



Bosnia and Herzegovina

STATE ELECTRICITY REGULATORY COMMISSION

**REPORT ON ACTIVITIES
OF THE STATE ELECTRICITY REGULATORY COMMISSION
IN 2009**

Tuzla, December 2009

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1. INTRODUCTION

One of the most important events in the European energy sector is the adoption of new European Union rules on the internal energy market. The main goals of the Third Energy Legislative Package are presented in more detail in a separate section of this report. Although the deadlines for implementation of the adopted rules in BIH have not been defined yet, their comprehensiveness and complexity call for a full mobilization of all competent institutions in Bosnia and Herzegovina now.

Although facing unfavorable trends, in 2009 the electricity sector in Bosnia and Herzegovina exceeded the power indicators and financial results of the previous year. This is indicated by assessments of the increase realized in electricity generation of 5.7% to a level of historic maximum of 14,575 GWh, and a record in electricity export of 3,900 GWh. The total energy traded on the wholesale market (purchase and sale) in 2009 amounted to 8,300 GWh.

Even under the conditions of decreased demand caused by the reduced production levels of large industrial consumers (compared to 2008, the consumption drop amounted to 4.9% or around 600 GWh in an absolute amount), all three power utilities continued with a positive trend from 2008, managing to compensate for the reduced sale in the national market by increased sale in the regional market and realized a total income of 1.7 billion BAM including 150 million BAM of profit (€1=BAM1.95583). These are their best business results in the past six decades.

The activity of electricity supply is fully performed within the three public power utilities, which are the only ones with relevant generation capacities, which enables them to hold a dominant market position. In the context of market development, the announcement that since 2010 yet another eligible customer – B.S.I. Ltd. Jajce – would start purchasing a part of energy for self-consumption (219 GWh) on the market is encouraging. Thus, this customer will join “Aluminij”, Stock Company Mostar that will also continue to purchase a part of its energy required on the market (876 GWh).

In 2009, disagreements within the management and the Steering Board of “Elektroprenos Bosne i Hercegovine” (Transmission Company – TRANSCO), Banja Luka came to a head, threatening to become a serious impediment to the efficient system operation and management of the single transmission network in Bosnia and Herzegovina. Only an agreement of the Prime Ministers of the Federation of Bosnia and Herzegovina and the Republika Srpska, reached at the end of the year, created some space and perspective for the commencement of the resolution to the existing problems. However, this process, just

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 transmission of electricity, transmission system operation and international trade in electricity.

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

as many others in the electricity sector in Bosnia and Herzegovina, will require some additional efforts, first and foremost of the Transmission Company's shareholder representatives, without whom it will not be possible to fulfill regulatory goals either.

Throughout the year, SERC was engaged in investigating models of providing ancillary and system services in the electricity system of BIH. Due to the latest occurrences of ancillary service capacity reduction (secondary regulation) by providers of these services, the electricity system of Bosnia and Herzegovina occasionally operates without this type of regulation and it is not able to perform the regulation of the deviation of the BIH control area toward the European interconnection. This causes a justified reaction of the UCTE block coordinator. SERC is determined to preclude similar incidents by establishing a minimum binding regulatory framework and by requiring mutual cooperation from all entities connected within the system in the preparation of comprehensive rules required for fair and transparent provision, settlement and billing of these services.

The legality of SERC decisions has been confirmed in three judicial proceedings to date, the last of which was completed in 2009. During the same year, two new SERC decisions on ancillary services have become the subject of judicial revision, whose legality before the Court of Bosnia and Herzegovina has been challenged by "Elektorprivreda Republike Srpske".

The SERC financial reports in 2008 provided to auditing bodies, Parliamentary committees and to the Houses of the BIH Parliamentary Assembly itself, is evidence of the conscientious management of funds and compliance of the operation with the applicable regulations, for which SERC was again openly commended.

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 Act on Transmission of Electric Power, Regulator and System Operator of BIH, and appointment of the Members of the Commission.

Members of the Commission from the Federation of Bosnia and Herzegovina are:

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

The Member of the Commission from the Republika Srpska is

- Mr. Vladimir Dokić, M.A. with a four-year term (from July 1, 2003 to June 30, 2007).

It is evident that the four-year term of Mr. Vladimir Dokić, the Member of the Commission from the Republika Srpska, expired on June 30, 2007; however, in accordance with a decision of the Republika Srpska Government, Mr. Dokić continues to perform this function until an appointment-reappointment¹.

After the appointment of the first Chairman of the Commission, Vladimir Dokić, M.A. (who was the Chairman until June 30, 2004), following the principle of rotation of the Members of the Commission in this position, the Commission was chaired as follows: by Mr. Mirsad Salkić (until June 30, 2005), by Mr. Željko Topić (until June 30, 2006), again by Mr. Vladimir Dokić (until June 30, 2007), by Mr. Mirsad Salkić for the second time (until June 30, 2008), by Mr. Nikola Pejić (until June 30, 2009) and for the third time, by Mr. Vladimir Dokić, M.A., the Chairman in office until June 30, 2010.

This year, for the first time since its establishment SERC has changed its internal organization, with an intention to make it closer to the organizational models of regulatory authorities in the region. The quantity, diversity and relevance of the key regulatory issues, that are the topics of this reports, required some changes in the organization and additional SERC staff.

In 2010, SERC will also be included in a uniquely regulated system of salaries and allowances, that is, earnings, of employees at the level of BIH institutions, thus complying with basic commitments of the legislator and expecting to ensure a wider support and a higher degree of understanding for its specificities during the implementation of the projected salary

The Report on Activities of the State Electricity Regulatory Commission in 2008 was adopted at the session of both Houses of the Parliamentary Assembly of Bosnia and Herzegovina,

- *at the 47th session of the House of Representatives, held on March 4, 2009 with compliments on the Report in terms of substantial and conceptual approach*
- *and at the 28th session of the House of Peoples held on April 27, 2009.*

¹ At the time of the creation of this report, the procedure for appointment of the Member of the Commission from the Republika Srpska is still in process before the government of this Entity. After the Government's proposal is confirmed by the National Assembly of the Republika Srpska, the nomination shall be submitted to the Council of Ministers of Bosnia and Herzegovina, which shall propose the appointment to the Parliamentary Assembly of Bosnia and Herzegovina.

reform. Namely, creating conditions for more efficient regulatory monitoring by legally and financially independent national regulators is one of the key goals of the European Union rules on energy market, the “Third EU Energy Package” (more information on the package content – in section 4.6 of this report).

The scope of operational activities imposed on SERC a need to revise the existing system of office document management. Bottlenecks noted in the document management procedure, pointed to the need for an introduction of a more efficient manner of receiving and sending documents in different forms, as well as monitoring their handling among SERC organizational sections. In this context, SERC has decided to improve the existing information system in the forthcoming period by the application of an electronic protocol whose program solution should rationally and efficiently support the implementation of the applicable legal regulations defining office operation and archiving and provide efficient support to team work. In addition to the mentioned goals, SERC also intends to actively provide contribution to the development role of the information society defined in the “Information Society Development Strategy in BIH.”



SERC will follow the requirements of regulatory practice by using different forms to improve its knowledge and experience, i.e., 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. In this regard, special emphasis should be put on the educational programs organized by the Energy Regulators Regional Association (ERRA) and the Florence School of Regulation (FSR). In this context, valuable support is also provided by the European Commission, through the Project of Technical Assistance to the Energy Regulation System of BIH, and by the United States Agency for International Development (USAID) through the Regulatory and Energy Assistance Project (REAP).

SERC shall continue to develop human resources through well-established as well as new training methods and the use of modern technical equipment. The justification of such 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.

3. KEY ACTIVITIES

During 2009, the State Electricity Regulatory Commission held 11 regular sessions, 27 internal meetings and organized 7 public hearings.

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 members of professional 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.

Regulations and proceedings from the regulatory competencies 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 discussed in internal meetings.

With the 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 might resolve certain applications or disputes.

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

3.1 SERC Rules

Decision on Modifications and Amendments to the Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services

The Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services, adopted in June 2005, enables setting prices of services for utilization of a natural monopoly in a fair manner, and at the same time ensures revenues for regulated companies, needed for their normal operation. The power sector in Bosnia and Herzegovina is in the process of transformation toward the market model of operation. This process is continuously monitored and supported by the State Electricity Regulatory Commission. In this respect, in January 2007, SERC made first changes of the methodology which enabled more efficient tariff pricing and utilization of the transmission system in BIH.

SERC recognized that a functional, efficient and transparent model of providing ancillary and system services is a major prerequisite for secure and reliable operation of the power system, quality supply of customers and further electricity market development in BIH. To improve the current concept and technical implementation of these very complex services in the power sector, SERC opted for a second change of the Methodology. Following the preparation of a Draft decision and holding of a public hearing, in January 2009 SERC adopted the second *Decision on Modifications and Amendments to the Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services*.

Decision on Scope, Conditions and Time Schedule of Electricity Market Opening in Bosnia and Herzegovina

At the beginning of June 2009, SERC initiated a public hearing on modifications to the Decision on Scope, Conditions and Time Schedule of Electricity Market Opening in Bosnia and Herzegovina in order to actualize the time schedule of market opening and remove some provisions that may hinder further progress in the market opening process, and which have been recognized as such by the entity commissions. The modification to the decision was adopted by the Commission in September 2009. It should be stressed that electricity market opening is a complex process that requires the removal of numerous impediments that are primarily caused by the specific structure and the current organization of the electricity sector in Bosnia and Herzegovina, and by particularly low regulated tariffs for end customers who, under such conditions, are not interested in buying electricity on the market.

3.2 Documents Approved by SERC

Draft Rules of Allocation of the Right to Use Cross-Border Transmission Capacities

Cross-border transmission lines are the infrastructure enabling free international trade in electricity. Congestion in these lines reduces possibilities for free trade; consequently, it is necessary to apply congestion management rules, i.e., rules allocating available capacities in a non-discriminatory, transparent and market-oriented manner.

Explicit auctions are used for allocation of transmission capacities at almost all borders of European countries, pursuant to Regulation 1228/2003/EC of the European Parliament and of the Council of June 26, 2003 on conditions for access to the network for cross-border electricity trade.

ISO BIH developed and submitted to SERC for approval *the Draft Rules of Allocation of the Right to Use Cross-Border Transmission Capacities*, which are based on market principles and implemented via explicit auctions, thus maximizing market value of transmission capacities.

The procedure for reviewing and approving of the submitted draft rules is nearing its completion. It is expected that the process will be finalized at the beginning of 2010.

The previously approved *Temporary Rules of Allocation of Cross-Border Transmission Capacities on a Monthly Level* shall be used until the adoption of new rules.

In accordance with these Temporary Rules, in 2009, SERC issued conclusions on the allocation of funds based on charges for

Table 1: Overview of entities which make payments and use funds based on charges for non-use of allocated cross-border transmission capacities in 2009

BAM (€1=BAM1.95583)

Month	Entities that make payments						Fund users		Total
	EP BIH	ERS	RUDNAP	EZPADA	KORLEA	GEN-I	NOS BIH	Elektro-prenos BIH	
I		559.5						559.5	559.5
II	15,804.0			20,964.0				36,768.0	36,768.0
III		5,670.0						5,670.0	5,670.0
IV	26,592.0	23,790.0				8,610.0		58,992.0	58,992.0
V	17,964.0	77,308.0			20,016.0			115,288.0	115,288.0
VI	113,106.0					7,209.0		120,315.0	120,315.0
VII		541.5	35,070.0				35,611.5		35,611.5
VIII		933.0						933.0	933.0
IX	1,932.0	502.5						2,434.5	2,434.5
X		418.5						418.5	418.5
XI									
XII			10,428.0					10,428.0	10,428.0
Total	175,398.0	109,723.0	45,498.0	20,964.0	20,016.0	15,819.0	35,611.5	351,806.5	387,418.0

the non-use of allocated cross-border transmission capacities, thus determining the payers and users of the funds, their purpose of investment in development and construction of BIH cross-border transmission capacities toward the neighboring countries.

The Indicative Generation Development Plan for the Period 2010-2019

The 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 the construction of new generation capacities. At the same time, this plan is used as one of the basis for the development of *the Long-Term Transmission Network Development Plan* in Bosnia and Herzegovina, which covers the issue of new cross-border lines as well and which is also developed every year, covering a ten-year period.

Relying on the experience acquired during preparations of three previous Indicative Plans, the Independent System Operator in Bosnia and Herzegovina initiated the development of the Indicative Generation Development Plan for the period 2010-2019 in a timely manner and ensured qualitative input data which not only expanded the plan for one more year, but also updated and improved it.

A public hearing on the Indicative Plan was conducted which confirmed the matching of provided generation forecasts, new generation capacities and capacity and power balances on the transmission network. While approving the plan, once again SERC

took note of the crucial importance of the proactive engagement of all entities in planning, as well as insuring quality data for the feasibility of this type of plans.

A New Form of Standard Contract on Responsibility for Balancing

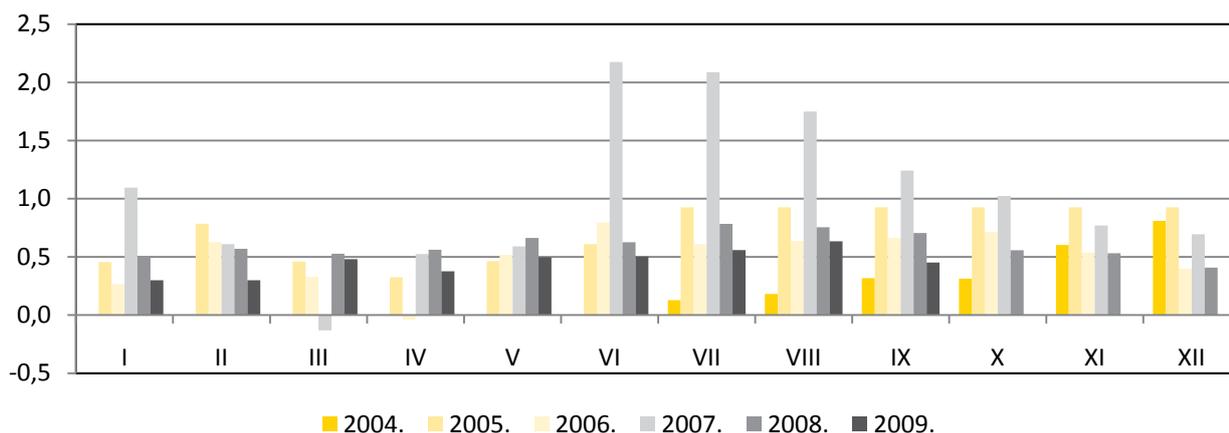
In December 2009, SERC approved a new form of standard contract on responsibility for balancing. This contract is important for eligible customers, i.e. customers entering the electricity market, because its provisions regulate relationships between these customers and the balance responsible parties to which these customers belong. The three existing power utilities have the role of balance responsible parties, since they have adequate technical capacities to ensure the balance between consumption and generation in their respective generation-consumption areas.

ISO BIH Approval for Participation in ITC Mechanism

The Inter-TSO Compensation Mechanism (ITC Mechanism - *Inter TSO Compensation*) is a method of compensation for costs in the national transmission network caused by electricity flows due to cross-border trade. In this manner, an important platform has been created that enables electricity trade in the region of South East Europe, as well as between the region and the European Union.

The ITC mechanism has been implemented in Western Europe since 2002, and in South East Europe since 2004, under the previously-used term CBT mechanism (Cross-border trade mechanism). In June 2007, the planned merger of the ITC mechanisms of SETSO and ETSO countries, i.e. of ITC funds, was achieved, thus for the first time creating a single ITC mechanism encompassing 29 European countries. The complex procedure of calculation and harmonization of data on electricity flows in 2009 was performed on a monthly basis by Swissgrid, Switzerland and Amprion, Germany in the capacity of data administrators.

It is in the jurisdiction of the regulator to approve the implementation of the mechanism, which, in the first place, involves the implementation of Regulation EC 1228/2003 of the European Parliament and of the Council of June 26, 2003, on conditions for access to the network for cross-border electricity trade. The State Electricity Regulatory Commission gave its approval to the Independent System Operator in Bosnia and Herzegovina to accept and sign the ITC agreement for 2010, which was subsequently signed on December 15, 2009. ISO BIH is obligated to report on a regular basis to SERC and “Elektroprenos BIH” on all topical issues, planned activities and



ITC mechanism revenue by months in millions of BAM (€1=BAM1.95583)

monthly energy and financial results achieved during the implementation of the Agreement.

Due to its geographic position as a transit country in the region and Europe and the structure of the transmission network, Bosnia and Herzegovina realizes regular revenue based on the ITC mechanism implementation. In 2004, the net revenue of BAM 2,354,004 was realized, while in 2005, 2006, 2007 and 2008, it amounted to BAM 8,664,199, BAM 6,055,467, BAM 12,432,071 and BAM 7,198,731 respectively. In the first nine months of 2009, for which the calculations were completed, the realized net revenue amounted to BAM 4,104,002. It should be noted that invoicing is conducted with delays of several months due to the complexity of calculation.

Grid Code Changes

Following a proposal of the State Electricity Regulatory Commission, the Independent System Operator in Bosnia and Herzegovina initiated the procedure for changes and amendments to the Grid Code, which, *inter alia*, refer to the harmonization of schedules of development of the Indicative Generation Development Plan and the Long-Term Transmission Network Development Plan. In this way, ISO BIH and “Elektroprenos BIH” would have sufficient time to prepare the plans in the same year and would be able to submit them to SERC for approval by the end of the current year. It is expected that the draft changes and amendments to the Grid Code include the part which deals with conditions for connection. Furthermore, the Grid Code will have a part added that takes into consideration the specificities of wind power plant operation (technical requirements for connection of wind power plants, regulation of active power and frequency response, voltage regulation and reactive power compensation etc). In addition, draft changes and amendments to the Grid Code will include some changes in parts pertaining to the metering code, operational planning code and operational cooperation and reporting.

3.3 Procedures for License Issuance

During 2009, in several proceedings conducted mostly due to the expiration of the term of the previously issued *temporary* licenses, renewed, i.e., *new* licenses have been granted with a five-year term for the activity of international trade to:

- “Ezpada” Ltd. Čapljina (March 2009),
- “Rudnap” Ltd. Banja Luka (December 2009),
- “B.S.I.” Ltd. Jajce for performance of the activity of international trade – import of electricity for self-consumption (November 2009).

In addition to the aforementioned, proceedings were also conducted during the year for the issuance of *temporary* licenses with a two-year term to the entities that appeared for the first time in the electricity market as international electricity traders:

- “GEN-I” Ltd. Sarajevo (February 2009),
- “Korlea” Ltd. Mostar (March 2009),
- “Atel BH” Ltd. Sarajevo (May 2009).

The procedure for processing the international trade temporary license application filed by “RE Energija” Ltd. Sarajevo is in progress. Additionally, the procedure for processing of an application for the change of the name and address of the already licensed subject is also in progress (changing Atel BH Ltd. Sarajevo into ALPIQ Energija BH Ltd. Sarajevo).

As licensees for the activity of international trade in electricity, the following entities have been also registered: Public Utility “Elektroprivreda Hrvatske zajednice Herceg Bosne” Stock Company Mostar, Public Utility “Elektroprivreda Bosne i Hercegovine” Stock Company – Sarajevo and Mixed Holding “Elektroprivreda Republike Srpske” – Parent Company, Stock Company Trebinje, “Energy Financing Team” Ltd. Trebinje, “Interenergo” Ltd. Sarajevo, “ČEZ BIH” Ltd. Sarajevo, and “Aluminij” Stock Company Jajce (import of electricity for self-consumption). At the end of 2009, the term of the license held by “BIRAČ” Stock Company Zvornik expired. This entity has not filed a license application for the next period.

It should be noted that licences with five-year terms were granted to the “Independent System Operator in Bosnia and Herzegovina” and “Elektroprenos Bosne i Hercegovine” Stock Company Banja Luka in 2007.

In June 2009, the *Decision on Amendments to the Licensing Conditions for Performance of the Activity of Electricity Transmission* was adopted. The Decision specifies more clearly the content and the manner of development of a long-term transmission network development plan for a ten-year period which is produced by the licensee every year, as well as the manner of updating annexes to the license if their content is changed during the term of the license.



3.4 Monitoring Activities of Licensed Entities

Throughout the year, SERC monitors the compliance of the licensed entities' operations with the licensing conditions, first of all by monitoring the regulated activities performed by the ISO and Elektroprenos BiH. Monitoring of activities is performed by an analysis of regular and special reports submitted by the licensed entities, as well as by announced or unannounced visits to license holders. License holders submit annual, semi-annual, monthly and daily reports on individual activities, of financial as well as technical and organizational character. Reports of license holders on contingency events in the system are also available.

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

This year has been also marked by problems in the operation of "Elektroprenos Bosne i Hercegovine" Stock Company Banja Luka whose operation has been burdened for a longer period with disagreements among members of the company management as well as the Steering Board of the Company on all key issues. On several occasions, the State Electricity Regulatory Commission expressed its concerns over such situation both to the entity governments—owners and to members of the Assembly of Shareholders of "Elektroprenos BiH."

Taking into account the activities undertaken by the governments and competent ministries and the agreements reached:

- at the meeting of Prime Ministers of the Federation of Bosnia and Herzegovina and the Republika Srpska on the issue of the operation of the Company, held in Sarajevo on November 6, 2009, and
- at the session of the Steering Board of "Elektroprenos BiH" which concluded on December 29, 2009 in Banja Luka,

SERC believes that the problems present in the operation of "Elektroprenos BiH" up to now will be resolved.

3.5 Technical Aspect of Transmission System Operation

In accordance with the most of world contingency statistics, 80-90% of all outages occur in the distribution system. Therefore, the onus of the responsibility for reliability of supply rests on distribution networks. However, such events in the transmission system can not be neglected either, since they result in supply interruptions for a large number of customers and sometimes even in a total collapse of a part or the whole of the system. This is the reason why it is important for the reliability of the trans-

mission system to be on a high level. Taking into account that “Elektroprenos BIH” is the owner of all 110/x kV substations, including middle voltage feeders in these substations, which mostly have distribution functions, monitoring of supply interruptions on this level gains additional importance. “Elektroprenos BIH” gathers and processes the related data pertaining to the technical aspect of the transmission system operation. These data are presented through indices of continuity of customer supply: SAIFI, SAIDI and ENS. The SAIFI index (*System Average Interruption Frequency Index*) indicates the average number of interruptions per customer during a year. The SAIDI index (*System Average Interruption Duration Index*) indicates the average interruption duration for each customer in minutes per year. Separately from “Elektroprenos BIH”, similar indices are gathered by all three public utilities in BIH on the distribution level, that is, on voltage levels of 35, 20 and 10 kV.

SAIFI and SAIDI indices are obtained by monitoring the number and duration of interruptions in TRANSCO’s facilities that result in supply interruptions for customers directly connected to the transmission network and/or supply interruptions in middle voltage feeders exceeding three minutes. The tables below show SAIFI and SAIDI indices in 2009 (by month and total). Table 2 includes only interruptions caused by events in the network under TRANSCO jurisdiction, while Table 3 includes also interruptions in MV feeders in TRANSCO substations caused by events in the distribution network.

SAIFI and SAIDI indices are considerably less favorable in Table 3, due to the widespread connections and the size of the distribution network, which, in practice, is more inclined to different types of outages. Furthermore, both tables show that indices are more favorable in 2009 than the year before.

A significant difference between planned and unplanned supply interruptions that result in supply interruptions for customers should be pointed out. Planned interruptions usually occur when

Table 2: SAIFI and SAIDI due to interruptions in the network under TRANSCO BIH jurisdiction

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2009	2008
SAIFI	Planned interruptions	0.07	0.06	0.13	0.15	0.19	0.17	0.12	0.21	0.26	0.22	0.14	0.17	1.89	2.49
	Unplanned interruptions	0.07	0.07	0.05	0.16	0.21	0.13	0.18	0.21	0.17	0.08	0.19	0.20	1.73	1.58
	TOTAL	0.13	0.13	0.18	0.31	0.40	0.30	0.30	0.42	0.43	0.30	0.33	0.38	3.62	4.08
SAIDI	Planned interruptions (min)	16.40	18.87	28.50	27.01	43.55	34.81	26.11	17.07	43.40	29.88	16.66	22.21	324.46	503.58
	Unplanned interruptions (min)	5.77	0.91	1.15	9.71	9.37	3.28	8.76	5.92	2.44	2.02	12.25	15.56	77.14	103.03
	TOTAL (min)	22.17	19.77	29.64	36.71	52.92	38.08	34.87	22.99	45.84	31.90	28.91	37.77	401.59	606.60

Table 3: SAIFI and SAIDI including outages of MV feeders caused by interruptions in the distribution network

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	2009	2008
SAIFI	Planned interruptions	0.18	0.30	0.47	0.36	0.53	0.45	0.44	0.74	0.65	0.65	0.68	0.72	6.16	6.18
	Unplanned interruptions	0.62	0.56	0.76	0.61	0.90	1.19	1.37	1.32	0.88	1.16	0.77	1.70	11.85	11.99
	TOTAL	0.80	0.86	1.22	0.98	1.43	1.64	1.81	2.05	1.53	1.81	1.46	2.42	18.01	18.17
SAIDI	Planned interruptions (min)	29.68	47.17	60.96	50.42	90.77	71.19	60.82	94.19	87.39	66.29	95.73	55.42	810.02	847.61
	Unplanned interruptions (min)	37.74	29.20	32.94	44.19	54.40	76.51	68.82	54.68	44.60	72.64	40.12	105.82	661.66	877.17
	TOTAL (min)	67.42	76.37	93.89	94.61	145.17	147.70	129.64	148.87	131.99	138.94	135.86	161.24	1471.68	1724.78

a component of the system (line, transformer, generator, etc.) is disconnected due to preventive maintenance. Customers are normally informed of planned interruptions in advance.

To the contrary, in case of breakdowns in the power system, there occur outages of system components; and, depending on the scope of the network affected and the protection system response, unplanned interruptions in electricity supply of customers may occur.

Data on ENS (*Energy-Not-Supplied*) due to unplanned supply interruptions (ENS_{unpl}), as well on ENS due to planned interruptions (ENS_{pl}) in the BIH power system, for 2008 and 2009 are provided in Table 4.

Table 4.

	2008		2009	
	MWh	min	MWh	min
ENS_{unpl}	135.608	1744	273.949	2756
ENS_{pl}	246.245	2285	121.599	1236
<i>Total</i>	381.853	4029	395.548	3992

It can be seen that the amount of ENS due to unplanned interruptions is considerably increased, which will become a matter of special concern to SERC in the continuation of regulatory monitoring of TRANSCO. In this context, it will be necessary to make additional efforts in further development of the methodology for gathering and processing of data.

The gathering and processing of data on availability and reliability of the system is a crucial, long-lasting, permanent process which is an important aspect of the quantitative evaluation of the power system operation as a whole. Available data are one of the important bases for the planning of power infrastructure development.

3.6 Tariff Proceedings for the Services of Electricity Transmission, ISO operation and Ancillary Services

Tariffs for the services of electricity transmission applicable as of January 2008 were approved by SERC in December 2007, following the completion of the tariff proceedings described in the SERC Report on Activities in 2007.

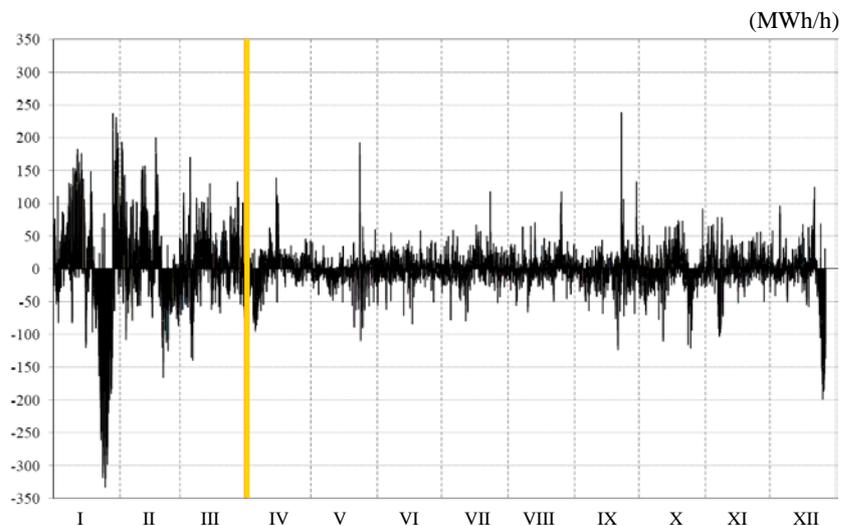
In November 2008, the Independent System Operator in Bosnia and Herzegovina filed an application for setting tariffs for ISO operation and ancillary services. During the tariff proceedings, it was determined that there were no grounds for any increase; consequently, the previous tariff of 0.0399 pfennig/kWh was kept. Within the same proceedings, the Decision on Determination of Tariffs for Ancillary Services was rendered, which underwent some technical modifications in June 2009.

Ancillary Services

The model for the provision and use of ancillary services in the power system of BIH is defined by *the Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services* and *the Decision on Determination of Tariff for Ancillary Service*. In the model devised in this way, ancillary service providers are on one side (generation license holders) while the users are on the other side (licensed suppliers and eligible customers directly connected to the transmission network). In the current phase of the power sector restructuring, the number of participants in the ancillary service system is reduced and in practice brought down to the three existing power utilities, the eligible customer (Aluminij Mostar) and the company performing the activities of electricity distribution and supply in Brčko District BIH (ED Brčko). At the same time, these are the entities that occur in financial calculations, where the power utilities are on the side of both receivables and payables, while the eligible customer and ED Brčko are only on the side of payables.

In the model for the provision of ancillary services, the Independent System Operator gives orders to generation units to provide these services in situations where such arrangements are necessary to ensure the operation within the defined technical frameworks and maintain power system security.

At the end of 2008 and the beginning of 2009, unwanted, i.e. unallowed deviations from the daily schedules reached drastic levels, which disturbed normal operation of the system and caused a reaction of the UCTE block coordinator. Therefore, SERC insisted on introducing settlements and payments for unwanted deviations as stipulated by the Market Rules. Since then (April 1, 2009) according to statements of all stakeholders, these deviations have been reduced to more acceptable levels, which can be seen in the figure below.



Unwanted hourly deviations of BIH toward interconnection in 2009

Although the system for the provision and use of ancillary services operated properly in 2009, there is some room for improvement and removal of shortcomings observed; consequently, with the readiness expressed by key stakeholders, it can be expected the system for provision of ancillary services to be improved in the forthcoming period.

New Tariff Proceedings

In November 2009, in line with its jurisdictions as defined by law, the State Electricity Regulatory Commission issued conclusions on initiating tariff proceedings for setting tariffs for the services of electricity transmission, ISO operation and ancillary service.

Both regulated companies submitted the required documents that include their requirements for revenues and expenditures, as well as costs that they intend to charge per tariffs for their services.

The tariff applications will be resolved in accordance with the criteria set out in the Law on Transmission of Electric Power, Regulator and System Operator in BIH and the Tariff Pricing Methodology for Services of Electricity Transmission, Operation of the Independent System Operator and Ancillary Services.

While reviewing the applications, SERC shall comply, to the largest extent possible, with the basic principles that tariffs shall be fair and reasonable, non-discriminatory, founded on objective criteria, based on justified costs and set in a transparent manner.

The Commission plans to issue the final decisions in the tariff proceedings in March 2010.

Rulings of the Court of BIH on Lawfulness of SERC Decisions

In addition to the two previous cases resolved in 2008, in 2009 the Court of Bosnia and Herzegovina confirmed once again the lawfulness of a SERC decision. Neither the third intervener in the proceedings (Elektroprivreda Republike Srpske) managed to prove before the court that SERC violated the procedural rules and issued an unlawful decision in 2006. However, the same plaintiff requested judicial revision of two new SERC decisions on setting of tariffs for ancillary services dated March and June 2009.

3.7 Electricity Market

Power Indicators

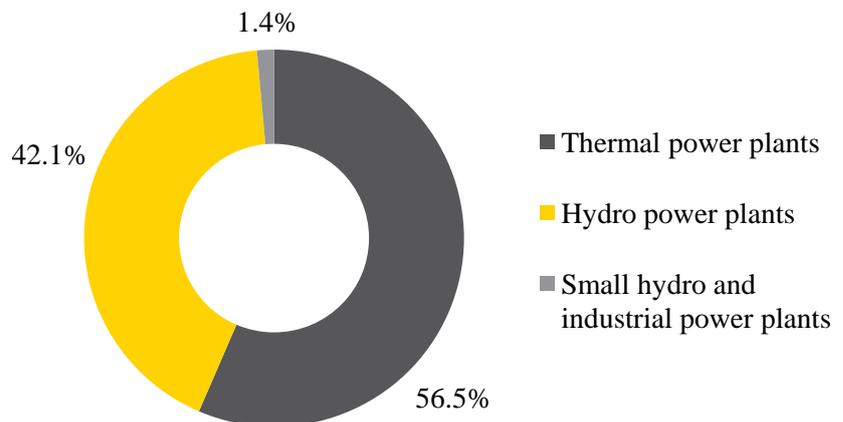
Notwithstanding negative trends, according to preliminary results, this year will be even more successful for the power sector than the last one. It is estimated that electricity generation will be increased by 5.7% and amount to 14,575 GWh, which would be a historic maximum with a record in electricity export of 3,900 GWh.

According to some estimates, generation of thermal power plants, hydro power plants and small hydro and industrial power plants amounted to 8,230 GWh, 6,135 GWh, and 210 GWh respectively.

In spite of reduced sales in BIH, all three public utilities achieved positive business results, thus continuing a successful trend from 2008.

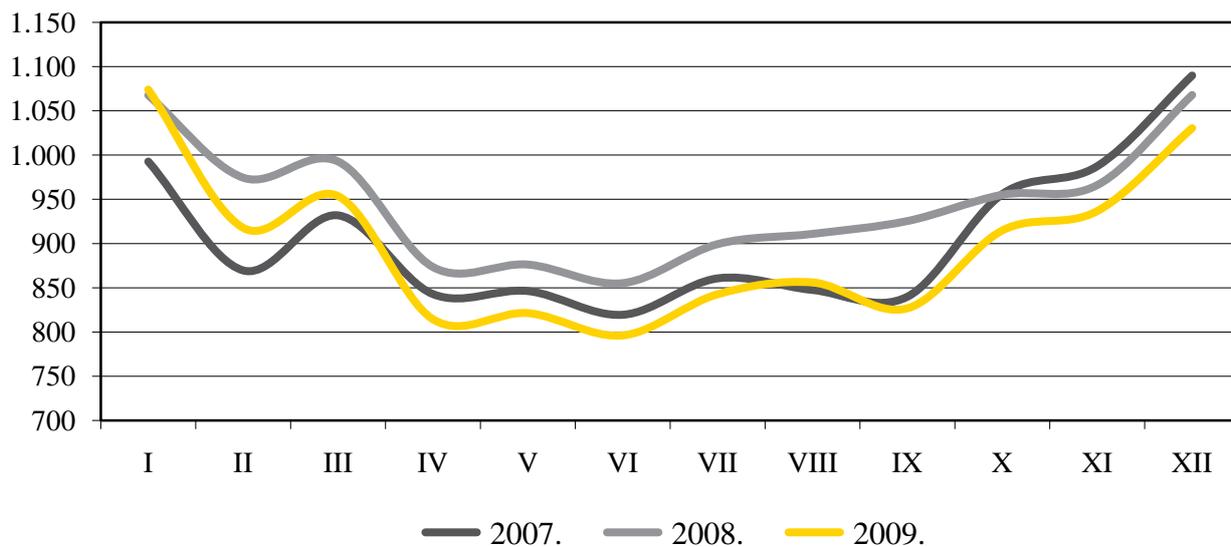
Reduced sales in the national market were compensated by increased sales in the regional market, but it still indicates an unfavorable development trend in the BIH economy.

A record in hydro power generation had a positive impact on generation costs as well, so ultimately, the power sector revenue reached around BAM 1.7 billion, while the profit amounted to BAM 150 million, which is altogether the best business result in the past six decades.



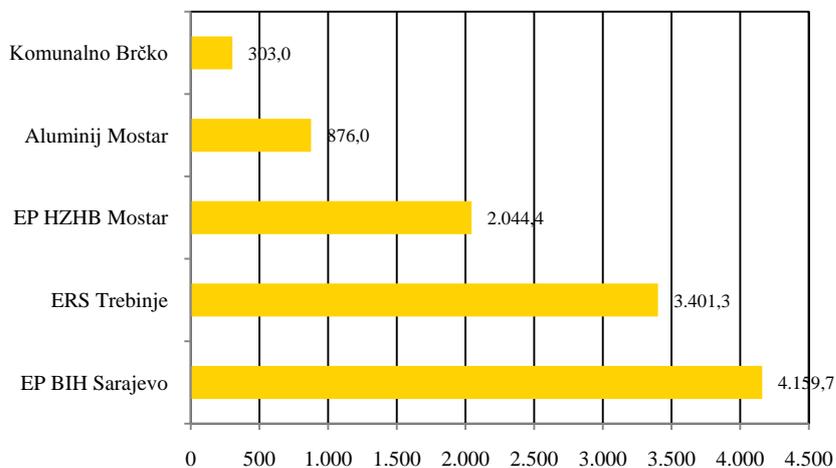
Structure of electricity generation in BIH in 2009

Electricity delivered from the transmission network in 2009 totaled 10,784 GWh, which is a decrease of 4.9% compared to the previous year, when a total of 11,364 GWh was delivered to customers in Bosnia and Herzegovina.



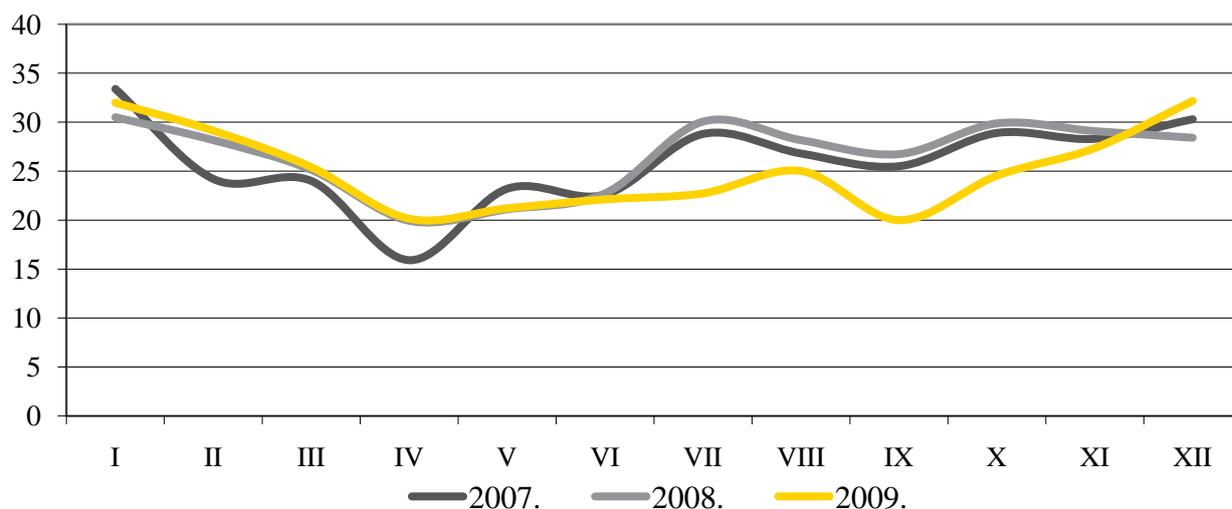
Energy taken over in BIH from the transmission network (GWh) – monthly data

Energy taken over from the transmission network is one of the tariff elements that has a significant impact on income of regulated companies (“Elektroprenos BIH” and Independent System Operator).



Energy taken over in BIH from the transmission network in 2009 by entities (GWh)

Due to the realized export of 3,900 GWh, which exceeded the planned volume by 10%, these regulated companies managed to compensate for reduced consumption in BIH and reach the planned revenue.



Monthly losses in the transmission network (GWh)

Electricity losses in the transmission network are one of the relevant parameters of cost-effectiveness and quality of network operation. It is estimated that losses in the transmission network in 2009 amounted to 310 GWh, that is, 2% in relation to the total electric power available in the transmission network. The overview of losses in the transmission network in the past three years is provided in the figure above.

Regional Electricity Market

In 2009, relevant changes occurred in the electricity market in comparison to 2008. As a consequence of the global economic crisis, a significant decrease in consumption was recorded in the region of South-East Europe. It is estimated that in this region with annual consumption around 200TWh, the decrease in 2009 amounted to 10 TWh, that is, 5%.

A drop in electricity consumption was recorded primarily with large customers in the aluminum, chemical and auto industries. A drop in global demand, that is, the creation of temporary electricity surplus in the region, which under normal operational conditions suffers from electricity shortages, had a crucial impact on the drop of prices in the wholesale market.

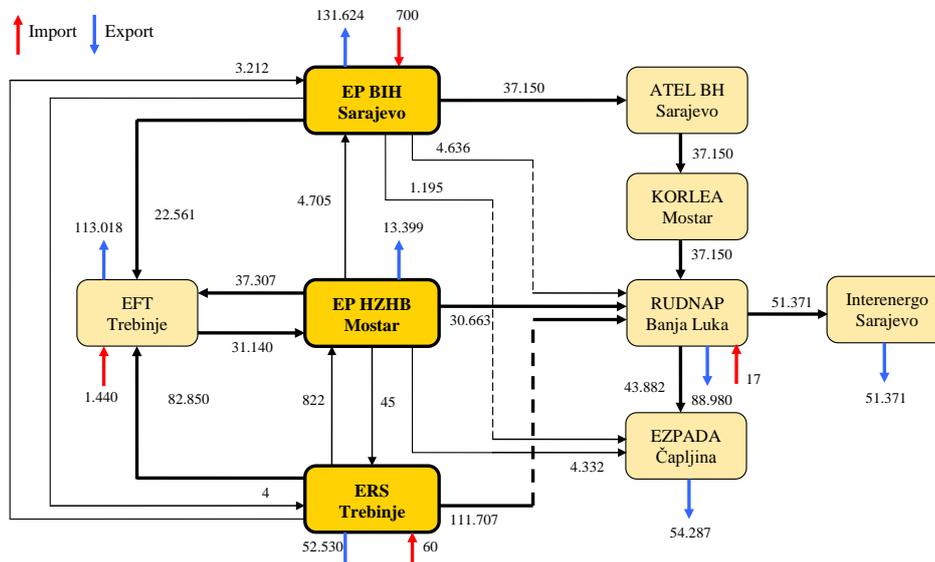
An unusually high level of rainfall in the past year, resulting in high inflows and a significant generation increase in hydropower plants, was also conducive to the decrease in electricity prices on the market.

The realized prices, from the level of 90 €/MWh in the middle of 2008, dropped to the level of 40 €/MWh and even lower in the middle of 2009. By the end of the year, the prices partially recovered, oscillating in the range 45 – 50 €/MWh.

Electricity Market in BIH

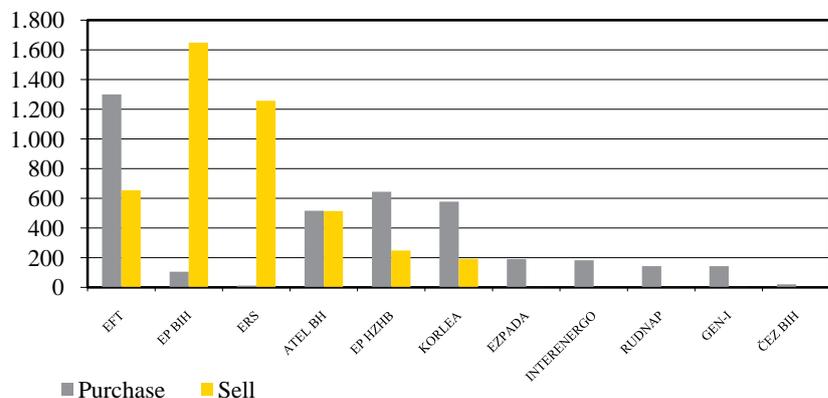
In 2009, a drop in consumption in Bosnia and Herzegovina compared to 2008, amounted to 4.9% or in an absolute amount around 600 GWh. In this process, consumption in the distribution network increased by 1.7%, while consumption of large customers decreased by 24%. The decrease occurred mostly due the two largest electricity customers in BIH - Aluminij Mostar and Mittal Steel Zenica. The realized consumption of Aluminij Mostar, the only eligible customer in 2009, was reduced by 28% or by 347 GWh, compared to 2008.

Significant surpluses in electricity generation resulted in an increase in the scope of trade in the national electricity market. As an illustration, an overview of trade transactions in March 2009 is provided below.



Trade transactions in March 2009 (MWh)

Total energy traded on the wholesale market (purchase and sale) in 2009 amounted to 8,300 GWh. Elektroprivreda BIH and EFT, Trebinje among power utilities and purely commercial companies respectively had the highest scope of trade.



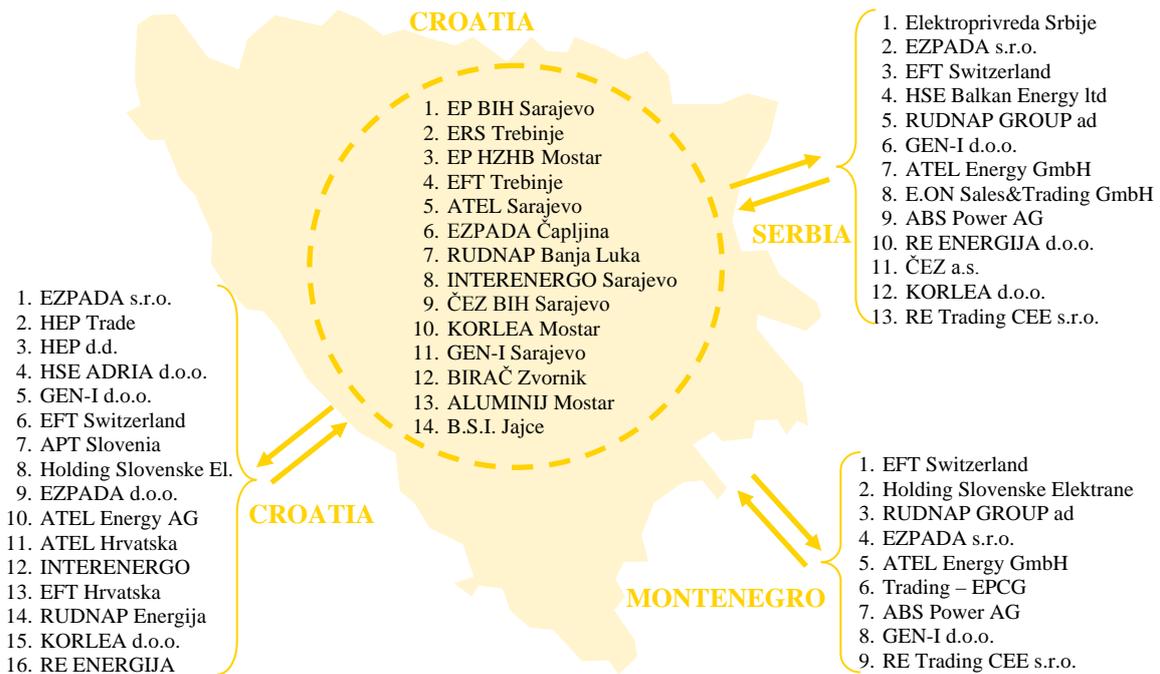
Overview of trading by licensed entities in 2009 (GWh)

The retail segment of trade has not been considerably changed. The activity of electricity supply is fully performed within the three public power companies, which are the only ones with generation capacities as well. The process of restructuring has not been completed yet, which enables the public power companies to have a dominant position on the retail electricity market. All customer at the middle (35, 20 and 10 kV) and low (0.4 kV) voltage levels are supplied at regulated prices that are set by the entity regulatory commissions. The announcement of the customer BSI Ltd. Jajce to purchase a part of electricity for self-consumption as of 2010 as an eligible customer, is a positive signal in the market development. In the next year, “Aluminij” Stock Company Mostar will also continue to purchase a part of energy for self-consumption on the market (876 GWh). Thus, in 2010, two entities will use the eligible customer status and purchase a part of energy required on the market.

Cross-Border Trade

Good connections of the BIH System with neighboring countries enable the sale of electricity to countries in the region which have significant shortages.

A record in exports in 2009 resulted in a higher number of cross-border trade transactions. These transactions cover a large number of traders who take over electricity on BIH borders with the neighboring countries. The figure below provides an overview of participants in cross-border trade on all borders of Bosnia and Herzegovina.



Participants in cross-border trade per borders

In 2009, registered transit of electricity through the BIH transmission network amounted to 2,122 GWh. International trade companies enable transit of electricity via their companies registered in BIH. BIH realizes income on the basis of transit by participation in the ITC mechanism, which is described in more detail in Section 3.2 of this report.

Usually, the biggest export is realized to Montenegro and Croatia. Among the domestic entities, the biggest import was realized by Aluminij Stock Company Mostar, which imported 876 GWh for self-consumption or 95% of total import realized in 2009.

Table 5. (MWh)

<i>Licensed entity</i>	<i>Export</i>	<i>Import</i>	<i>Transit</i>
<i>EP BIH</i>	851,553	1,690	0
<i>EP RS</i>	492,252	9,544	0
<i>EP HZHB</i>	134,936	270	0
<i>EZPADA</i>	188,683	0	176,547
<i>ALUMINIJ</i>	0	876,000	0
<i>RUDNAP</i>	832,284	5,890	190,640
<i>EFT</i>	664,222	17,725	1,349,667
<i>INTERENERGO</i>	182,822	588	18,847
<i>KORLEA</i>	392,669	6,192	48,900
<i>GEN-I</i>	140,334	0	321,742
<i>ATEL BH</i>	2,286	216	12,648
<i>ČEZ BIH</i>	20,072	0	3,768
<i>Total</i>	3,902,113	918,115	2,122,759

BIH export and import toward the neighboring countries are provided in the following table:

Table 6. (MWh)

<i>Country</i>	<i>Export</i>	<i>Import</i>
Croatia	2,575,677	1,666,579
Serbia	1,216,416	1,120,294
Montenegro	2,232,779	254,001
<i>Total</i>	6,024,872	3,040,874

3.8 Customer Protection

Customer protection is an important issue of regulatory policy in all countries where the process of deregulation and liberalization of the power sector is in progress. To this end, besides other state bodies, regulatory authorities are even more entrusted with the obligation to consider and achieve the main goals of customer protection, protection of power entities and the environment through a transparent and impartial solution to the issues occurring in the regulatory field.

Subsidization programs for most vulnerable electricity consumers are established in:

- *Republika Srpska (electricity),*
- *Brčko District of BIH, and*
- *Sarajevo Canton (during winter months).*

*Mr. Andris Piebalgs, EU Energy Commissioner:
“Almost three years since the Treaty Establishing the Energy Community came into force all countries have realised substantial progress, both as regards primary legislation and implementation measures. However, the reforms are far from being completed, and we have the impression that – in certain countries – the path of change is slowing down. ...the economic crisis has made access to financing more difficult. In this context, private investors are even more demanding as regards the regulatory framework, and rightly so. We have to be aware that delaying reforms means delaying investments.”*

*Regional Energy Forum
Sarajevo, March 30, 2009*

The subsidization of the most vulnerable energy consumers has become a widely accepted practice in most European countries. The main problems here are the identification of subsidy beneficiaries, the level of subsidization, funds and the manner of implementation. The fact that the lack of initiative and coordination are the major shortcoming of up-to-date activities makes it logical that the main stakeholders in the future should be the ministries competent for social protection with the support of other competent authorities, including the regulatory commissions.

In 2008, SERC continued to make efforts to protect electricity customers, especially vulnerable categories of the population, by active participation in all initiatives of the institutions at the state level within the authority vested in it by law. SERC gave a significant contribution to the development of the Social Action Plan for BIH, acting within the Working Group of the BIH Ministry of Civil Affairs which gathered representatives of the relevant ministries at the state and entity levels as well as representatives of employers, unions, etc. At the beginning of 2010, the Plan that was approved by the governments, that is, the relevant ministries of the Federation of BIH, Republika Srpska and Brčko District BIH, will be forwarded to the BIH Council of Ministers for final approval.

3.9 Other Issues

Besides the aforementioned activities, in 2009 SERC has exchanged data with a number of state institutions (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, and others) 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.

After SERC representatives gave a significant contribution to presenting the BIH power sector before the Parliament of the Federation of BIH and the National Assembly of the Republika Srpska, in 2009, the power sector was also presented to representatives and delegates of the House of Representatives and the House of Peoples of the Parliamentary Assembly of BIH.

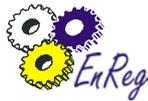
At the end of March 2009, the Regional Energy Forum was organized in Sarajevo in cooperation with the Energy Community and the European Bank for Reconstruction and Development, with a focus on electricity generation and renewable energy sources aimed at attracting investments.

SERC representatives had a notable role in this gathering as well.

The power sector reform in Bosnia and Herzegovina continues to be supported by the United States Agency for International Development (USAID) through the Regulatory and Energy Assistance Project (*REAP*).



Components of the REAP project, with a term from 2007 to 2011, are as follows: (1) continuous support to the Independent System Operator in BIH, including further development of the Grid Code and the Market Rules with further integration of BIH market into the regional and internal EU markets pursuant to the obligations from the Treaty Establishing the Energy Community, (2) Monitoring of and assistance with the implementation of action plans, and (3) Further assistance with the unification of regulations, including the completion of all activities pertaining to the development of a new gas law and necessary modifications of the state and entity electricity laws. At the end of 2009, a number of seminars on market opening were organized within the REAP project.



The European Commission also provided significant support to the regulatory authorities in the energy sector of Bosnia and Herzegovina by the end of May, when “The Technical Assistance to the Energy Regulation System of BIH Project” (*EnReg Project*) was completed.

The aim of the EnReg project was to strengthen the institutional and professional capacity of the three regulatory commissions, to improve the effectiveness of the existing regulatory system performance and to facilitate BIH compliance with the obligations from the Treaty Establishing the Energy Community. In 2009, a number of seminars were organized within this project, focusing on the establishment of a documentation management system, the issue of regulatory reporting, quality of supply, the implementation of international accounting standards in reporting in the energy sector, financial management and measuring success and the impact evaluation of the electricity market opening taking into consideration regulatory procedures and locally gained experiences thus far.

Finally, it should be noted that the State Electricity Regulatory Commission has not begun to regulate generation, distribution and supply of electricity in Brčko District BIH due to different positions of the Entities on the High Representative’s decision issued in September 2009. These activities will be taken over when all necessary conditions are fulfilled.

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 34 parties: 27 members of the European Union and Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia and UNMIK – Kosovo.

The main goals of the Treaty 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, which will operate in accordance with the standards of the EU energy market with which it will integrate. It is to be achieved by gradual transposition of the EU Acquis Communautaire pertaining to energy, environment and competition, which means the implementation of the relevant EU directives and regulations pertaining to energy and environment.

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 policy with EU members.

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

In addition to the previously established Athens and Maribor Fora, and the Social Forum which was subsequently established in 2008, in September 2009, the Oil Forum was established with the seat in Belgrade.

In accordance with the interest expressed, the following countries participate in the work of the Energy Community bodies: Austria, Bulgaria, Czech Republic, Cyprus, France, Germany, Greece, Hungary, Italy, the Netherlands, Romania, Slovakia, Slovenia and the United Kingdom. These fourteen countries, the Participants from the European Union, directly participate in the work of the Energy Community bodies; and in the voting procedure, their positions are expressed by votes of the European Commission.

Georgia, Moldova, Norway, Turkey and Ukraine have observer status in Energy Community bodies. During 2009, negotiations on accession with Ukraine and Moldova were finalized, and decisions on their accession to the Energy Community were made, pending the adoption of gas laws which are in line with Directive 2003/55/EC and the finalization of the relevant ratification procedures.

In accordance with the last year's announcements, in 2009 formal negotiations on accession were initiated with Turkey.

Acquis communautaire assumed by the Treaty

Acquis on Energy

- Directive 2003/54/EC of the European Parliament and of the Council of June 26, 2003 concerning common rules for the internal electricity market
- 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
- 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

The deadline for implementation of these directives is July 1, 2007, ensuring that all customers but households have the eligible customer status by January 1, 2008 at the latest, and as of January 1, 2015 all customers. By the decision of the Energy Community Ministerial Council of December 2007, the *acquis on energy* (Articles 10 and 11 of the Treaty) has been expanded by:

- Directive 2005/89/EC of the European Parliament and of the Council of 18 January 2006 concerning measures to safeguard security of electricity supply and infrastructure investment; implementation - December 31, 2009
- Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply; implementation - December 31, 2009
- Regulation 1775/2005/EC of the European Parliament and of the Council of 28 September 2005 on conditions for access to the natural gas transmission networks; implementation - December 31, 2008

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; implementation after entry into force of the Treaty
- 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; implementation by December 31, 2011
- 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~~ ^{plants} (≥150MW); implementation by December 31, 2017
- Article 4(2) of the European Community Council Directive 79/409/EEC of April 2, 1979 on conservation of wild birds; implementation after entry into force of the Treaty
- Endeavour to accede to the Kyoto Protocol and implementation of the Directive 96/61/EC of September 24, 1996 on 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 that distorts or threatens to distort competition.

In particular, with regard to public undertakings and undertakings to which special rights have been granted, six months following the date of entry into force of the Treaty, provisions of the Treaty Establishing the Energy Community, in particular Article 86, shall be upheld.

Acquis on Renewable Energy Sources

- 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
- 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

The deadline to prepare a plan for implementation of the *acquis* on renewable energy sources was July 1, 2007.



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.

Bosnia and Herzegovina held the Presidency of the Energy Community in the first half of 2009, having the following priorities on the agenda:

- Regional market development with a focus on security of supply,
- Promotion of concrete investments in the power sector,
- Energy efficiency and renewable energy sources,
- Social dimension of the Energy Community in line with the Memorandum of Understanding on Social Issues, taking into consideration the correlation of efficient programs for vulnerable customer protection and the possibilities of a higher level of market opening,
- Preparation of the Energy Community 2010-2011 Work Program.

The Republic of Macedonia will take over the Presidency of the Energy Community from the Republic of Croatia, in 2010, with following priorities defined:

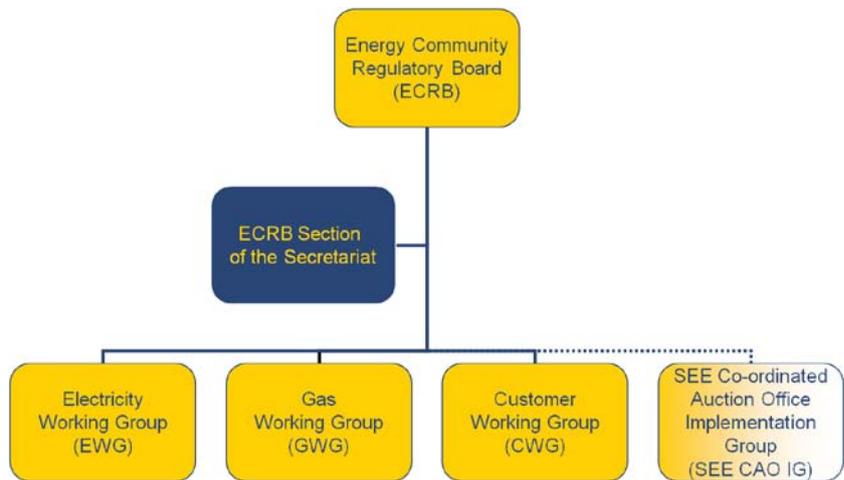
- regional market development as a tool of security of supply improvement,
- commencement of the implementation process for the *acquis* on energy efficiency,
- activities related to renewable energy sources in order to prepare a concrete decision on possible extension of the *acquis* in a meeting of the Ministerial Council of the Energy Community in 2010,
- deeper focus on the Energy Community's oil dimension for preparations of a concrete decision of the Ministerial Council of the Energy Community related to oil stocks,
- wide support to 'new members' of the Energy Community (Ukraine and Moldova) for timely fulfillment of their obligations.

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



The Energy Community Regulatory Board (ECRB), seated in Athens, is comprised of representatives of the regional state regulatory bodies, and the European Union is represented by the European Commission, with the assistance of one regulator of the EU participants and one representative of the European Energy Regulators Group for Electricity and Gas (EREG). ECRB considers 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.

The formal establishment of the Regulatory Board of the Energy Community, in which Bosnia and Herzegovina was represented by the State Electricity Regulatory Commission, took place on December 11, 2006 in Athens. During 2009, the Regulatory Board held four meetings.



Regulatory Board Structure

From the structure of the Regulatory Board, it is obvious that some ECRB activities are organized through several working groups with the support of the relevant Energy Community Secretariat Section. The State Electricity Regulatory Commission continuously participates in the work of the Regulatory Board and working groups, while the Customers Working Group is chaired by a SERC representative.

During 2009, the **Electricity Working Group (EWG)** was focused on the process of establishing a common regional mechanism for allocation of cross-border capacities, the establishment of the regional balancing mechanism in view of the harmonization of national legal frameworks, the issue of the design and regional market opening through comments on working versions of the World Bank's study on the wholesale market taking into consideration simultaneous development of national electricity markets, development of proposals for the establishment of harmonized licensing regimes in the region, framework analysis and a possibility for regulatory cooperation focusing on investment projects with a regional dimension. By establishing a few sub-groups in the operational organization of its work, EWG prepared several important reports and benchmarks, among which of special importance is a *Proposal for a Harmonized System of Wholesale Trade Licensing Regime in the Region*. EWG prepares overviews of the regulatory environment, identifies legal and financial obstacles and proposes solutions at regional and national levels for the implementation and functioning of new mechanisms within the regional market of South East Europe. The area of activities of the Working Group requires a wide range of skills including technical, legal and financial issues.

During 2009, the **Gas Working Group (GWG)** continued its activities on formulating a common regulatory approach for the development of the Energy Community Gas Ring, which will enhance security of supply and further gasification in South-East Europe. It should be noted that the gas market in South East Europe 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.

The Working Group focused a part of its activities on the improvement of interconnections, harmonization of mutual operation, transparency and harmonization of operational rules for natural gas transport within the Energy Community. In 2009, the GWG initiated activities on the identification of measures for removal of obstacles in cross-border trade in natural gas, taking into account mechanisms that are in compliance with the Treaty Establishing the Energy Community.

In 2009, the most important activity of the **Customers Working Group (CWG)** was the preparation of the document - *Vulnerable Household Customers - an ECRB Contribution to a Common Understanding*, which was presented to the 15th Athens Forum following the adoption by ECRB. The *Report on Quality of Electricity Service*, which deals with standards and incentives in quality regulation, was presented at the same

Forum. At the beginning of 2009, activities on a *Study on Tariff Methodologies and Impact on Prices and Energy Consumption Patterns in the Energy Community* were finalized, and the Study was presented by the Working Group both to the Athens and Social Fora.

In the forthcoming period, CWG plans to continue its activities launched in the previous year, which includes the completion of a *Study on Regulation of Tariffs and Quality of the Gas Distribution Service in the Energy Community* and a *Project for Assistance to Regulators in Introducing and Approving Service Quality Regulation in the Energy Community*. Furthermore, CWG plans to pay special attention to more active participation of social partners in the regulatory process for better customer protection, and analyze smart metering and billing issues.



The South East Europe Co-ordinated Auction Office Implementation Group (SEE CAO IG). Increased trading volumes resulting from the liberalisation of electricity markets have come to the point where the limited cross-border capacities are becoming an obstacle for the further increase of volumes of cross-border trade in electricity. Coordinated cross-border transmission capacity auctions are a step forward in an attempt to use the existing connections among national power systems to the extent possible, i.e. to maximize the level of their use. To achieve this goal, the South East Europe Co-ordinated Auction Office Implementation Group (SEE CAO IG) was formed, comprised of representatives of regulatory authorities and transmission system operators. This composition takes into account the fact that continuous and close cooperation between regional system operators and regulators is required to deal with the issues of coordinated auctions.

According to the initial Action Plan, the establishment of the Office was expected at the beginning of 2009. However, due to several pending issues, including the method of revenue allocation, definition of regional borders that will be covered by the Office, the existence of legal barriers in national legislation of participant countries and the choice of the Office's location, its establishment was postponed for 2010. The seat of the Office will be in Podgorica.

4.2 Energy Regulators Regional Association – ERRA



The Energy Regulators Regional Association (ERRA) is an organization composed of independent energy regulatory bodies in Central and East Europe and newly independent states in the region. ERRA has 24 full and 2 associate members, all established at the national level. In addition, four affiliate



ERRA Membership

members are engaged in ERRA activities, including the National Association of Regulatory Utility Commissioners (NARUC).

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

The State Electricity Regulatory Commission is a full ERRA member as of May 19, 2004; since that date, SERC has actively participated 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, Standing Tariff/Pricing Committee and Legal Regulation Working Group.

The most important topics elaborated in 2009 include the market structure in ERRA countries, regulatory monitoring of wholesale markets, specificities of wind power plant connection to the system, regulatory aspect of renewable sources, market power, quality regulation, demand-side management, the treatment of the regulatory fixed asset base as a basis for determining income of regulated network companies, economic issues pertaining to tariff development, issues of regulatory independence and international cooperation of regulators in projects for cross-border transmission capacity development.

Besides active participation in ERRA bodies, by providing the relevant information on the power sector of Bosnia and Herzegovina, in particular on the applicable regulatory practice, the State Electricity Regulatory Commission fulfills its role acquired by full ERRA membership.

4.3 Mediterranean Working Group on Electricity and Natural Gas Regulation – MEDREG



The Mediterranean Working Group on Electricity and Natural Gas Regulation-MEDREG, created in May 2006 as a working group, is today a non-profit Association under the Italian law, established in Rome in November 2007. MEDREG gathers regulatory authorities coming from Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Israel, Jordan, Lebanon, Libya, Malta, Montenegro, Morocco, the Palestinian Authority, Portugal, Slovenia, Spain, Syria, Tunisia and Turkey.

Its organisation is structured around a General Assembly every six months, as well as around four permanent Ad Hoc Groups: (1) on Institutional Issues (chaired by France), (2) on Electricity (chaired by Egypt), (3) on Gas (chaired by Morocco) 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 MEDREG is to promote a stable, harmonized regulatory framework in the Euro-Mediterranean energy market, providing the maximum benefits to energy consumers in both regions. Moreover, MEDREG fosters co-operation, information exchange and mutual assistance among members.

MEDREG is supported by the Italian Government, REMEP (Rome Euro-Mediterranean Energy Platform) and CEER (Council of European Energy Regulators). In particular, a strong collaboration is foreseen between MEDREG and REMEP, which will also provide logistical back up.

The Ministerial Declaration signed in Cyprus in December 2007 by energy ministers from Euro-Mediterranean countries acknowledged the unique and strategic role of MEDREG in establishing and enhancing cooperation among energy regulators, reinforcing transparency, enhancing mutual knowledge and contributing to the harmonization of the regulatory framework in the Euro-Mediterranean energy market.

Due to the scope of SERC activities, in 2009, the representatives of the State Electricity Regulatory Commission were not able to attend the General Assembly and Ad Hoc Groups' meetings, but they participated in MEDREG work by preparing and circulating requested information and comments on draft documents. In the 2009 General Assembly's meetings, MEDREG confirmed that one of its main goals was the development of a modern and efficient regulatory framework as one of the necessary conditions for an integrated Euro-Mediterranean energy market and infrastructure development. In the next three years, special attention will also continue to be given to customer issues and training aspects, in collaboration with the Florence School of

regulation (FSL), which helped MEDREG to perform a successful training program in Milan in July 2009, supported by the European Commission and devoted to Southern Mediterranean energy regulators. The training aimed at enhancing know-how on regulatory issues and promoting regulator cooperation and networking.

4.4 International Energy Regulation Network – IERN



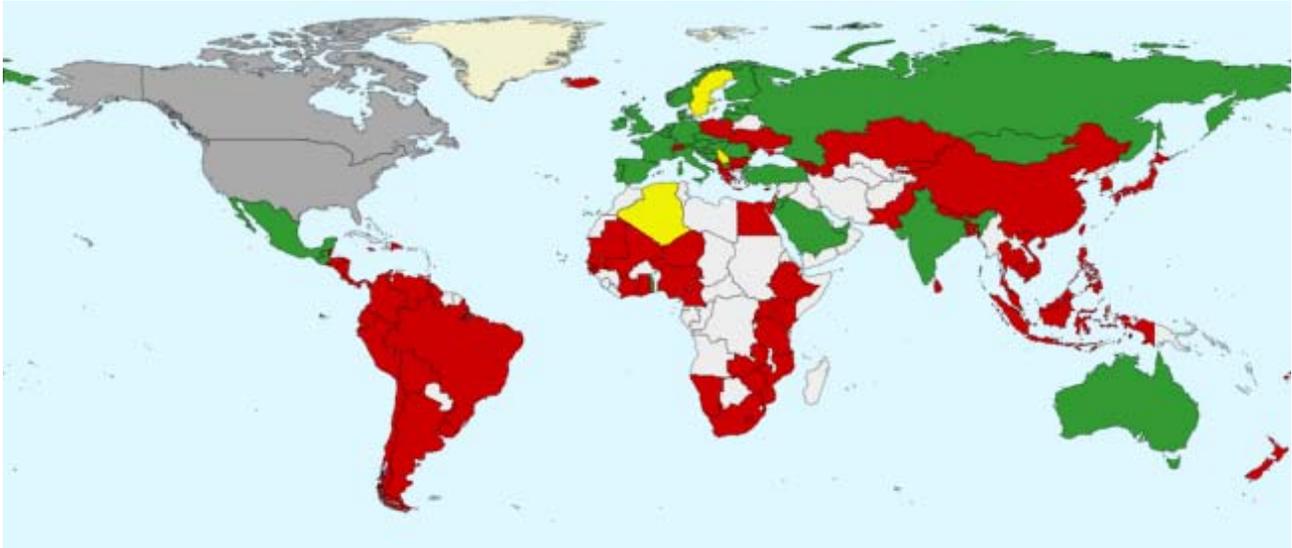
International Energy Regulation Network – (IERN) is a web platform (www.iern.net) established in 2003 by the II World Forum on Energy Regulation (WFER). IERN aims at facilitating information exchange on electricity and natural gas market regulation for the benefit of regulators and also of other interested users.

IERN is a place where regulators can exchange information about training courses, conferences and online resources on energy regulation. In a 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 314 regulatory authorities that are at the same time members of regional regulatory associations:



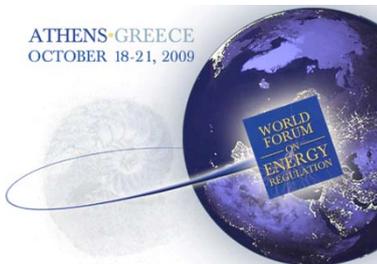
- AFUR – African Forum for Utility Regulation,
- ARIAE – Latin American Association of Energy Regulators,
- CAMPUT – Canadian Association of Members of Public Utility Tribunals,
- CEER – Council of European Energy Regulators,
- EAPIRF – East Asia and Pacific Infrastructure Regulatory Forum,
- ERA – Energy Regulators Regional Association,
- IAREC – Inter-regional Association of the Regional Energy Commissions,
- MEDREG – Mediterranean Working Group on Electricity and Natural Gas Regulation,
- NARUC – National Association of Regulatory Utility Commissioners,
- NORDREG – Nordic Energy Regulators,
- OOCUR – Organization of Caribbean Utility Regulators,
- RERA – Regional Electricity Regulators Association of Southern Africa,
- SAFIR – South Asian Forum for Infrastructure Regulation.



Data quality

■ *excellent*
 ■ *sufficient*
 ■ *insufficient*
 ■ *no data available for the country as a whole*
 ■ *no regulator is registered*

In order to guarantee the quality of the data to be found in 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, which made the data on the power sector and regulatory practice in BIH accessible in this manner as well.



4.5 World Forum on Energy Regulation

The World Forum on Energy Regulation (WFER) is a leading international conference on energy regulation that takes place on a three year cycle. WFER common goals include:

- Promoting the exchange of information on “best practices” to augment regulatory capabilities, including new partnerships between regulators from developed, transitioning, and developing countries;
- Strengthening efforts at regional coordination through associations of energy regulators and other key sector stakeholders;
- Increasing professional training programs to enhance institutional regulatory frameworks; and
- Exploring opportunities for cooperation between international development agencies and associations of energy regulators.

The World Forum on Energy Regulation IV took place in October 2009, in Athens with the participation of SERC representatives. Two major outcomes of WFER IV include the announcement of the creation of the new *International Confederation of Energy Regulators (ICER)* and the agreed *Statement on Climate Change*.

Mr. José Manuel Barroso, President of the European Commission: "This is a major step toward a truly integrated European energy market, and the right European Union response to the structural challenges we face. It is good news for business and citizens alike who need competitive prices and security of energy supply. The adoption of the internal market rules shows that Europe can deliver on its promises."

Mr. Andris Piebalgs, EU Energy Commissioner: "It is now up to the Member States to put these new rules into practice and give a better deal to both consumers and businesses. Consumers will benefit from better protection and the lowest possible prices, while companies will have a chance to gain more business in a competitive market. The new rules will also take us a big step forward toward meeting the challenges of climate change, increased energy import dependence and global competitiveness."

From the statements on the occasion of the Third Package adoption, Brussels, June 25, 2009

The 11 regional associations of energy regulators from six continents that make up the WFER Steering Committee agreed to enhance their international dialogue and cooperation by creating the *International Confederation of Energy Regulators*, ICER. The Confederation will ensure the continuity and visibility of the work of energy regulators around the globe and improve awareness, both to policy makers and the public at large. The establishment of ICER will aid understanding of energy regulation and its role in addressing the wide spectrum of socio-economic, environmental and market issues. With regular contacts and collaboration between energy regulators, regulators not only seek to facilitate the exchange of information and best practices but also to advance their contribution toward a sustainable planet. The Confederation will make use of the web-based platform of the International Energy Regulation Network (www.iern.net) to facilitate its work.

Within their powers and responsibilities, world energy regulators confirmed their support to the goals of global reduction of greenhouse gas (GHG) emissions, and they are highly aware of the challenge put before the energy sector. As their contribution to the United Nations Climate Change Conference, which took place in Copenhagen in December 2009, the regulators prepared the "*World Energy Regulators' Statement on Climate Change*". The Statement includes a number of commitments from energy regulators worldwide on activities to be undertaken in addressing climate change.

4.6 New European Union Rules on Internal Energy Market

One of the most important events, if not the most important, that marked the energy sector in 2009 was the adoption of new European Rules on the internal energy market. The new Third Legislative Package is expected to strengthen the energy market, give consumers more protection and the benefit of the lowest possible energy prices, while offering companies the chance to compete on a level playing field.

The main objective of the legislative package is to put in place the regulatory framework needed to make market opening fully effective. The rules adopted aim at:

- Providing for more effective regulatory oversight by truly independent and competent National Energy Regulators. Certain cross-border issues will be addressed by an EU Agency for the Cooperation of Energy Regulators (ACER).
- Increasing cross border collaboration and investment with a new European Network for Transmission System Operators (ENTSO). Grid operators in the European Union will have to develop common commercial and technical codes and security standards, as well as coordinate the investments needed at EU level.

- Increasing solidarity. By bringing national markets closer together, Member States will be better equipped to assist one another in case of energy supply threats.
- Creating a level playing field by effectively separating the production and sale of energy from the transmission of energy. This is to avoid companies involved with both the generation and transmission of energy to use their privileged position to block access to transmission grids by other suppliers. Unbundling supply from transmission activities of integrated companies will serve to eliminate conflict of interests, promote network investments and prevent any discriminatory behavior.
- Increasing transparency. Improving market transparency on network operation and supply will guarantee equal access to information, make pricing more transparent, increase trust in the market and help avoid market manipulation.
- Putting the rights of citizens at the centre of the market opening process with strong obligations on Member States to protect vulnerable energy consumers.
- Implementing intelligent metering systems with a target of 80% of the population to be covered by 2020. The installation of smart meters allows consumers to be informed precisely of their consumption and promotes energy efficiency.

The seat of the Agency for the Cooperation of Energy Regulators will be in Ljubljana.

The role of ACER will be to provide assistance to regulatory authorities with implementation of regulatory activities with coordinated approach. Its tasks shall include:

- *Giving opinions and recommendations to transmission/transportation system operators, national regulatory authorities, the European Parliament, the Council and the Commission,*
- *Issuance of individual decisions in specific cases as requested by regulatory authorities of individual countries,*
- *Issuance of framework guidelines for cross-border trade development.*

The most important bodies of ACER are: Administrative Board, Board of Regulators, Director and Board of Appeal.

The Third Package is composed of:

- Regulation 713/2009/EC of the European Parliament and of the Council of July 13, 2009 establishing the EU Agency for the cooperation of National Energy Regulators,
- Regulation 714/2009/EC of the European Parliament and of the Council of July 13, 2009 concerning conditions for access to the network for cross-border electricity trade, replacing Regulation 1228/2003/EC,
- Regulation 715/2009/EC of the European Parliament and of the Council of July 13, 2009 concerning conditions for access to the network for cross-border natural gas trade, replacing Regulation 1775/2005/EC,
- Directive 2009/72/EC of the European Parliament and of the Council of July 13, 2009 concerning common rules for the internal electricity market, replacing Directive 2003/54/EC,
- 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, replacing Directive 2003/55/EC.

The aforementioned Package was published in the EU Official Journal on August 14, 2009, and came into force on the 20th day after its publication.



The European Network of Transmission System Operators for Gas (ENTSO-G) was established on December 1, 2009, by 31 TSOs from 21 European countries.

ENTSO-G works to promote the internal market and cross-border trade for gas and to ensure the optimal management, coordinated operation and sound technical evolution of the European natural gas transmission network.



“In our opinion, the financial reports of the Commission realistically and objectively show, in all relevant aspects, the state of play of assets and liabilities on December 31, 2008, business results and the budget execution for the year that ended on that day, in accordance with the accepted financial reporting framework.

The financial operation of the Commission in 2008 was in compliance with the applicable legal regulation in all materially relevant aspects.”

(The Office for Auditing of the Institutions of Bosnia and Herzegovina, May 22, 2009)

“In our opinion, the financial reports show objectively the financial standing of the State Electricity Regulatory Commission (SERC) on December 31, 2008 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”, March 13, 2009)

5. AUDITING REPORT

Pursuant to the Law on Transmission of Electric Power, Regulator and System Operator of BIH, it is determined that SERC is basically financed by the regulatory fee which is determined in such manner as to cover estimated SERC’s costs. Regulatory fees are paid by license holders for electricity transmission, an Independent System Operator and international trade in electricity.

According to a SERC decision, the realized difference in revenues over expenditures from the previous period is used to fund activities in the forthcoming period, while the obligation to pay the regulatory fee is reduced by that amount accordingly.

In 2009, an audit of SERC financial reports with a simultaneous evaluation of accounting policies applied and relevant estimates made by the SERC management was performed by the Office for Auditing of the Institutions of Bosnia and Herzegovina and the independent auditing company “REVIK” from Sarajevo.

The Office for Auditing of the Institutions of Bosnia and Herzegovina affirmatively appraised SERC financial reports for 2008. The collected audit evidence confirmed that business results and the execution of the budget in all relevant aspects were presented realistically and objectively.

While reviewing the Audit report of the Office for Auditing of the Institutions of Bosnia and Herzegovina, both Houses of the Parliamentary Assembly of Bosnia and Herzegovina commended SERC openly for the conscientious management of funds and compliance of its activities with the applicable legal regulations.

SERC also fulfills regularly its obligations from the Law on Transmission of Electric Power, Regulator and System Operator in BIH pertaining to an audit by an independent auditor and publishing of accounting reports with a view to provide information to interested persons and a wider public.

In accordance with international auditing standards, the auditing of SERC financial reports was performed by the Auditing, Accounting and Consulting Company “REVIK” Ltd. Sarajevo, with whom a contract was concluded based on a published public invitation for auditing services.

In the opinion of the independent auditor, the overall presentation of financial reports, recognizing and measuring of transactions and business events, objectively and realistically present the state of assets, liabilities, capital and financial results of performance.

In accordance with the Law on Transmission and the international accounting standards, the Report of the independent auditor was published in the “Official Gazette of BIH”, No. 47/09.

6. MAIN ACTIVITIES IN 2010

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 the relevant European directives and rules of internal electricity market.

In 2010, SERC will continue to cooperate with the Parliamentary Assembly of Bosnia and Herzegovina (PA BIH), in particular with the Commission for Traffic and Communication of the House of Representatives of PA BIH and the Commission for Foreign and Trade Policy, Customs, Traffic and Communication of the House of Peoples of PA BIH. Of particular importance is the continuation of 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 continued in 2010 with the Regulatory Commission for Electricity in the Federation of BIH and the Regulatory Commission for Energy of the Republika Srpska as well as with other regulatory bodies established at the state level, primarily the Council of Competition of BIH.

Further, SERC will follow up 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 for services of electricity transmission, the operation of the Independent System Operator and ancillary services,
- Issuance of licenses,
- Monitoring of licensed entities,
- Analysis of regulatory rules and practice,
- Creation of regulatory rules,
- Design of a single electricity market,
- Capacity building in terms of the fulfillment of international obligations with regard to regulatory reporting in line with the ERGEG structure,
- The social aspect within the field of regulatory practice,
- Monitoring the implementation of the ITC mechanism and establishment of the mechanism for coordinated explicit capacity auctions,

- Approving and monitoring rules developed by ISO BIH and the Transmission Company,
- Monitoring the development of *the Indicative Generation Development Plan for the Period 2011-2020* and approving *the Long-Term Transmission Network Development Plan for a ten-year period*, as well as the annual investment plan of Elektroprivreda BiH,
- Sharing information on regulatory practice with the regulated entities and the public
- Performing other tasks entrusted to SERC.

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, Gas Working Group, Customers Working Group, South East Europe Co-ordinated Auction Office Implementation 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 Working Group on Electricity and Natural Gas Regulation (including Ad Hoc Working Groups on institutional issues, electricity, gas and environment, renewable energy sources and energy efficiency),
- IERN – International Energy Regulation Network.

Further, SERC will continue to follow up the work of CEER (Council of European Energy Regulators) and ERGEG (European Regulators' Group for Electricity and Gas) as well as the process of establishment of the Agency for the Cooperation of Energy Regulators (ACER).

Taking into account the fact that the new rules of the European Union on the internal energy market (Third package) will become mandatory for Bosnia and Herzegovina through the Treaty Establishing the Energy Community, in the forthcoming period, SERC shall pay due attention to a detailed analysis of the content and conduct of preparatory activities for the implementation of the relevant provisions of the Third package on EU energy market liberalization.

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 seat of the SERC, M. Jovanovića Street 4/II, 75000 Tuzla, Bosnia and Herzegovina.

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

(used data provided by ISO BIH, the Company for Transmission of Electric Power of BIH and public power utilities)

Major generation facilities

Hydro power plants	Capacity of power unit (MW)	Total installed capacity (MW)	Thermal power plants	Installed capacity (MW)	Available capacity (MW)
Trebinje I	3×60	180	TUZLA	715	635
Trebinje II	8	8	G3	100	85
Dubrovnik (BIH+Cro)	2×108	216	G4	200	182
Čapljina	2×210	420	G5	200	180
Rama	2×80	160	G6	215	188
Jablanica	6×30	180			
Grabovica	2×57,5	115	KAKANJ	450	398
Salakovac	3×70	210	G5	110	100
Mostar	3×24	72	G6	110	90
Jajce I	2×30	60	G7	230	208
Jajce II	3×10	30			
Bočac	2×55	110	GACKO	300	276
Višegrad	3×105	315			
Peć-Mlini	2×15	30	UGLJEVIK	280	250

Basic data on the transmission system

<i>transmission lines</i>			<i>interconnectors</i>		
No.	Nominal voltage of transmission lines	Length (km)	No.	Nominal voltage of transmission lines	No. of interconnections
1	400 kV	864,73	1	400 kV	4
2	220 kV	1.524,80	2	220 kV	10
3	110 kV	3.887,93	3	110 kV	22
4	110 kV – cable line	31,35		Total	36

<i>transmission sub-stations</i>				<i>transformers</i>			
No.	Type of substation	No. of sub-stations	Installed capacity (MVA)	No.	Transmission ratio of transformers	No. of transformers	Installed capacity (MVA)
1	TS 400/x kV	9	6.090,5	1	TR 400/x kV	14	4.900
2	TS 220/x kV	8	1.423,0	2	TR 220/x kV	14	2.100
3	TS 110/x kV	127	4.690,5	3	TR 110/x kV	216	5.204

ATTACHMENT B: Basic Power Indicators in Bosnia and Herzegovina

(GWh)

Estimate for 2009	EP BIH	ERS	EP HZHB	Brčko District BIH	BIH
Generation	6,990.00	5,635.00	1,950.00		14,575.00
Generation in hydro power plants	1,630.00	2,560.00	1,945.00		6,135.00
Generation in thermal power plants	5,230.00	3,000.00			8,230.00
Generation in small and industrial PPs	130.00	75.00	5.00		210.00
Consumption	4,405.00	3,554.00	3,083.00	270.00	11,622.00
Distribution consumption	4,035.00	3,420.00	1,350.00	270.00	9,075.00
Transmission losses					310.00
Large customers	370.00	120.00	1,725.00*		2,215.00
Pumping and mines consumption		14.00	8.00		22.00

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

Realization in 2008	EP BIH	ERS	EP HZHB	Brčko District BIH	BIH
Generation	7,340.29	5,084.49	1,359.50		13,784.28
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
Consumption	4,701.08	3,471.45	3,461.26	268.86	12,193.15
Distribution consumption	4,042.65	3,309.06	1,334.09	268.86	8,954.67
Transmission losses					326.50
Large customers	658.42	148.23	2,091.17*		2,897.83
Pumping and mines consumption		14.15			14.15

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

Realization in 2007	EP BIH	ERS	EP HZHB	Brčko District BIH	BIH
Generation	6,592.61	4,454.41	1,128.10		12,175.12
Generation in hydro power plants	1,120.10	1,780.31	1,124.09		4,024.50
Generation in thermal power plants	5,365.00	2,607.16			7,972.16
Generation in small and industrial PPs	107.51	66.94	4.01		178.46
Consumption	4,358.74	3,310.97	3,363.83	257.02	11,602.56
Distribution consumption	3,809.38	3,109.09	1,307.60	257.02	8,226.07
Transmission losses					312.00
Large customers	549.36	156.77	2,045.37*		2,751.50
Pumping and mines consumption		45.11	10.86		55.97

* Including the amount of 547.78 GWh which the "Aluminij" Company purchased as an eligible customer.

Realization in 2006	EP BIH	ERS	EP HZHB	Brčko District BIH	BIH
Generation	6,401.13	5,390.49	1,883.55		13,675.17
Generation in hydro power plants	1,488.03	2,528.13	1,883.55		5,899.71
Generation in thermal power plants	4,811.56	2,802.50			7,614.06
Generation in small and industrial PPs	101.54	59.86			161.40
Consumption	4,265.62	3,309.89	3,352.60	252.60	11,491.81
Distribution consumption	3,722.72	3,061.31	1,279.49	252.60	8,316.12
Transmission losses					311.10
Large customers	542.90	199.50	2,053.79		2,796.19
Pumping and mines consumption		49.08	19.32		68.40

Realization in 2005	EP BIH	ERS	EP HZHB	Brčko District BIH	BIH
Generation	5,778.53	5,200.64	1,768.69		12,747.86
Generation in hydro power plants	1,477.69	2,747.10	1,768.69		5,993.47
Generation in thermal power plants	4,218.88	2,384.44			6,603.32
Generation in small and industrial PPs	81.97	69.10			151.07
Consumption	4,190.57	3,458.33	3,469.83	252.47	11,371.20
Distribution consumption	3,641.86	3,254.65	1,232.47	252.47	8,128.98
Transmission losses	163.78	136.47	83.72		383.97
Large customers	384.93	20.77	2,133.31		2,539.01
Pumping and mines consumption		46.43	20.33		66.76

ATTACHMENT C: Map of the Power System of Bosnia and Herzegovina with Operational Areas of “Elektroprenos BIH” (the Company for Transmission of Electric Power in BIH) and Areas of Public Utilities (December 2009)

