached 12,935 GWh, which is an increase of 7.9% in comparison to 2011. In the pre-

Figure 1. Balance volumes realized in 2012 (GWh)

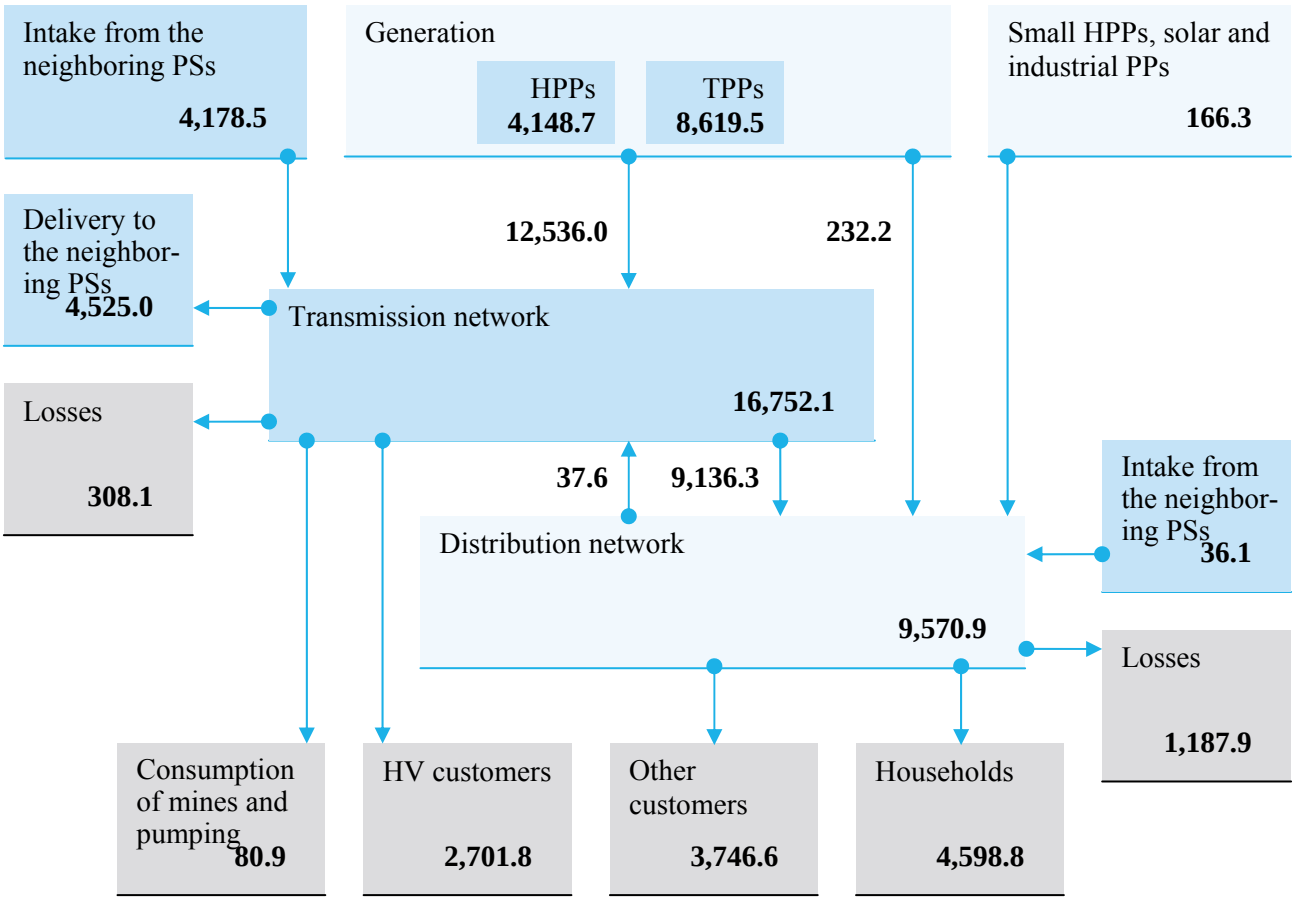
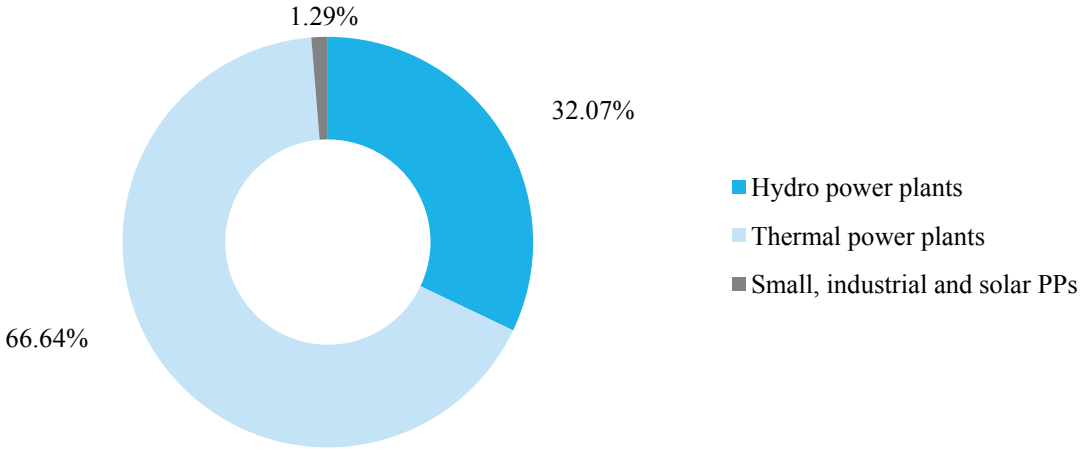


Figure 2. Break-down of electricity generation in BIH in 2012



vious seven years lower generation was registered only in 2007. An overview of power balance volumes realized in 2011 and the percentage share, that is, the break-down of electricity generation in 2012, are provided in Figure 1 and Figure 2 respectively.

The increase in total consumption amounted to 0.3% with consumption of customers connected to the transmission

Figure 3. Energy taken in BIH from the transmission network– monthly data (GWh)

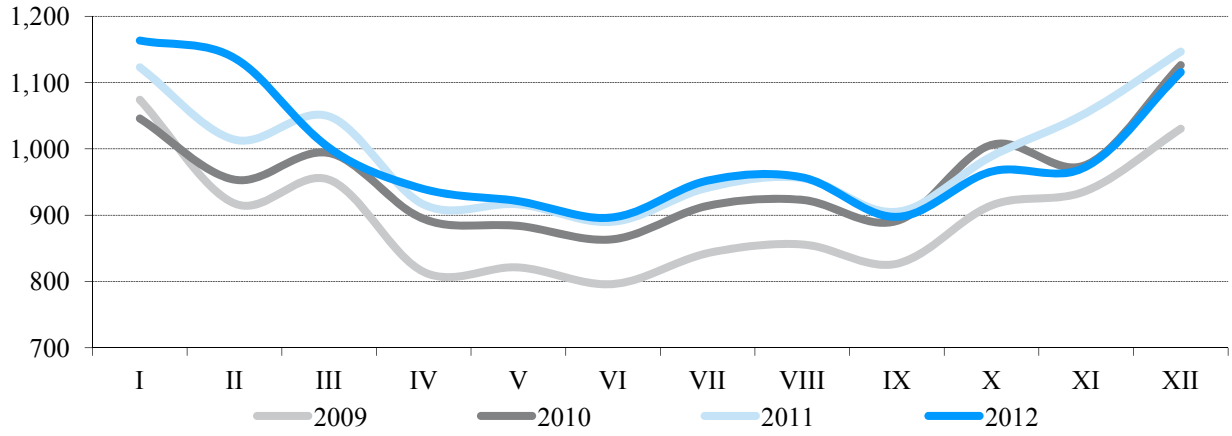
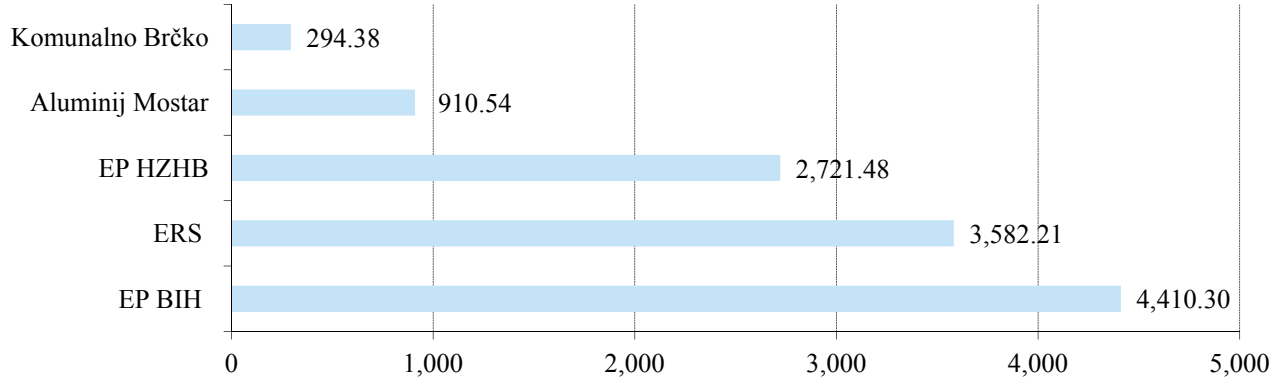


Figure 4. Energy taken in BIH from the transmission network by entities (GWh)

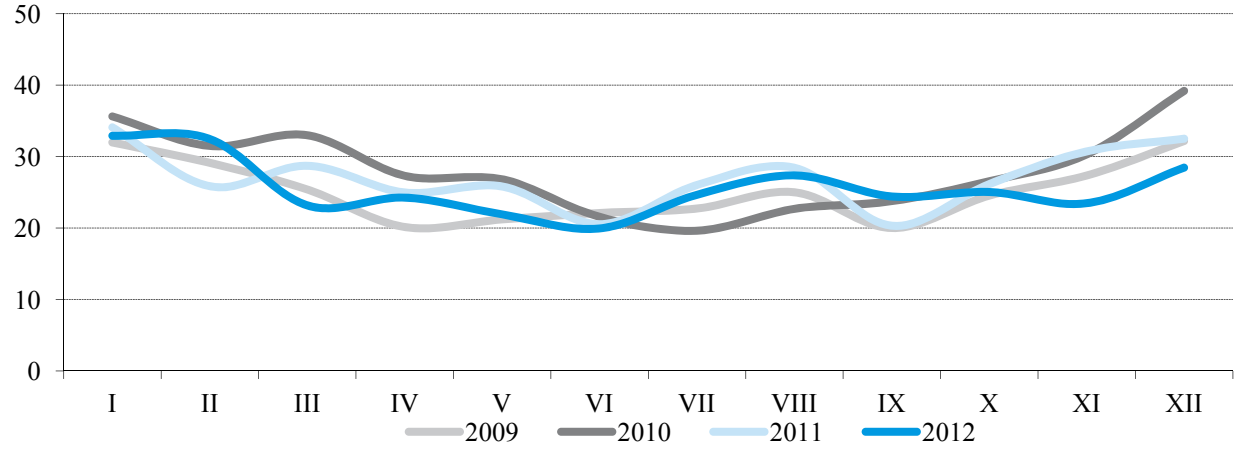


network recording a 2% decrease, while consumption by distribution system users increased by 0.6% compared to last year.

Electricity taken from the transmission network amounted to 11,919 GWh, which is an increase of 0.1% in comparison to 2011. Data on energy taken from the transmission network by months and entities are presented in Figures 3 and 4 respectively. A maximum load of the power system in 2012, registered on 10 February 2012 at 19:00 hrs, amounted to 2,143 MW. This did not exceed a maximum of 2,173 MW, which is a historic record registered on 31 December 2010 at 18:00 hrs.

When it comes to electricity losses in the transmission and distribution networks, positive trends continue. Transmission losses amounted to 308 GWh, i.e., 1.84% in relation to total energy in the transmission network, and in the absolute value they are lower by 4.9% compared to the previous year, which is the direct consequence of the reduction of both generation and cross-border flows. Data on monthly losses in the transmission network are provided in Figure 5. Distribution losses were also reduced amounting to 1,188 GWh or 12.5% in relation to gross distribution consumption, which is the lowest level in the past twenty years.

Figure 5. Monthly losses in the transmission network (GWh)



Regional Electricity Market

Rather moderate dynamics were recorded in the regional market in 2012, except in February, when due to heavy snowfalls and low temperatures, a considerable increase in consumption was registered; at the same time, these weather conditions caused problems with generation. In this situation, at the beginning of February, a sudden increase in market prices occurred, which lasted only for several days. In the remainder of the year, prices were stable ranging between 50 and 55 €/MWh. Although unfavorable weather conditions were present for most of the year, they did not affect the market prices in South-East Europe,

and the reasons can be found in stagnation and reduction of consumption in this region, plentiful supply in the market by the countries where nuclear and thermal power plants have a significant share in generation (Ukraine, Bulgaria), and the increasing share of energy from renewable sources, in particular wind power plants.

Electricity Market in BIH

The increase in electricity consumption continued in Bosnia and Herzegovina, although by a modest 0.3%, unlike the increase recorded one year earlier when it amounted to 2.7%. Total consumption reached 12,624 GWh. Customers connected to the transmission and distribution networks took 2,702 GWh, or 2% less, and 9,533 GWh, or 0.6% more than last year respectively. Of this amount 1,188 GWh pertains to losses in the distribution network, and 8,345 GWh taken by end customers. Total sale to customers in BIH increased by 0.4% and amounted to 11,047 GWh. The average selling price for tariff customers and customers supplied by public, that is, default suppliers amounted to 13.43 pfennig/kWh. Total value of sale to these customers amounted to 1.361 billion BAM and was increased by 62 million BAM (4.8%) in comparison to 2011 (1 €=1.95583 BAM; 1 BAM = 100 pfennig). The average selling prices increased by 4.7%. The average selling price for households increased by 4.9%, amounting to 13.46 pfennig/kWh. At the beginning of the year, tariffs for electricity customers supplied by Elektroprivreda HZHB increased, while somewhat earlier, in the middle of 2011, tariffs for customers supplied by Elektroprivreda BIH increased. Trends of average electricity prices for end customers in Bosnia and Herzegovina are presented in Figure 6, while Figure 7 gives an overview of average electricity prices of the power utilities per customer category in 2012.

Figure 6. Average electrictiy prices by customer category excluding VAT (pfennig/kWh)

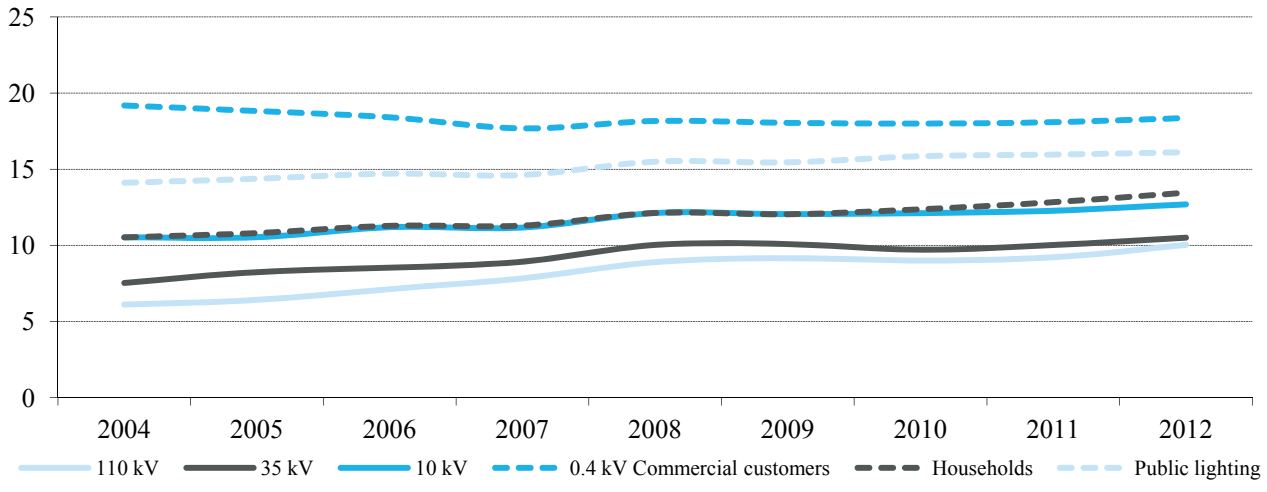
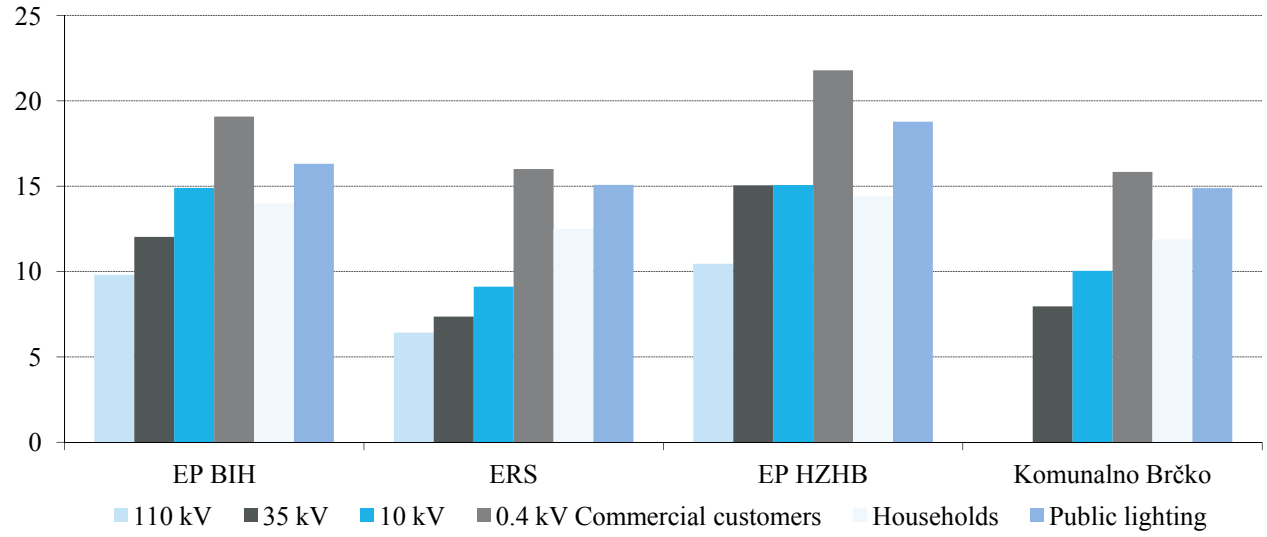


Figure 7. Average electricity prices by public utility excluding VAT (pfennig/kWh)



Considering the circumstances accompanying generation by hydro power plants, total business results of the companies in the sector could not possibly improve – they remained at the level of 2011 results. Unfavorable hydrological conditions had a negative impact on business operations of EP HZHB again, while EP BIH and ERS faced reduced export possibilities. In this situation, Elektroprijenos/Elektroprenos BIH had stable profitable business results at the level of its standard past realization.

Some progress was observed in the retail market in 2012. These changes were reflected primarily through decisions of the relevant regulatory commissions not to approve tariff rates for customers belonging to those consumption categories that cannot be regulated any longer pursuant to the adopted and applicable legislation pertaining to the market opening. In line with this, from the beginning of the year, a SERC decision setting tariff rates only for the category of households in Brčko District BIH is effective, while customers belonging to other consumption categories are supplied at the prices set by the default supplier "Komunalno Brčko." In the middle of the year, FERC and RSERC abolished regulation of tariffs for customers connected to the transmission network, while for other customers the abolition of regulation for end customers will go at a slower pace in accordance with the interim period as defined by these regulators.

The number of electricity customers in BIH was steadily increasing, and at the end of 2012 it reached a total of 1.476 million. In the process, a total number of customers during the year increased by 16,310, 14,615 of which belonged to the category of households. The number of customers by supplier in BIH is provided in Table 5.

Table 5. Number of customers by supplier in BIH

	110 kV	*35 kV*	*10 kV*	*Other consumption*	*Households*	*Public lighting*	*Total*
Elektroprivreda BIH	5	46	714	59,003	652,102	3,546	715,416
Elektroprivreda RS	8	32	777	34,762	498,890	1,000	535,469
Elektroprivreda HZHB	3	3	160	14,684	172,416	1,659	188,925
Komunalno Brčko		1	18	4,223	31,485	397	36,124
Total	16	82	1,669	112,672	1,354,893	6,602	1,475,934

In 2012, only "Aluminij" Mostar purchased electricity on the market, meeting 47.3% of its consumption needs by buying 910.54 GWh (mostly imports, and a smaller share in the domestic market). With this, 8.2% of total energy consumed by end-customers in Bosnia and Herzegovina was purchased in the market.

Cross-Border Trade

The scope of cross-border trade was significantly reduced in 2012 compared to last year due to reduced generation, so the largest exporters, EP BIH and ERS, had minimum electricity surpluses available for export. Total export amounted to 1,569 GWh, which is a 39.5% decrease in comparison to 2011. In total, 13 entities exported electricity, among which GEN-I with 344 GWh was the leader in terms of the export scope (Figure 9).

The largest scope of cross-border exchange is traditionally realized with Croatia and Montenegro respectively, and the smallest with Serbia (Table 6). It is known that Croatia and Montenegro have significant balance deficits and thus are among the leading importers at the regional level.

Table 6. Cross-border trade per border, including transit (GWh)

Country	*Export*	*Import*
Croatia	1,317.0	2,338.1
Serbia	634.5	848.3
Montenegro	1,734.9	164.7
Total	3,686.4	3,351.1

Electricity import amounted to 1,245 GWh, with the largest importer being "Aluminij" Mostar as in the previous years, with the amount of 878.4 GWh imported for self-consumption. 13 entities were involved in electricity import activities, and the

Figure 8. Overview of trading in BIH by entities in 2012 (MWh)

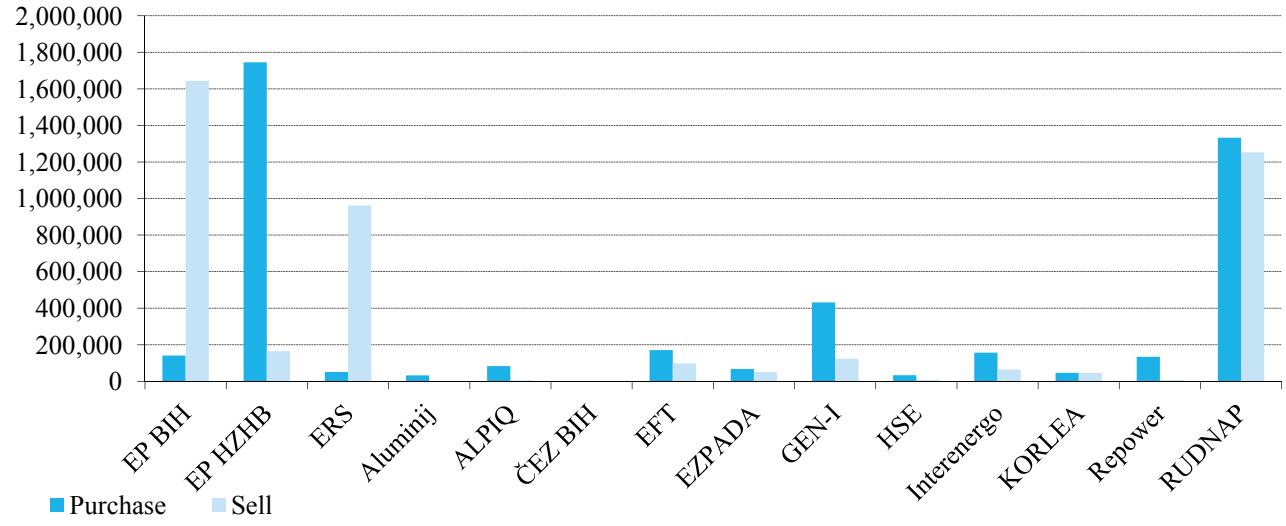
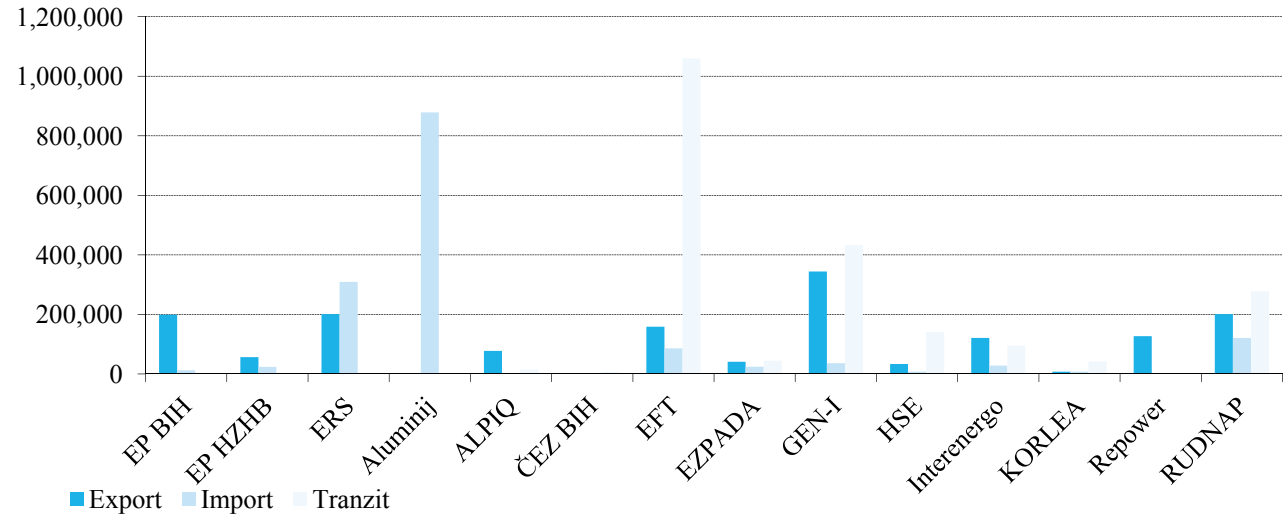


Figure 9. Overview of cross-border transactions by entities in 2012 (MWh)



second largest importer was Rudnap with 121 GWh. In 2012, registered electricity transit via the BIH transmission network amounted to 2,111 GWh, which is a 9.6% reduction in comparison to the previous year. Transit flows are important because their scope is used as the basis for determining revenues of every country participating in the inter-TSO compensation mechanism (ITC mechanism), which is described in more detail in earlier SERC reports on activities. Total revenue realized by Bosnia and Herzegovina in the first six months of 2012 amounted to 2,965,092 BAM, while for all of 2011, it amounted to 5,489,899 BAM.

Since 2010, ISO BIH has applied the *Rules of Allocation of the Right to Use Cross-Border Transmission Capacities*, organizing auctions on a daily, monthly and annual basis.

Revenues realized to date on the basis of auctions for allocation of cross-border transmission capacities on an annual basis are provided in Table 7.

Table 7. Revenues realized on annual auctions

Year	*Revenue (BAM)*
2011	4,789,300
2012	4,970,880
2013	2,036,125
Total	11,796,305

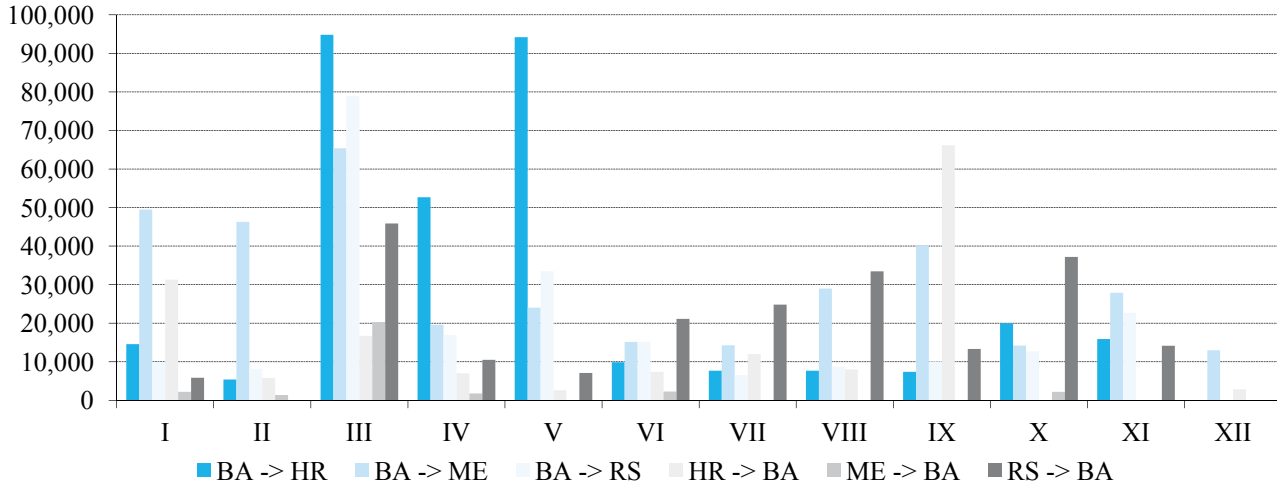
At the auction in December 2012, available auction capacity was allocated to 12 registered companies. The highest price was reached on the border with Serbia in the direction from Serbia to BIH in the amount of 5,379 BAM/MW.

The total revenue on the basis of monthly auctions in 2012 amounted to 1,315,061 BAM (Figure 10). The highest price reached at a monthly auction amounted to 1,264.3 BAM/MW and was registered on the border with Croatia in the direction from BIH at the auction for March 2012.

In 2012, auctions of cross-border capacities on a daily basis were also conducted, with resulting revenue of 21,648.5 BAM.

The user of all revenues from auctions for allocation of the right to use cross-border capacities as well as revenues realized by the application of the ITC mechanism is Elektroprijenos/Elektro-prenos BIH.

Figure 10. Income on the basis of monthly auctions, per borders and directions (BAM)

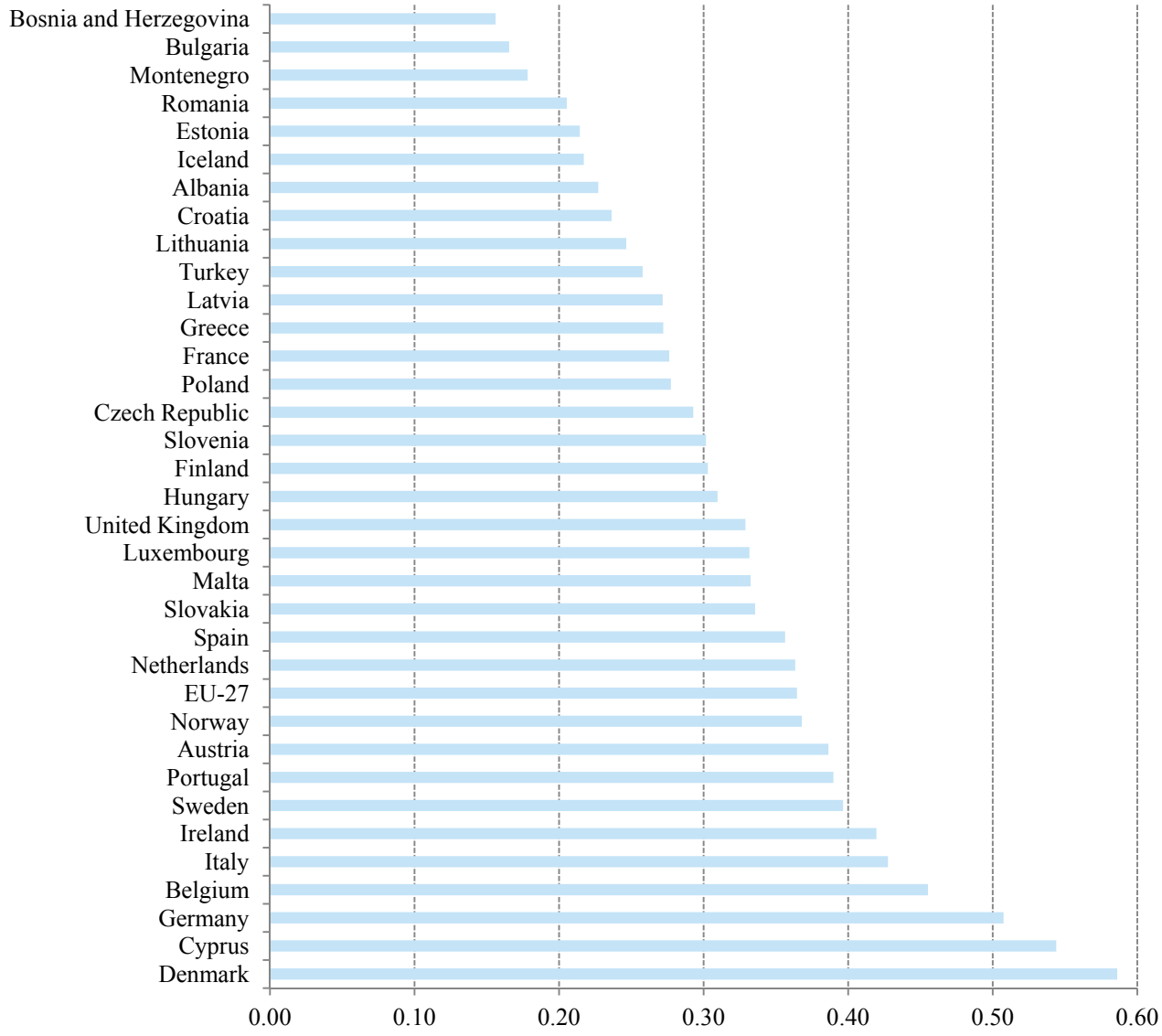


3.8 Energy Statistics

Meeting the needs of not only regulatory authorities but also a number of other institutions and economic stakeholders for quality and reliable statistical data, on April 19, 2011, the State Electricity Regulatory Commission and the Agency for Statistics BIH signed a Memorandum establishing the basis for mutual cooperation in the field of collecting statistics of relevance for activities of both institutions and the whole BIH energy sector.

This form of cooperation contributes to energy statistics development and harmonization of the BIH official system of statistics with statistics of the European Union countries in all fields, in particular in the field of energy statistics.

Figure 11. Electricity prices expressed in BAM/kWh for households (annual consumption from 2500 to 5,000 kWh) in the first half of 2012, using Eurostat methodology



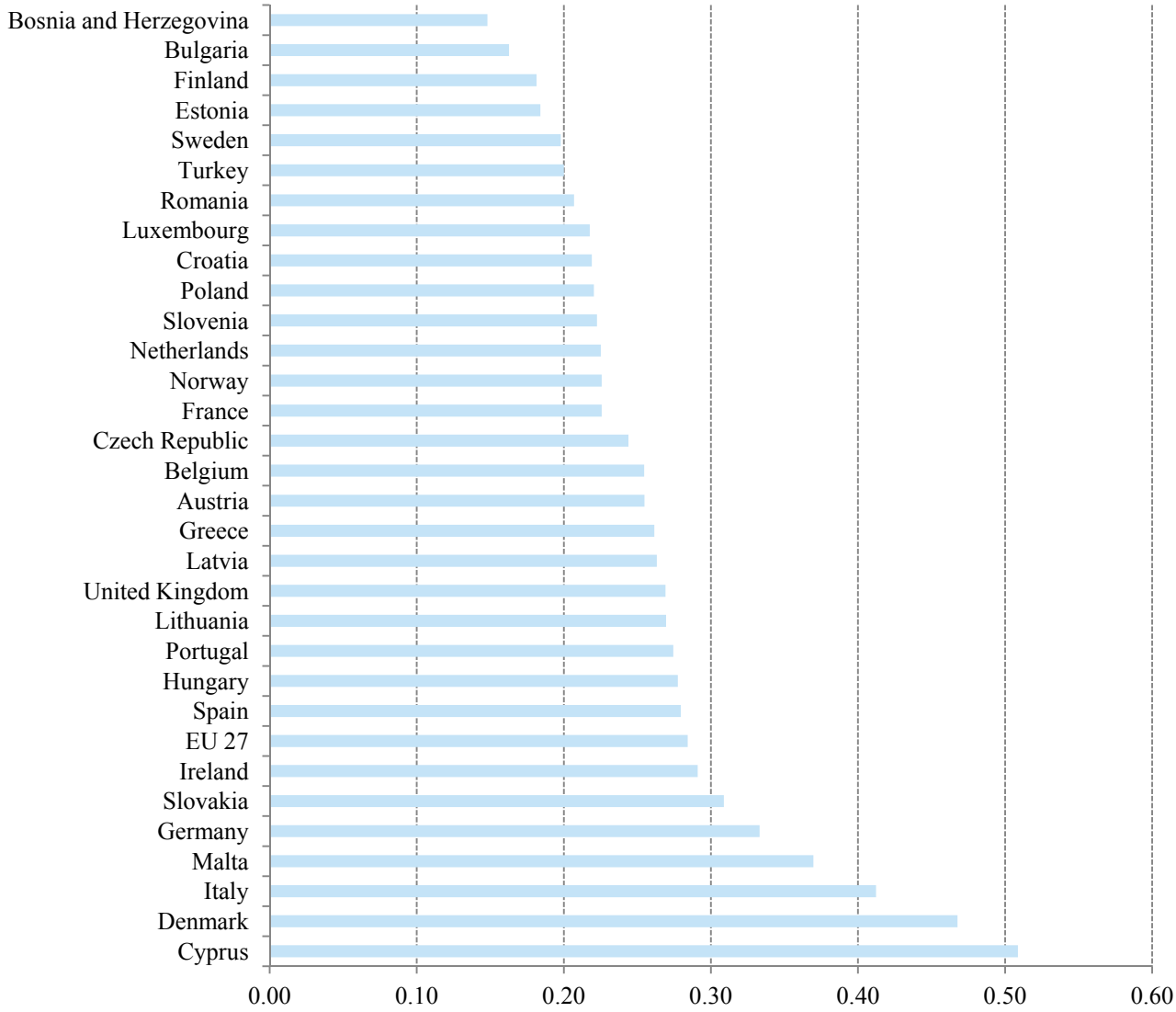
Note: The given amounts do not include VAT

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.

Its relevance increased especially after the extension of the Energy Community *acquis*, which, after the adoption of the October 2012 decisions of the Ministerial Council in the field of energy statistics, includes Regulation 1099/2008/EC on energy statistics and Directive 2008/92/EC concerning a procedure to improve the transparency of gas and electricity prices.

The results of the cooperation between the two institutions are recognizable in Eurostat's reports, which include data on electricity and gas prices in Bosnia and Herzegovina since 2011 (http://epp.eurostat.ec.europa.eu/portal/page/portal/energy/data), thus enabling their comparison with EU countries and some countries that are in the EU accession process (Figures 11 and 12).

Figure 12. Electricity prices expressed in BAM/kWh for industrial customers (annual consumption from 500 to 2,000 MWh) in the first half of 2012, using Eurostat methodology



Note: The given amounts do not include VAT

3.9 Other Activities

In addition to the aforementioned activities, in 2012 SERC exchanged data with a number of state institutions including the BIH Council of Ministers, Directorate for Economic Planning of the BIH Council of Ministers, the Council of Competition of BIH, the Foreign Investments Promotion Agency in BIH, the Agency for Statistics BIH, and prepared different types of information they needed.

Since their establishment, the State Electricity Regulatory Commission, the Regulatory Commission for Electricity in the Federation of BIH and the Regulatory Commission for Energy of the Republika Srpska cooperate and harmonize their activities.

One of the most important fields of activities of the regulatory commissions in BIH in 2012 was the definition of solutions for successful functioning of the electricity market, in particular during an interim period of the market opening. The focus of activities was on preparations for the establishment of an organized wholesale market in Bosnia and Herzegovina. Documents and notifications prepared in this regard were submitted to the BIH Council of Ministers and entity governments in order to familiarize them with the identified preconditions and obstacles as well as proposed solutions. Due to lack of the expected response and adequate result by the energy policy makers, the establishment of the organized wholesale electricity market in BIH was postponed.

The activities given in the *Regional Action Plan for Electricity Wholesale Market Opening in the Energy Community* prepared by several Energy Community institutions, primarily by the Permanent High level Group (PHLG) and the Regulatory Board (ECRB), as well as the Regional Group for South East Europe of the European Network of Transmission System Operators for Electricity (ENTSO-E), were among the priorities in the Energy Community activities in 2012.

The Regional Action Plan emphasizes the necessity of the concurrent development of regional and local markets on the basis of local action plans for the establishment of organized wholesale electricity markets, which all parties to the Energy Community are obligated to prepare, also including Slovenia, Hungary, Greece, Bulgaria and Romania.

Regulatory and Energy Assistance Project

Activities related to the market opening issues in BIH and the entire power sector reform in BIH are supported by the United States Agency for International Development (USAID) through the Regulatory and Energy Assistance Project (*REAP*).

The REAP project, which has lasted since 2007, supports BIH energy sector integration into the regional and European Union markets and restructuring and commercialization of energy companies.

REAP provided a special contribution in this regard by devising and supporting the *Case Study* and *Load Research Working Groups*, which are composed of representatives of the regulatory commissions and power utilities in Bosnia and Herzegovina, with the support of academic experts.

The Case Study Working Group is dedicated to the issues of supplying customers with electricity under market conditions, checking if procedures, participants, roles and responsibilities are set by and integrated into the existing regulations, and proposing measures for the removal of shortcomings and ensuring the necessary preconditions for successful functioning of the market.

The analysis of potential shortcomings included procedures for the granting of supply licenses, supplier switching procedures, public service and supplier of last resort functions, contracts, metering, billing and collection issues.

The identified shortcomings were classified in three groups which, in summary, pertain to market models, processes and contracts. It was concluded that there were shortcomings with regard to market models because some roles and competences did not exist, or if they existed their role was not adequately set forth by regulations. Furthermore, it was identified that some processes were not described or were only partly described and that some contracts did not exist, or if they existed they were not fully adequate.

A conclusion on further steps with regard to retail market regulation was reached on the basis of the identified shortcomings. In this context, it is necessary to continue activities on regulating all commercial processes in the electricity market in a coordinated manner.

The Load Research Working Group is dedicated to ensuring reliable data on volumes and characteristics of specific customer groups' consumption. Load research activities by power utilities are carried out in a coordinated and harmonized manner.

The power system load is in the function of time and space, and reliable data in this regard are needed by power utilities primarily for planning electricity generation and consumption, and distribution network development and operation. Data on the manner of using electricity during different periods of the day, week or season, on their share in total consumption and on

how load is distributed in different locations of the distribution network are most needed.

The obligation to measure consumed electricity applies to all customers, but there is a possibility of time-of use metering for only a small number of them. Collecting and processing data for the entire target population is economically unjustified and time consuming in most cases. This is the reason why statistical methods are used for analyses; data are collected for representatives of the target population – samples, with reasonable costs and timeframes.

Load Research Guidelines are prepared by the Working Group, power utilities reviewed and re-organized their data bases, samples were created and in some cases, metering cycles were completed and analyses conducted.

Further results expected as part of load research will greatly help both the regulatory commissions and power utilities. The regulatory commissions and power utilities are planning to use these data for tariff design and balancing market development, as well as consumption forecasts, distribution network development plans and demand management measures, respectively.

Technical Assistance of the European Commission

The European Commission continues to implement a Technical Assistance Exercise for consolidation of the electricity supply and development of an EU-*acquis*-compliant legislative framework in the field of electricity in BIH. With this program the European Commission supports the fulfillment of a commitment of Bosnia and Herzegovina, stemming from the Stabilization and Association Agreement in the domain of electricity and the legal obligations of BIH under the Treaty Establishing the Energy Community in the energy sector of BIH.

After successfully completing activities on the support to the creation of a framework for security of electricity supply in Brčko District BIH, including the introduction of regulatory practice in Brčko District BIH, and a Report providing an overview of compliance of BIH primary energy legislation with the EU *acquis*, the project *Development of an EU-acquis-compliant legislative framework in the field of electricity in Bosnia and Herzegovina* was a logical activity.

This project was launched at the end of 2012 in order to make national legislation compliant with the EU legislation, which is in all sectors one of the most complex and most comprehensive obligations stemming from the European integration process in general.

The State Electricity Regulatory Commission will continue to actively participate in the development of an EU-*acquis*-compliant legislative framework in 2013.

Results of Resolved Court Disputes

All five court rulings of the Court of Bosnia and Herzegovina confirmed the lawfulness of the SERC decisions that were disputed before court by legal persons whose applications were decided upon after the completion of the tariff proceedings. No new applications for revision of merits of any decision from the SERC regulatory practice were filed in 2012 by any person that has standing to commence an action.

4. INTERNATIONAL ACTIVITIES

4.1 Energy Community

The Treaty Establishing the Energy Community, which was signed in Athens on October 25, 2005, and came into effect on July 1, 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, Croatia, Macedonia, Moldova, Montenegro, Serbia, Ukraine and the United Nations Interim Administration Mission in Kosovo (UNMIK)[3].[4]

In accordance with their expressions of interest, the following countries participate in the work of the Energy Community bodies: Austria, Bulgaria, Czech Republic, Cyprus, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, Romania, Slovakia, Slovenia and the United Kingdom. These fifteen 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, Georgia, Norway and Turkey have observer status in the Energy Community bodies.

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 condition of the environment, with the implementation of energy efficiency and the utilization of renewable sources.

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, environment, renewable energy sources, energy efficiency, oil and statistics (Please see Table 8).

---

[3] UNMIK is a Contracting Party to the Energy Community. However, following an agreement between the Serbian and Kosovo* Governments reached under EU facilitation, Kosovo* is the only denomination to be used within the framework of regional cooperation. Kosovo* also participates on its own account and speaks for itself at all regional meetings.

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

[4] The list shows the Contracting Parties on December 31, 2012. Moldova and Ukraine have Contracting Party status as of May 1, 2010 and February 1, 2011 respectively.

Table 8. Energy Community Acquis

The *acquis*, that is, the legal framework of the Energy Community, which has been continuously developing since 2005, continues to focus on two directives foreseeing common rules for internal electricity and gas markets. They are supplemented by rules on cross-border trade, as well as rules in the areas of environment, competition and renewable energy sources. In 2007, the *acquis* was expanded to include the EU directives on security of electricity and gas supply, while as of 2008 the term 'network energy,' which initially included electricity and gas, includes the oil sector as well. In 2009 and 2010, the *acquis* was further expanded to include directives on energy efficiency, while in 2011, by the Ministerial Council decision rules comprising the 'Third Package', excluding Regulation 713/2009/EC, became legally binding also for the Energy Community Contracting Parties, with the deadline for the transposition into national legislation and the implementation in practice by January 1, 2015. In 2012, the *acquis* was significantly expanded by directives in the field of renewable sources, minimum oil stocks and statistics.

The Energy Community *acquis* follows the development of the European Union legal framework and at present it includes its key energy legislation in the fields of electricity, gas, environment, competition, renewable energy sources, energy efficiency, oil and statistics.

Acquis on Electricity

- Directive 2009/72/EC of the European Parliament and of the Council of July 13, 2008, concerning common rules for the internal electricity market and repealing Directive 2003/54/EC,
- Regulation 714/2009/EC of the European Parliament and of the Council of July 13, 2009, on conditions for access to the network for cross-border exchanges in electricity and repealing Regulation 1228/2003/EC,
- European Commission Decision 2006/770/EC of November 9, 2006, amending the Annex to Regulation 1228/2003/EC (Guidelines on the management and allocation of available transfer capacity of interconnections between national systems),
- Directive 2005/89/EC of the European Parliament and of the Council of January 18, 2006, concerning measures to safeguard security of electricity supply and infrastructure investment,
- Directive 2003/54/EC of the European Parliament and of the Council of June 26, 2003, concerning common rules for the internal electricity market,
- Regulation 1228/2003/EC of the European Parliament and of the Council of June 26, 2005, on conditions for access to the network for cross-border exchanges in electricity.

The Contracting Parties have committed to transpose both Directive 2003/54 and Regulation 1228/2003 into national legislation by July 1, 2007. The Contracting Parties have an obligation to open the electricity market also to household customers by January 1, 2015. In December 2007, the *acquis* on electricity was extended to include Directive 2005/89/EC (with the implementation deadline set for December 31, 2009), while in October 2011, the Third Legislative Package for an internal EU gas and electricity market was adopted with the implementation deadline set for January 1, 2015. Exceptionally, the implementation deadline for Article 11 of Directive 2009/72/EC shall be January 1, 2017.

Acquis on Gas

- Directive 2009/73/EC of the European Parliament and of the Council of July 13, 2009, concerning common rules for the internal natural gas market and repealing Directive 2003/55/EC,
- Regulation 715/2009/EC of the European Parliament and of the Council of July 13, 2009, on conditions for access to the natural gas transmission network and repealing Regulation 1775/2005/EC,
- Regulation 1775/2005/EC of the European Parliament and of the Council of September 28, 2005, on conditions for access to the natural gas transmission network,
- Directive 2004/67/EC of the European Union Council of April 26, 2004, concerning measures to safeguard the security of natural gas supply,
- Directive 2003/55/EC of the European Parliament and of the Council of June 26, 2003, concerning common rules for the internal natural gas market.

The Contracting Parties have committed to transpose Directive 2003/55 into national legislation by July 1, 2007. The Contracting Parties have an obligation to open the gas market also to household customers by January 1, 2015, while for all other customers the market should have been opened by now. In December 2007, the *acquis* on gas was extended to include Directive 2004/67/EC and Regulation 1775/2005 (with the implementation deadline set for December 31, 2009), while in October 2011, the Third Legislative Package for an internal EU gas and electricity market was adopted with the implementation deadline set for January 1, 2015. Exceptionally, the implementation deadline for Article 11 of Directive 2009/73/EC shall be January 1, 2017.

Note: Texts of EU rules provided in this table are available within an internet presentation of the State Electricity Regulatory Commission (www.derk.ba (www.derk.ba).

Continued on the next page ⇨

⇨ *Continuation of Table 8 from the previous page*

Acquis on Environment

- European Community Council Directive 85/337/EEC of June 27, 1985, on assessment of the effects of certain public and private projects on environment, with subsequent amendments of March 3, 1997 (Directive 97/11/EC), and Directive 2003/35/EC of the European Parliament and the Council of May 26, 2003,
- Directive 2001/80/EC of the European Parliament and of the Council of October 23, 2001, on limitation of emissions of certain air pollutants by large combustion plants (≥ 50 MW),
- Directive 2005/53 of the European Parliament and of the Council of July 6, 2005, amending Directive 199/32 of April 26, 1999, relating to the reduction of sulfur content of certain liquid fuels,
- Article 4(2) of the European Community Council Directive 79/409/EEC of April 2, 1979, on conservation of wild birds.

The *acquis* on environment shall be implemented insofar as they affect network energy. While the implementation of Directives 79/409/EEC and 85/337/EEC had to be completed upon the entry into force of the Treaty, the Directive 1999/32/EC is to be transposed into national legislation and implemented by December 31, 2011. The deadline for implementation of Directive 2001/80/EEC shall be December 31, 2017. According to Article 13 of the Treaty, the Contracting Parties recognize the importance of the Kyoto Protocol and shall endeavor to accede to it. The Contracting Parties also shall endeavor to implement Council Directive 96/61/EC of 24 September 1996, concerning integrated pollution prevention and control.

Acquis on Competition

The following activities are not allowed and shall be assessed pursuant to Article 81, 82 and 87 of the Treaty Establishing the Energy Community:

- Prevention, restriction or distortion of competition,
- Abuse of dominant position,
- Any public 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 Energy Community, in particular Article 86, shall be upheld.

Acquis on Renewable Energy Sources

- Directive 2009/28/EC of the European Parliament and of the Council of April 23, 2009, on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC, and 2003/30/EC,
- Directive 2003/30/EC of the European Parliament and of the Council of May 8, 2003, on promotion of use of bio-fuels or other renewable fuels in transportation,
- Directive 2001/77/EC of the European Parliament and of the Council of September 27, 2001, on promotion of electricity generated by using renewable sources in the internal market.

The deadline for submission of an implementation plan on the Directives 2001/77/EC and 2003/30/EC was July 1, 2007, while the deadline for transposition into national legislation and the implementation of Directive 2009/28/EC shall be January 1, 2014.

Acquis on Energy Efficiency

- Directive 2006/32/EC of the European Parliament and of the Council of April 9, 2006, on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC
- Directive 2010/31/EC of the European Parliament and of the Council of May 19, 2010, on the energy performance of buildings
- Directive 2010/30/EC of the European Parliament and of the Council of May 19, 2010, on the indication by labeling and standard product information of the consumption of energy and other resources by energy-related products.

Based on the Energy Community Ministerial Council decisions in 2009 and 2010, the *acquis* was extended to three EU Directives in the area of energy efficiency. The implementation deadlines vary from December 31 2011 to January 2017.

Acquis on Oil

- Directive 2009/119/EC of the European Parliament and of the Council of September 14, 2009, imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products.

The Ministerial Council adopted the Directive on October 18, 2012, with the implementation deadline set for 1 January 1, 2023.

Acquis on Statistics

- Directive 2008/92/EC of the European Parliament and of the Council of October 22, 2008, concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users,
- Regulation 1099/2008/EC of the European Parliament and of the Council of October 22, 2008, on energy statistics.

As of October 18, 2012, the *acquis* includes the aforementioned pieces of legislation with the implementation deadline set for December 1, 2023.

In addition to the EU *acquis*, the Ministerial Council adopted several independent measures pertaining to dispute resolution, establishment of the '8th Region' aimed at facilitation of cross-border electricity trade and measures for coordination of security of supply.

Figure 13. Geographic scope of the Energy Community

The Energy Community was created for a ten-year period, expiring in July 2016, which can be extended by a unanimous decision of the Ministerial Council.

To ensure an adequate process of establishing and functioning of the Energy Community, the Treaty establishes a Ministerial Council, Permanent High Level Group, Regulatory Board, Electricity Forum (Athens Forum), Gas Forum (Maribor Forum), Social Forum, Oil Forum (seated in Belgrade) and the Secretariat.

The Ministerial Council, as the highest body of the Energy Community, ensures the achievement of goals that are determined by the Treaty Establishing the Energy Community. The Ministerial Council consists of one representative of each Contracting Party and two representatives of the European Union.

The Permanent High Level Group (PHLG) brings together senior officials from each Contracting Party and two representatives of the European Community, ensuring continuity of and follow-up to Ministerial Council's meetings, implementing agreed activities and deciding on implementing 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 the EU participants and one representative of the Agency for the

Cooperation of Energy Regulators (ACER). 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. According to the opinion of the European Commission, this supranational body may become a role model for other parts of the world.

Energy Community Fora, dedicated to electricity, gas, oil and social aspects, bring together all interested stakeholders, including representatives of governments, regulators, industry, customers and international financial institutions.

The Energy Community Secretariat, seated in Vienna, represents the key administrative actor and, together with the European Commission, ensures the necessary coordination and provides support for the work of other institutions. The Secretariat is responsible for reviewing the proper implementation by the Contracting Parties of their 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 Energy Community Treaty while the European Commission plays a general coordinator role.

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

The year 2012 in the Energy Community was marked by the adoption of a regional strategy, which represents an important step in the process of promotion and more efficient planning and development of the power infrastructure in the region. This document takes into consideration national strategies and plans in the field of energy, competition and environment and provides for a systematic approach to innovation regarding changes of legal frameworks and new economic and political factors.

The strategy emphasizes the need to abolish regulated prices as soon as possible and have fully operational market relations in the sector in reality. Following the adoption of this document, the process of identifying Projects of Energy Community Interest (PECIs) has been launched, using a methodology similar to the one that is being used in the European Union. These are projects that foster market opening and integration, security and sustainability of supply and promote cross-border cooperation. It is foreseen that this initiative will be followed by the adoption of adequate policy and regulatory measures and provision of technical assistance and financial mechanisms.

In parallel with the adoption of the Strategy, on 18 October in Budva, Montenegro, the Energy Community Ministerial Council

Mr. Günther Oettinger, EU Commissioner for Energy: "...With the endorsement of the (Energy Community) Strategy, the Ministerial Council clearly demonstrated the Energy Community's strong ambitions to move towards a more integrated and secured energy market. It shows commitment to better align national policies."

"...(The Decision on the adoption of Directive on renewables) will not only contribute to more sustainable use of energy in Contracting Parties, but also bring about new business opportunities, attract investment and help the region to diversify its energy mix and reduce dependence on foreign suppliers..."

From the speech at the 10th meeting of the Energy Community Ministerial Council,
Budva, Montenegro,
October 18, 2012

reached an agreement on the implementation of Directive 2009/28/EC on the promotion of the use of energy from renewable sources, which, inter alia, sets target quotas for the renewable energy share in total energy consumption of individual Contracting Parties in 2020. The target share for Bosnia and Herzegovina is as high as 40%, which significantly exceeds the plan of 20% in the European Union. The concrete shares of renewable energy for each of the nine signatories of the Treaty are calculated on the basis of the European Union methodology and reflect the levels that are also set for the EU member states in this area. At the request of Bosnia and Herzegovina, the adopted Decision allows for a revision of the quota level at the initiative of a Contracting Party if different initial statistical data can be demonstrated.

The year 2012 in the Energy Community was also marked by the extension of the *acquis* to the field of statistics (with a very short implementation deadline – by December 31, 2013) and the oil sector (with the implementation deadline set for January 1, 2023). Table 8 provides a more detailed overview.

A significant breakthrough in the implementation of market principles in the region was made by the signing of a Joint Declaration on Cooperation by competition authorities of the Contracting Parties and the Secretariat (Vienna, November 23, 2012) which establishes a joint Energy Community Competition Network. Close cooperation among competition authorities has been promoted in this way, including their cooperation with energy regulators. It is expected that the use of potential in competition law enforcement would give an additional impetus to market reforms and the fulfillment of obligations by the Contracting Parties.

The priorities of the Energy Community in 2013 include further development of the energy strategy and planned steps for implementation thereof, including concrete investment plans and infrastructure development. Furthermore, one of the priorities includes the social aspect of energy policy, and with this regard the preparation of an Energy Community social strategy framework is planned. Further steps towards the implementation of the Regional Action Plan for Wholesale Market Opening in the Energy Community and security of supply, focusing on gas interconnections and compulsory oil stocks, complete the Energy Community's priorities in the forthcoming year.

By participation in this process, Bosnia and Herzegovina confirms its commitment to the reform of the energy sector, liberalization of the energy market and harmonization of its policies with those of EU member states.

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 realization of different projects supporting the establishment of the Energy Community, and in particular, through proactive involvement in surveys which were planned and implemented by different groups with the wider thematic spectrum that includes energy regulators from the region and the European Union.

SERC activities in the Energy Community continue to focus on the Regulatory Board, in which Bosnia and Herzegovina and its interests are represented by the State Electricity Regulatory Commission. The formal establishment of the Regulatory Board of the Energy Community took place on December 11, 2006 in Athens. In 2012, the Regulatory Board held four meetings.

Mr. Mirsad Salkić, SERC Commissioner, was the President of ECRB in the past two years until March 2012, while Mr. Edin Zametica, Advisor to the Commission, has also contributed to the affirmation of the Regulatory Commission in the capacity of the Chairman of the Customer Working Group since 2007.

The ECRB organizes a considerable part of its activities through several working groups, with the support of the relevant Energy Community Secretariat Section.

During 2012, **the Electricity Working Group (EWG)** was focused on the process of establishing a common regional mechanism for the allocation of cross-border capacities, establishment of the regional balancing mechanism, the issue of market monitoring, design and opening, harmonization of licensing regimes in the region, regulatory investment incentives and renewable energy sources.

By establishing a few sub-groups in the operational organization of its work, EWG prepared several important documents, reports and benchmarking reports, among which of special importance are *Electricity Balancing Models in the Energy Community - An Assessment Report*, *quarterly reports on congestion management in the Energy Community, Study on Development of Best Practice Recommendations for Imbalance Settlement* and *Draft Guidelines for Electricity Market Monitoring in South East Europe*. EWG made a significant contribution to the coordinated implementation of the Regional Action Plan for Wholesale Market Opening in South East Europe. As this plan is a joint document of the PHLG, ECRB and ENTSO-E, all institutions appointed coordinators for monitoring the implementation process.

EWG prepares overviews of the regulatory environment, identifies legal and financial obstacles and proposes solutions at the regional and national levels for the implementation and functioning of new mechanisms within the regional market of South East Europe.

The **Gas Working Group (GWG)** has been committed to regional gas market development, which is less developed than the electricity market. Only a few countries have developed their gas markets, while the others use gas within a limited scope or not at all. Currently, there are a large number of projects aimed at regional gas market development.

In 2012, the activities of the G|WG were focused on regulatory development and its contribution to the development of the regional energy strategy. The Group provides support to the development of the Energy Community Gas Ring concept, the realization of which may significantly enhance the security of supply and further gasification in South East Europe. In this context a document was produced under the title: "Regulatory Framework for the Development of the Energy Community Gas Ring: A common approach for the Northern and Southern Branches."

Within the Gas Ring concept *The Gas-to-Power Initiative* has been launched which ultimately would have a positive effect not only on gas consumption balancing in the region, but also on electric power system balancing, which, according to some prospects, would operate with the increased influence of wind power plants in the forthcoming period.

The activities focused on the issue of gas transmission network balancing in the Energy Community resulted in the development of documents describing the current situation in Albania, Bosnia and Herzegovina, Montenegro, Croatia, Kosovo*, Macedonia, Moldova, Serbia and Ukraine, and providing recommendations for the harmonization of this issue. Unlike electricity, gas can be stored and, as such, be used for balancing.

In 2012, **the Customer Working Group (CWG)** was primarily committed to the development of customer protection mechanisms in the process of energy market liberalization and contributed to all customer-related activities of the Energy Community, in particular to the protection of vulnerable customers. Within the scope of CWG activities, a study on *Development of Best Practice Recommendations for Customer Switching in the Energy Community* was prepared and a workshop was held for representatives of the regulatory authorities. The CWG prepared several documents pertaining to the state of play in the Energy Community including a *Report on Small Customer' Generation* and *An Analysis of Existing Grid Connection Rules and Their Customer-Friendliness.*

In 2012, the *Benchmarking Report on Quality of Electricity Supply* was published, which is the result of cooperation between the ECRB and the Council of European Energy Regulators (CEER) and constitutes an Annex to the 5th CEER Benchmarking Report on the Quality of Electricity Supply.

Within continued cooperation between CEER and ECRB which is supported by the regular exchange of knowledge and experiences, the CWG worked toward the development of a joint document of EU and Energy Community regulators under the title *The Guidelines of Good Practice on the Implementation and Use of Voltage Quality Monitoring Systems for Regulatory Purposes*.

In the forthcoming period, the CWG plans to continue its activities on vulnerable customer protection and provide its contribution to the development of the Energy Community social strategy, analyze the relevant elements comprising distribution tariffs and end customer prices, and prepare an overview of practice in the area of contracts that are signed by small customers. The CWG also plans to organize a joint seminar with CEER and ERRA for the purpose of customer education and raising their awareness of energy market functioning.

The South East Europe Co-ordinated Auction Office Implementation Group (SEE CAO IG) finalized its work with the establishment of *the Project Team Company of the South East Europe Co-ordinated Auction Office*, seated in Podgorica. The contract on its establishment was signed on June 13, 2012 by the transmission system operators of Albania, Bosnia and Herzegovina, Montenegro, Greece, Croatia, Kosovo*, Macedonia, Romania, Slovenia and Turkey.

In 2013, the Project Team Company, which was supported by donations of the European Bank for Reconstruction and Development (EBRD), German Reconstruction Credit Institute (KfW) and the United States Agency for International Development (USAID) will finalize preparatory activities for the established of *the South East Europe Co-ordinated Auction Office*, including the development of capacity allocation rules and auction revenue allocation procedures.

Harmonization of congestion management methods and optimization of cross border capacity allocation as integration instruments allow for easier electricity transmission and trading, with less bureaucracy but at the same time strengthen the regional integration and interest of investors.

SEE CAO IG was one of the ECRB working groups since its establishment and included representatives of regulatory authorities and transmission system operators, with regulators having the leading role. This composition took into account the fact that the issue of coordinated auctions requires continued and close cooperation between regional system operators and regulators. Close cooperation between regional regulators and system operators will continue with various thematic meetings dedicated to the issue of coordinated auctions.

4.2 Energy Regulators Regional Association – ERRA

The Energy Regulators Regional Association (ERRA) is an organization composed of independent energy regulatory bodies primarily from the Central European and Eurasian region. ERRA has 24 full and four associate members. In addition, six affiliate members are engaged in ERRA activities including the National Association of Regulatory Utility Commissioners (NARUC) and regulatory authorities and associations from Africa and Asia (Figure 14).

The goals of ERRA are 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.

Figure 14. ERRA Membership

The State Electricity Regulatory Commission is a full ERRA member as of 19 May 2004. At the General Assembly meeting held in May 2010, the two entity regulatory commissions, FERC and RSERC, became ERRA associate members.

SERC representatives actively participate in the work of the General Assembly and Investment Conference, as well as in the work of standing committees and working groups with particular emphasis on the Standing Licensing/Competition Committee, Legal Regulation Working Group and Standing Tariff/Pricing Committee, the latter being chaired by Mr. Saša Šćekić, Head of Licensing and Technical Affairs Department, who in this capacity contributes to the affirmation of the Regulatory Commission since 2010. In 2012, the Strategic Planning Working Group was created to analyze the work of the Association and propose solutions to the improvement of its work and long-term sustainability.

The most important topics elaborated in 2012 included smart networks and meters, incentive mechanisms for renewable energy sources, energy efficiency promotion models, climate change, the regulatory aspect of third party access, market opening and development, creation of regional markets, infrastructural development for the purpose of cross-border trading, unbundling of the transmission activity, regulatory supervision of the wholesale market, transmission capacity allocation and congestion management, the public service obligation, supplier switching procedures, new tariff tools and incentive regulation of distribution companies, legal aspects of licensing, a possibility of transition from the licensing approach to the registration approach, regulation of gas storage activities, customer classification, connection procedure and price, executive powers of regulators, dispute settlement and transparence and timeliness of regulatory action.

Besides active participation in ERRA bodies, the State Electricity Regulatory Commission fulfills the role as a member of this Association by providing relevant information on the power sector and the applicable regulatory practice in Bosnia and Herzegovina.

4.3 Mediterranean Energy Regulators – MEDREG

The Mediterranean Energy Regulators – MEDREG, created in May 2006 as a working group, is today a non-profit Association under Italian law, established in Rome in November 2007. MEDREG gathers regulatory authorities from Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Israel, Jordan, Malta, Montenegro, Morocco, the Palestinian Authority, Portugal, Slovenia, Spain, Tunisia and Turkey.

Its organization is structured around a biannual General Assembly, as well as around four permanent Ad Hoc Groups: (1) on Institutional Issues (chaired by Algeria), (2) on Electricity (chaired by Egypt), (3) on Gas (chaired by Turkey) and (4) on Environment, Renewable Energy Sources and Energy Efficiency (chaired by Spain). Ad Hoc Groups meet at least twice a year.

The main objective of the Association is the promotion of clear, stable and harmonized legal and regulatory frameworks in the Mediterranean region with the aim to facilitate investments in energy infrastructures and support market integration. Toward this goal, MEDREG promotes a permanent exchange of know-how, data collection and diffusion of expertise through comprehensive studies, recommendation reports and specialized training sessions in the field of energy regulation.

MEDREG activities benefit from the active commitment of all Member Regulators, and have been supported since 2007 by the European Union and the Council of European Energy Regulators (CEER). In 2012, MEDREG was acknowledged by the Committee on Industry, Research and Energy (ITRE) of the European Parliament as the reference Institution for energy regulation in the Mediterranean region.

The representatives of SERC directly participate in the work of the General Assembly, while their contribution to the work of Ad Hoc Groups is proved via various telecommunication tools in the preparation of information and comments on draft documents. Election of Mr. Almir Imamović, Head of Tariff and Market Department, as Vice-President of the Ad Hoc Group for Electricity, also contributed to the affirmation of the Regulatory Commission within MEDREG.

As consumer issues have become one of the central topics of energy markets development worldwide, at the General Assembly's meetings in 2012 MEDREG paid special attention to this topic and presented to the General Assembly planned activities of the newly formed Task Force on Consumers Issues (CUS TF), with a significant contribution of the SERC representatives. In addition, the General Assembly emphasized the importance of a dialogue with external partners because regional cooperation, including joint activities of the main energy stakeholders in the Mediterranean region, is one of necessary conditions for the establishment of a Mediterranean Energy Community. The exchange of information and promotion of MEDREG activities among member countries are fostered by the network of Communication Officers in which each regulatory authority of member countries has its representative.

In 2012, MEDREG officially presented its publication, the "5-Year Report," based on the achievements of intense activities in the previous period, confirming the Association's dedication to its primary goals.

4.4 International Confederation of Energy Regulators – ICER

The International Confederation of Energy Regulators (ICER) 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.

Since its creation, ICER has endeavored to build up solid links between Regional Regulatory Associations around the world through its Virtual Working Groups structure. This structure includes the Virtual Working Group on the Opening and Integration of Regional Markets (VWG1), Virtual Working Group on Technological Change (VWG2), Virtual Working Group on Consumers (VWG3) and Virtual Working Group on Education and Best Practices (VWG4).

Over 200 regulatory authorities on six continents are included in the ICER's membership through regional regulatory associations (Figure 15) and participate in its activities. SERC is an ICER member through ERRA and MEDREG.

The present results of this global cooperation among energy regulators are presented in four reports, including international case studies, on: (1) guaranteeing reliability and security of supply, (2) renewables and distributed generation, (3) smart metering, and (4) competitiveness and affordability.

Figure 15. Regional regulatory associations included in the ICER's membership

Lord Mogg, ICER Chairman:
"...ICER has accelerated a trend among regulators to come together across political boundaries in order to share experience and to contribute their expertise in helping to tackle today's global challenges."
From the closing speech at the Fifth World Forum on Energy Regulation, Quebec, Canada, 16 May 2012

4.5 International Energy Regulation Network – IERN

International Energy Regulation Network (IERN) is a web platform established in 2003 by the II World Forum on Energy Regulation (WFER). IERN aims at facilitating information exchange on electricity and natural gas market regulation, to the benefit of regulators and also of other interested users. IERN is managed by the Florence School of Regulation in close cooperation with Council of European Energy Regulators (CEER).

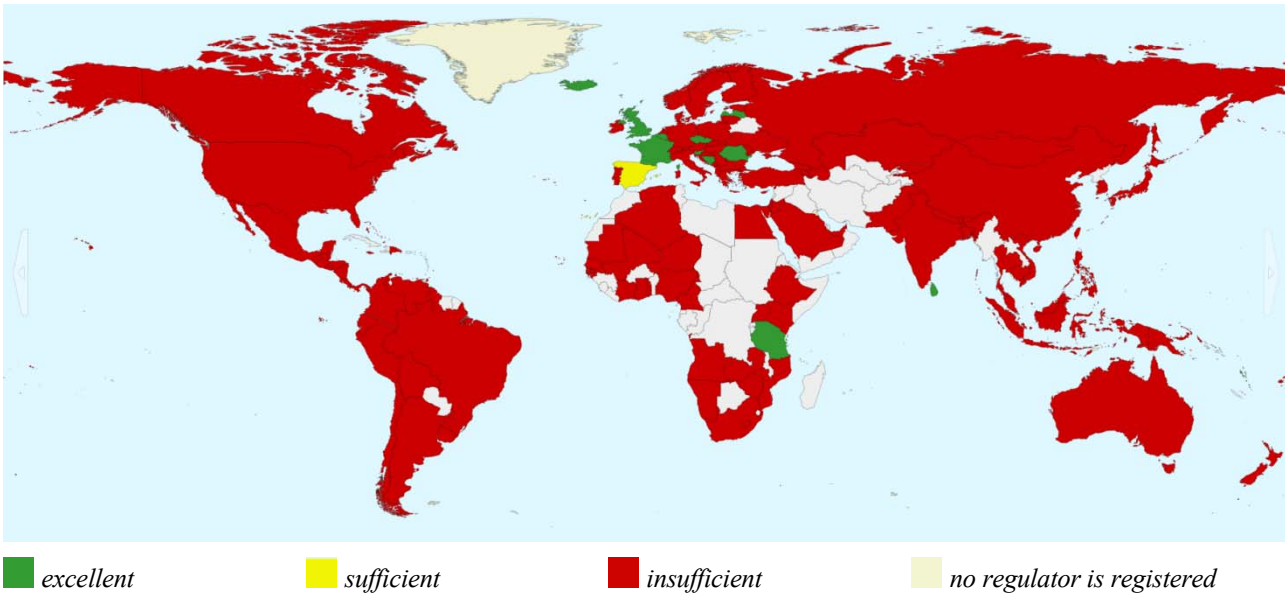
IERN is a place where regulators can exchange information about training courses, conferences and online resources on energy regulation. In the longer term, IERN aims to become not only a vector for exchanging existing information, but also a producer of in-house working papers based on best practices.

IERN brings together 310 regulatory authorities that are at the same time members of regional regulatory associations.

In order to guarantee the quality of the data to be found on the website, IERN is supported by the main regional associations of regulators worldwide, individual energy regulators and by some international institutions. SERC directly participated in the creation of the Network, making the data on the power sector and regulatory practice in BIH accessible in this manner as well.

Due to the active participation of SERC staff in providing required data for IERN online surveys in 2012, the data provided by the BIH regulator are among those that obtained the highest data quality rating (Figure 16). The aim of these activities is to provide information on electricity sector

Figure 16. Data quality rating by IERN (December 2012)



regulation, in particular on the scope of the activities of regulatory authorities, including transmission, distribution, generation, wholesale, retail and others, as well as to update existing data. This approach enables interested users to access the relevant information provided by the platform in a timely and efficient manner.

* * *

Since May 2012, the International Energy Regulation Network (IERN) and the International Confederation of Energy Regulators (ICER) have merged with into a single organization under the ICER umbrella. IERN and its database are thus now part of the ICER wider framework. Developments are ongoing to implement a single website for ICER and IERN.

5. AUDITING REPORT

Pursuant to the Law on Transmission of Electric Power, Regulator and System Operator of BIH, SERC's financial reports have to be audited by an independent auditor.

Through an audit of financial reports SERC ensures the independent and impartial verification of stated business results and harmonization of the data provided and procedures conducted with the applicable regulations. In 2012, the auditing of the SERC financial reports was performed by the Auditing, Accounting and Consulting Company "REVIK" d.o.o. Sarajevo, with whom a contract was concluded based on a published public invitation for auditing services.

In order to obtain reasonable assurances that the financial reports did not contain any significant mistakes in material terms, auditors collected data on amounts and other data given in the financial reports, that is, obtained sufficient evidence to express their opinion.

When assessing the facts of financial reports, the auditor simultaneously checked the application of accounting policies as well as the relevant estimations of the management, primarily in the field of financial functioning. Financial management is an efficient tool for reaching SERC goals.

The basis for the financial functioning is defined by the Law on Transmission of Electric Power, Regulator and System Operator of BIH that lays down that SERC shall be fully funded by its own revenues.

The basic revenue of SERC in 2012 was the regulatory fees paid by licensees. As in the previous years, the regulatory fee covered SERC costs in the current year, while the licensees' obligation to pay the regulatory fee in the forthcoming period was reduced by the estimated difference in revenues over expenditures.

"In our opinion, the financial reports show objectively the financial standing of the State Electricity Regulatory Commission (SERC) on 31 December 2011 in all materially relevant aspects, as well as its business results and changes in cash flows for the year which ended at that point, in accordance with the International Financial Reporting Standards ("IFRS")."

("REVIK," 9 March 2012)

The costs audited by an external auditor were recognized in the financial report in line with the same accounting policies and principles as in the previous periods when auditing financial reports was performed by the Office for Auditing of the Institutions of Bosnia and Herzegovina.

Audited financial reports are the result of SERC acitivites that include:

- incurrence and settlement of financial obligations for the needs as defined in the approved Financial Plan,
- short-term planning and cash flow management,
- regular monitoring of the Financial Plan realization in the current year,

- an analysis and estimate of future cash flows as the basis for development of a new financial plan,
- preparation of the financial plan for the following year,
- internal financial reporting as the basis for adoption of the relevant business decisions,
- financial reporting to external bodies, authorized institutions and the public.

With the aim to enable well-organized and efficient work with the simultaneous prevention or identification of possible mistakes in order to protect the property from loss caused by negligence or poor management, SERC prescribed procedures and responsibilities for the performance of the aforementioned activities (*internal control system*).

The created internal control system within SERC was additionally improved in 2012 by adopting new internal acts and amending the existing ones, directed primarily towards rationality and cost-effectiveness of the existing business operations, which resulted in the reduction of some costs in comparison to the previous periods. In the forthcoming period, SERC also intends to continue its efforts on enhancing the efficiency of the implementation mechanism for the established internal control system.

Conscientious handling of assets and harmonization of business operations with the applicable legal regulations have been a constant noticed in the periods when SERC financial reports were also audited by the Office for Auditing of the Institutions of Bosnia and Herzegovina, and SERC was subsequently commended openly by both Houses of the Parliamentary Assembly of Bosnia and Herzegovina.

By conducting external auditing, SERC ensures both an independent and reliable report on the the use of property and the treatment of incomes and expenditures. With the aim of providing information on its financial standing and business results to interested persons and the wider public, auditing reports are published on an annual basis. The revised financial reports for 2011 were published in the "Official Gazette of BIH," number 28/12 and within a SERC internet presentation (*www.derk.ba*).

6. MAIN ACTIVITIES IN 2013

The State Electricity Regulatory Commission will continue its activities on the creation of conditions for free trade and unhindered electricity supply in accordance with the previously defined quality standard to the benefit of the 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.

In 2013, SERC will continue to cooperate with the Parliamentary Assembly of Bosnia and Herzegovina, in particular with the Committee on Traffic and Communications of the House of Representatives of PA BIH and the Committee on Foreign and Trade Policy, Customs, Traffic and Communications of the House of Peoples of PA BIH. In addition, the focus of interest will primarily remain on the information exchange and harmonization 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 Bosnia and Herzegovina.

All existing modalities of mutual follow up and harmonization of activities will be used also in 2013 with the Regulatory Commission for Electricity in the Federation of BIH (FERC) and the Regulatory Commission for Energy of the Republika Srpska (RSERC), as well as with other regulatory bodies established at state level, primarily the Council of Competition of BIH.

In order to meet the need of different decision-making levels for quality and reliable statistical data in the energy field, SERC will remain a reference administrative source and an active generator of these data. To this end, it will continue to cooperate with the BIH Agency for Statistics, in particular after the extension of the Energy Community *acquis*, which, after the adoption of the October 2012 decisions of the Ministerial Council in the field of energy statistics, includes Regulation 1099/2008/EC on energy statistics and Directive 2008/92/EC concerning a procedure to improve the transparency of gas and electricity prices.

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

Through its activities SERC will be focused on:

- Setting of tariffs in line with SERC competencies,
- Issuance of licenses,
- Regulatory monitoring of licensed entities,

- Creation of new regulatory rules and an analysis of the previously adopted regulatory rules and the existing practice with a review and revision of SERC rules,
- Development of a model for the provision of ancillary services,
- Fostering a higher degree of integration of the national electricity market with a particular emphasis on the efficient wholesale and retail market opening,
- Capacity building in terms of the fulfillment of international obligations with regard to regulatory reporting,
- Social aspect in the field of regulatory practice,
- Monitoring the implementation of the Inter-TSO Compensation Mechanism (ITC mechanism) and operation of the Project Team Company of the South East Europe Co-ordinated Auction Office,
- Approving and monitoring rules developed by the "Independent System Operator in Bosnia and Herzegovina," "Elektroprijenos/Elektroprenos BIH" and "Komunalno Brčko,"
- Monitoring the development of *the Indicative Generation Development Plan for the Period 2014-2023* and approving *the Long-Term Transmission Network Development Plan* for a ten-year period as well as *An Investment Plan of Elektroprijenos/Elektroprenos BIH*,
- Sharing information on regulatory practice with the regulated entities and the public,
- Performing other tasks entrusted to 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 the forthcoming period, in accordance with competences vested in SERC under law.

Taking into account the fact that the new rules of the European Union on the internal energy market (Third Package) have become mandatory for Bosnia and Herzegovina under the Treaty Establishing the Energy Community, with the deadline for the transposition into the national legislation and the practical implementation by January 1, 2015, in line with its competences and optimal coordination with other key stakeholders SERC will be focused on the implementation of several projects to this end.

It is in the interest of all key stakeholders tasked with the implementation of the power sector reform in Bosnia and Herzegovina to harmonize secondary legislation and to have efficient coordination with the bodies that participated in its drafting and development. The aim is to create a clear and stable

legal framework based on the European directives and rules on the internal energy market.

In this context, SERC is planning to actively participate in the realization of the project *Development of an EU-acquis-compliant legislative framework in the field of electricity in Bosnia and Herzegovina*, and removal of shortcomings in the power sector referred to in the *BIH 2012 Progress Report of the European Commission*.

SERC will also participate in supporting and implementing regional priorities and defined Energy Community projects (energy strategy development and steps planned for its implementation, development of a social strategy, wholesale electricity market opening and security of supply) but also in the priorities identified for the BIH power sector within the Energy Community, that is, those referred to in the *Report on the implementation of the acquis under the Treaty Establishing the Energy Community*.

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

- ECRB – the Energy Community Regulatory Board (including the Electricity Working Group and Gas Working Group, Customers Working Group),
- ERRA – the Energy Regulators Regional Association (including the Standing Licensing/Competition Committee, Standing Tariff/Pricing Committee and Legal Regulation Working Group),
- MEDREG – the Mediterranean Energy Regulators (including Ad Hoc Working Groups on institutional issues, electricity, gas and environment, renewable energy sources and energy efficiency as well as Task Force on Consumers Issues),
- ICER – International Confederation of Energy Regulators,
- IERN – International Energy Regulation.

Furthermore, SERC will continue to follow up the work of the Council of European Energy Regulators (CEER) and Agency for the Cooperation of Energy Regulators (ACER).

In 2013, an additional dimension to international cooperation of the regulatory commissions in Bosnia and Herzegovina will be provided by a new USAID project for establishment of partnership with a regulatory authority from one of the USA States. The Regulatory Partnership Program is also supported by the National Association of Regulatory Utility Commissioners (NARUC).

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

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

(Source: ISO BIH, the Company for Transmission of Electric Power of BIH and public power utilities)

Basic data on installed capacity of generation units

Total installed capacity of generation units in Bosnia and Herzegovina amounts to 3,963.96 MW, with 2,048 MW and 1,765 MW installed in major hydro power plants and thermal power plants respectively. Installed capacity of small hydro power plants and industrial powers plants in BIH amounts to 59.73 MW and 91.23 MW respectively. An overview of major generation facilities is provided in the table below:

Hydro power plants	Capacity of power unit (MW)	Total installed capacity (MW)
Trebinje I	2×54+1×63	171
Trebinje II	8	8
Dubrovnik (BIH+Hr.)	2×108	216
Čapljina	2×210	420
Rama	2×80	160
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	30
Jajce I	2×30	60
Jajce II	3×10	30
Bočac	2×55	110
Višegrad	3×105	315

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

Basic data on the transmission system

transmission lines

Nominal voltage of transmission lines	Length (km)
400 kV	864.73
220 kV	1,524.80
110 kV	3,888.63
110 kV - cable line	31.78

interconnectors

Nominal voltage of transmission lines	No. of inter-connections
400 kV	4
220 kV	10
110 kV	22
Total	*36*

transmission sub-stations

Type of substation	No. of subs-tations	Installed ca-pacity (MVA)
TS 400/x kV	9	6,090.5
TS 220/x kV	8	1,423.0
TS 110/x kV	128	4,855.0

transformers

Transmission ratio of transformers	No. of trans-formers	Installed ca-pacity (MVA)
TR 400/x kV	14	4,900.0
TR 220/x kV	14	2,100.0
TR 110/x kV	222	5,368.5

ATTACHMENT B: Basic Power Indicators of Bosnia and Herzegovina

(GWh)

Year 2012	EP BIH	ERS	EP HZHB	Komunalno Brčko	BIH
Generation in hydro power plants	1,086.63	1,832.77	1,229.30		4,148.70
Generation in thermal power plants	5,367.80	3,251.70			8,619.50
Generation in small and industrial PPs	115.40	43.04	7.89		166.33
Generation	6,569.83	5,127.51	1,237.19		**12,934.54**
Distribution consumption	4,340.28	3,551.14	1,379.43	262.54	9,533.39
Transmission losses					308.14
Large customers	446.23	119.18	2,136.41*		2,701.83
Pumping and mines consumption		13.62	67.26		80.88
Consumption	4,786.52	3,683.94	3,583.10	262.54	**12,624.24**

* Including the amount of 910.54 GWh, which the "Aluminij" Company purchased as an eligible customer

Year 2011	EP BIH	ERS	EP HZHB	Komunalno Brčko	BIH
Generation in hydro power plants	1,113.63	1,817.09	1,395.40		4,326.12
Generation in thermal power plants	6,138.01	3,449.76			9,587.77
Generation in small and industrial PPs	100.82	28.61	6.60		136.04
Generation	7,352.47	5,295.46	1,402.00		**14,049.93**
Distribution consumption	4,284.17	3,556.16	1,363.04	271.71	9,475.08
Transmission losses					324.17
Large customers	417.17	124.08	2,216.62*		2,757.87
Pumping and mines consumption		14.23	21.22		35.45
Consumption	4,701.34	3,694.47	3,600.88	271.71	**12,592.57**

* Including the amount of 876.00 GWh, which the "Aluminij" Company purchased as an eligible customer

Year 2010	EP BIH	ERS	EP HZHB	Komunalno Brčko	BIH
Generation in hydro power plants	2,094.61	3,246.91	2,604.67		7,946.20
Generation in thermal power plants	5,012.79	2,856.00			7,868.80
Generation in small and industrial PPs	182.77	62.11	8.54		253.41
Generation	7,290.17	6,165.02	2,613.21		**16,068.40**
Distribution consumption	4,232.92	3,522.19	1,367.75	277.35	9,400.21
Transmission losses					337.95
Large customers	371.43	110.26	2,030.80*		2,512.49
Pumping and mines consumption		12.96	2.21		15.17
Consumption	4,604.35	3,645.41	3,400.76	277.35	**12,265.82**

* Including the amount of 1068.48 GWh, which the "Aluminij" Company and BSI purchased as eligible customers

Year 2009	EP BIH	ERS	EP HZHB	Komunalno Brčko	BIH
Generation in hydro power plants	1,631.23	2,577.36	1,939.82		6,148.41
Generation in thermal power plants	5,233.60	2,993.02			8,226.63
Generation in small and industrial PPs	128.39	52.85	5.24		186.47
Generation	6,993.22	5,623.24	1,945.06		**14,561.52**
Distribution consumption	4,132.46	3,403.46	1,349.97	272.22	9,158.11
Transmission losses					306.46
Large customers	367.30	120.90	1,630.16*		2,118.37
Pumping and mines consumption		14.34			14.34
Consumption	4,499.76	3,538.70	2,980.13	272.22	**11,597.28**

* Including the amount of 876.00 GWh, which the "Aluminij" Company purchased as an eligible customer

Year 2008	EP BIH	ERS	EP HZHB	Komunalno Brčko	BIH
Generation in hydro power plants	1,478.17	1,931.38	1,355.20		4,764.75
Generation in thermal power plants	5,749.51	3,094.41			8,843.92
Generation in small and industrial PPs	112.60	58.70	4.30		175.60
Generation	7,340.29	5,084.49	1,359.50		**13,784.28**
Distribution consumption	4,042.65	3,309.06	1,334.09	268.86	8,954.66
Transmission losses					326.50
Large customers	658.42	148.23	2,091.17*		2,897.83
Pumping and mines consumption		14.15			14.15
Consumption	4,701.08	3,471.45	3,425.26	268.86	**12,193.15**

* Including the amount of 1223.04 GWh, which the "Aluminij" Company purchased as an eligible customer

ATTACHMENT C: Map of the Power System of Bosnia and Herzegovina with Operational Areas of "Elektroprijenos/Elektroprenos BIH" (the Company for Transmission of Electric Power in BIH) and Areas of Public Utilities (December 2012)