



Annual

Report

2014



*Dear friends,*

*2014 was an important year for the electric energy sector in Albania in general and the same for the Transmission System Operator as one of the leading members of this sector. TSO Corporation continued to accomplish its own legal obligations guaranteeing the necessary capacities for the supply of the domestic market with the electric energy and realizing considerable volumes of exchanges in the regional energy market. During this year the TSO achieved in 100% the transmission of electric energy, covering the internal consume in the level 7473, of which 4 406 TWh from the internal production and 3067 TWh from the import of regional market of electric energy.*

*One of the areas, which is having a special emphasis, is the realization of projects which are in the implementation phase, but also the provision of the necessary funding from financial institutions in order to support the new development projects of the transmission system.*

*Currently it is being worked for the realization of several important projects. The project of 400 kW interconnection line Albania - Kosovo, which is expected to be in operation in the beginning of 2016. The project for the consolidation of 110 kW transmission network of the south of Albania, during this year special element of this project have been completed and are in operation. This project is expected to be fully completed by the end of 2015. The construction of the new National Dispatch Centers and TSO Headquarters continued with a high performance and also during this year the system SCADA / EMS was set in full function.*

*TSO Corporation is continuing to work for providing the financial support for some other important projects which will continue to improve the quality of service and the credibility of the transmission system for the coming years. It is worth mentioning project such as: 220 kW line with two circuits Tirana 2 Rashbull and the strengthening of the Rashbull Substation, the reinforcement 110 kW Tiran ring network and the construction of a new 400/110 kW Tirana 3 substation, 400 kW Macedonia- Albania interconnection line and the expansion of 400 kW Elbasan 2 Substation and the 400 kW transmission line Elbasan 2 - Fier and substation expansion of Fier.*

*2014 has been a very important year for full membership process of TSO in ENTSO – E. On 10 December 2014 TSO signed in Brussels the long-term agreement for the Synchronous Operation Electric Energy Albanian System with the Continental European system. The signing of this agreement makes possible for TSO to participate with its specialists at all levels of representation of ENTSO - E*

*Thanks to the work TSO will continue to be a leading company in the Albanian market of electric energy even in the following years, meeting all legal and technical obligations, guaranteeing the users of the Transmission System that that will always have a quality service and European standards.*

*Yours sincerely  
Dr. Eng. Engjell Zeqo  
OST Administrator*



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## I. Presentation of the TSO Corporation

### 1. GENERAL INFORMATION

Electric Energy Transmission System in Albania is directed by the Transmission System Operator (TSO), a public company with 100% of the shares owned by the state. TSO Corporation was established in 14/07/2004 as a result of the restructuring and separation of Albanian Electric Energy Corporation, by a vertically integrated company with the functions of generation, transmission and distribution in three different companies.

Based on applicable legal and regulatory framework, TSO Corporation has the responsibility to operate, maintain and develop the transmission network system, including the interconnections with other cross-border systems; to ensure long-term ability of the system to meet the reasonable demands for the transmission of electric energy.

The transmission System Operator (TSO) is one of the main members of the electric energy market in Albania. Based on this important role, the company supports its development in the medium and long term plans for the development of the electric energy sector in the country.

The transmission System Operator carries out its activity separately from the other activities in the electric energy sector, such as production, distribution, sale and supply of electric energy, in accordance with the principles and requirements defined by the law for the Electric Energy Sector.

Below are put forward in detail the main responsibilities of the TSO Corporation arising from the laws, regulations and regulatory in force.

#### The Management of energy flows

It manages the flows of electric energy in the transmission network, taking into account the exchanges of electric energy with other interconnected systems and provides all the necessary ancillary services.

#### The safety of the system

It provides long-term ability of the system to meet reasonable demand for the transmission of electric energy, operating, maintaining and developing in a safe, reliable and efficient way the transmission system in accordance with the legal requirements. It stores the information necessary for the evaluation of the quality parameters of the electric energy supply in the transmission system, based on the rules for the quality of electric energy supply, including information on the safety of the supply, voltage quality, service quality and other information determined by the Energy Regulatory Authority (ERA).

#### The connection with the transmission system

It compiles and publishes transparent procedures, effective and non-discriminatory for the connection of users and new plants of energy production with the transmission system. It provides the connection of the users of the system to the transmission network system, and the provision of services pursuant to the provisions of laws and regulations



in force, governing the progress of connectivity and network usage. It creates a mechanism for handling complaints concerning access and usage of the transmission network issues.

### Losses and ancillary services

It provides electric energy for covering losses in the transmission network, as well as the electricity reserves and other ancillary services, required for the safe operation of the system based on the principles of transparency, non-discrimination, market regulations and minimum cost. It performs an annual analysis of losses in the transmission network, as well as draws up and implements losses reduction measures and other measures for the efficiency of the electricity.

### Balancing Services

They perform balancing of the system, based on the principles of objectivity, transparency and non-discrimination, in accordance with the Transmission Network Code and Market Rules. Exchanges or shares the balancing services with the transmission system operators of the neighboring countries about the frequency regulation within the network, in accordance with the operational agreements between transmission system operators in the region and the provisions of this law about the promotion of regional cooperation.

### Capacity Allocation

It manages cross-border capacity and carries out of the capacity allocation to the operators of neighboring transmission networks, based on objective criteria, transparent and non-discriminatory and publishes information related to cross-border capacities.

### The transmission of the data

It installs and processes all kinds of information, communications and systems, including wireless system necessary for the transmission system. Depending on the opportunities, a portion of the optical fiber infrastructure and / or communication network capacities of high velocities can be provided for use without damaging and endangering other activities and networks within the framework of relevant legislation, in accordance with the opinion of ERA.

### Providing information

It provides to the system users all the information necessary for effective usage of the network. It exchanges the information requested by neighboring operators of the transmission systems, aiming at a safe and efficient operation, coordinated development and interoperability of the systems.

### Cooperates and reports to ERA

It prepares and submits for approval to ERA all the laws and regulation according to the obligations stipulated by the law, such as the Transmission Code, Market Rules, Rules of the New Connections, Regulations for the Capacity Allocation of the Interconnection etc. It reports to ERA in relation to its activities in accordance with legal requirements and deadlines.

## VISION, MISSION, PRIORITIES AND STRATEGIES

# 2

### MISSION

TSO is a company which provides high quality services to all users of the transmission system, based on the best standards and practices, which are applied by transmission system operators of ENTSO-E, contributing to the economic development of Albania and safe and qualitative exchange of electric energy in the country and in the region.

### VISION

Transmission System Operator of Albania should develop the transmission system of electric energy based on the highest technical standards in order to:

- to have a reliable and sustainable system of energy transmission.
- to offer high quality services at a lowest cost possible for the users of the transmission system.
- to expand and develop the transmission system in order to meet current and future demand for electric energy in the domestic and regional electric energy market.
- To ensure the application of high environmental and social standards in the operation and development of the transmission network.

### PRIORITIES AND STRATEGIES

TSO priorities are set in accordance with the mission and vision of the company. Among the main priorities and strategies we can list:

- The functioning as an effective and efficient entity in order to achieve continuous improvements to maintain and guarantee the reliability of electric energy system.
- The development of the transmission network in accordance with long-term planning and development plans of the electric energy sector as a whole for increasing the exchange capacity with neighboring countries and the quality of service to users of the Transmission System.

- The provision of appropriate conditions of operation of the electric energy market in accordance with the expected market developments.
- Close cooperation with the Energy Regulatory Agency to draft market rules, which provide a transparent and competitive model of the electric energy market.
- The ensuring of the financial stability of the company.
- The provision of attractive employing environment in the labor market in Albania.
- Respecting all environmental policies in the management and development of the transmission network.

TSO is constantly looking to improve its technical, economic and financial performance to meet the best international standards of the electric energy market community and European organizations, which promote and monitor the opening of the internal market of electric energy, as well as the integration of this market in the regional and European electric energy market. In December 2014, TSO signed the LTA Agreement (Long Term Agreement) with all the TSO-s, members of ENTSO-E, thus making one more step towards its full membership in this organization. In accordance with the provisions of the LTA, TSO has earned the right to participate in all structures of the technical organization of ENTSO-E represented by respective experts and participates in the General Assembly to ENTSO-E. Starting from 2012, TSO has actively participated in the process of creating the Coordinated Auction Office in South East Europe (SEE CAO) and is currently one of the its OST members, including Croatia, Bosnia Herzegovina, Greece, Montenegro, Kosovo and Turkey. SEE CAO has already started the process of monthly auctions of the interconnection capacity for 2015. SEE CAO is a very important initiative of regional cooperation between TSO-s in the region and creates good conditions for the development of common electric energy market in the region.





### 3 LEGAL AND REGULATORY FRAMEWORK

Albania is one of the signatory countries of the Energy Community Treaty in relation to regional development of the sector of electric energy and natural gas in South East Europe. This treaty requires states members and our country to align and adjust the legal framework with the EU *acquis communautaire* in four areas including the directive on the internal market of electric energy and the regulation about the exchange of electric energy between neighboring countries.

During 2014 it is been worked actively in joint working groups for the preparation of the bill of the new electric energy sector. This bill which is consistent to the third package of EU legislation, prepared under the chairmanship of the Ministry of Energy and Industry with the participation of the three main companies of the electric energy sector and other actors of the electric energy market, with the cooperation of USAID and the advice of the Energy Community Secretariat, it creates a new picture of the energy market. Transmission System Operator as one of the main companies of the power system and electricity market, is charged with a series of obligations and specific tasks arise for the preparation of laws and regulatory acts, aiming at the adaptation to the requirements of a new electric energy market, in a gradual as well as emergent way.

The new law, as well as membership with full rights in the ENTSO-E (which is already very close), puts TSO face to face to a new perspective, which requires the adaptation of the power sector, the electric energy market and, as a consequence of the OST with the European models.

### 4 SOCIAL AND ENVIRONMENTAL ISSUES

TSO considers conservation and environmental protection as one of its primary tasks and is continually working to improve the environmental performance of the company. TSO has already developed and implements environmental policy, which is public and is published on the website of the company. Implementation of environmental policy is implemented through the Action Plans, which give details about all environmental aspects identified. The environmental policy of TSO is based on three main pillars, as follows:

- The management of environmental issues of TSO has been developed in accordance with national laws, regulations and requirements of electric energy about the environment;
- The improvement of environmental performance through appropriate awareness of the staff and relevant training for this issue;
- The prevention and the mitigation of the environmental impacts, monitoring and the control of the pollution discharge within accepted standards to manage the protection and sustainability of natural resources.

On the basis of environmental policy, TSO has set the environmental objectives of the company and the environmental impacts arising from the exercise of the activity of the company. A strong base for the management of environmental issues is Environmental Management System in accordance with the European standard ISO 14001



# II The leading model of TSO corporation

## 1 THE LEADING STRUCTURES

TSO is directed by:

Supervisory Council and Administrator.

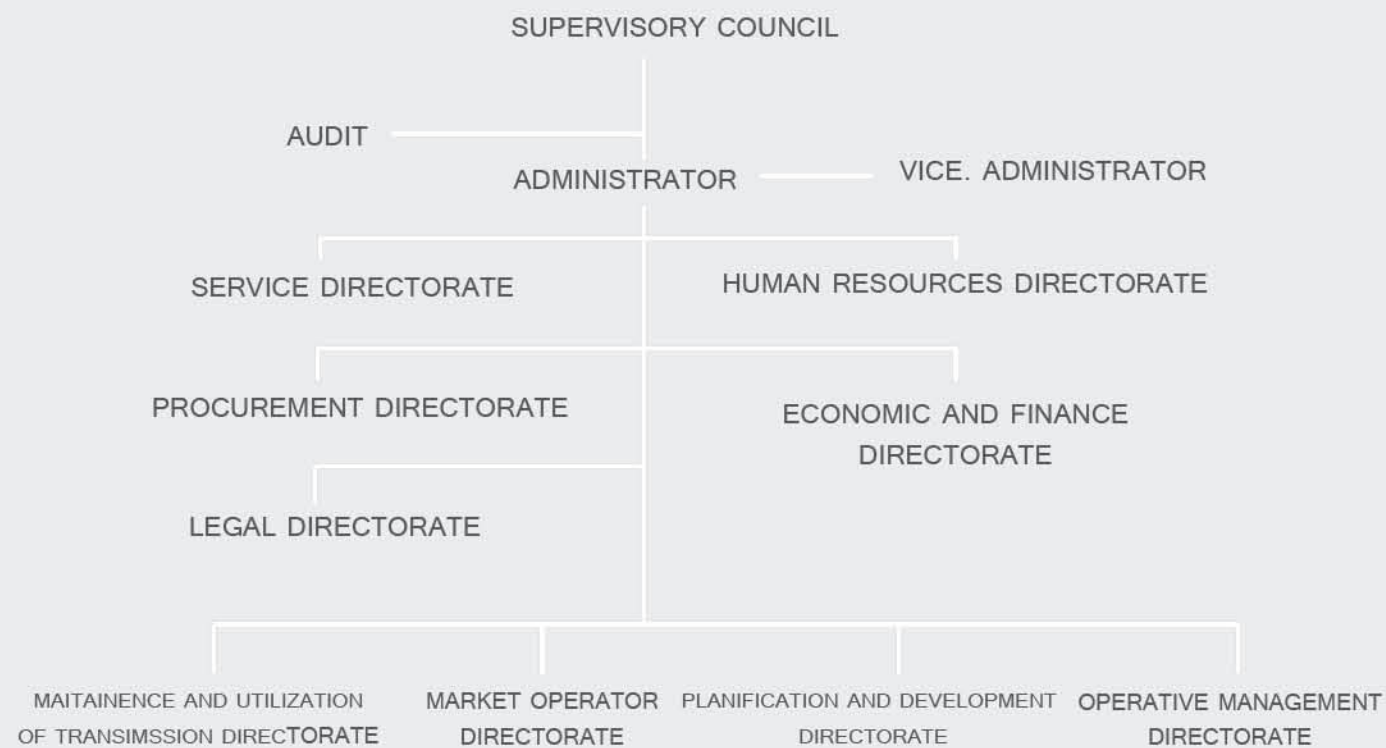
Supervisory Council consists of six (6) members appointed by the General Assembly.

- |                       |                                       |
|-----------------------|---------------------------------------|
| 1. Pajtim Bello       | (The head of the supervisory council) |
| 2. Dorian Duçka       | (Member)                              |
| 3. Ilir Bejtja        | (Member)                              |
| 4. Entela Cipa        | (Member)                              |
| 5. Evisi Kopliku      | (Member)                              |
| 6. Stefanaq Koçollari | (Member)                              |

With the decision no. 3, date 30.09. 2013 the Supervisory Council of OST sh.a. appointed Mr.Engjell Zeqo as the administrator of OST sh.a.

## 2 ORGANIZATIONAL STRUCTURE

Central Administration



ALTOGETHER: 730 EMPLOYEES



## 3 HUMAN RESOURCES MANAGEMENT

Organizational structure of OST is simple and flexible and creates possibilities of further improvements and creation of new units based on this structure. The average staff of OST for 2014 consist of 730 employees. The OST staff is motivated and able of accomplishing with high efficiency the strategic objectives and implementing the new projects which are in the final stage.

OST requirement for the recruitment of the new staff are closely related to the obligations that come as the result of the legal standards abiding, as well

as the membership requirements in ENTSO-E Human resources policy cover the recruitment planning of human resources, recruitment and selection, ability improvement, performance management and rewards, gender equality as well as the involvement of other ethnic minority.

Transmission System Operator has in its structure a staff of 730 employees altogether, 159 of which work in the headquarters.

According to the gender, age and education OST structure is presented as below:

Age	Administration	NJMT	Tirana Unit	Fier Unit	Shkoder Unit	Elbasan Unit	Korca Unit	Burrel Unit	OST
<30 years	31	4	10	4	13	4	3	2	71
30 - 40 years	40	10	16	14	22	3	7	6	118
40 - 50 years	24	14	11	25	38	21	10	9	152
50 - 65 years	64	39	74	53	52	42	20	45	389
Education	Administration	NJMT	Tirana Unit	Fier Unit	Shkoder Unit	Elbasan Unit	Korca Unit	Burrel Unit	OST
University	117	15	35	12	20	11	12	9	231
High School	40	32	68	79	95	55	28	43	440
Compulsory	2	20	8	5	10	4	0	10	59
Faculty	Administration	NJMT	Tirana Unit	Fier Unit	Shkoder Unit	Elbasan Unit	Korca Unit	Burrel Unit	OST
Engineering	78	8	29	10	15	6	8	7	161
Economic	19	5	4	2	3	4	3	1	41
Law	8	0	0	0	1	0	0	0	9
Philology	5	2	1	0	1	1	0	0	10
Social Sciences	6	0	1	0	0	0	1	1	9
Biochemistry	1	0	0	0	0	0	0	0	1
1 High School	40	32	68	79	95	55	28	43	440
1 Compulsory	2	20	8	5	10	4	0	10	59
Gender	Administration	NJMT	Tirana Unit	Fier Unit	Shkoder Unit	Elbasan Unit	Korca Unit	Burrel Unit	OST
Male	93	56	85	86	113	50	32	56	571
Female	66	11	26	10	12	20	8	6	159
<b>Units total</b>	<b>159</b>	<b>67</b>	<b>111</b>	<b>96</b>	<b>125</b>	<b>70</b>	<b>40</b>	<b>62</b>	<b>730</b>

## III Operating Management System

### 1 The function of the Operative Management Directorate

TSO operates the electric energy system through the Operative Management Directorate, taking into account the provision of all ancillary services related to the maintenance of the system stability and exchanges with the other systems.

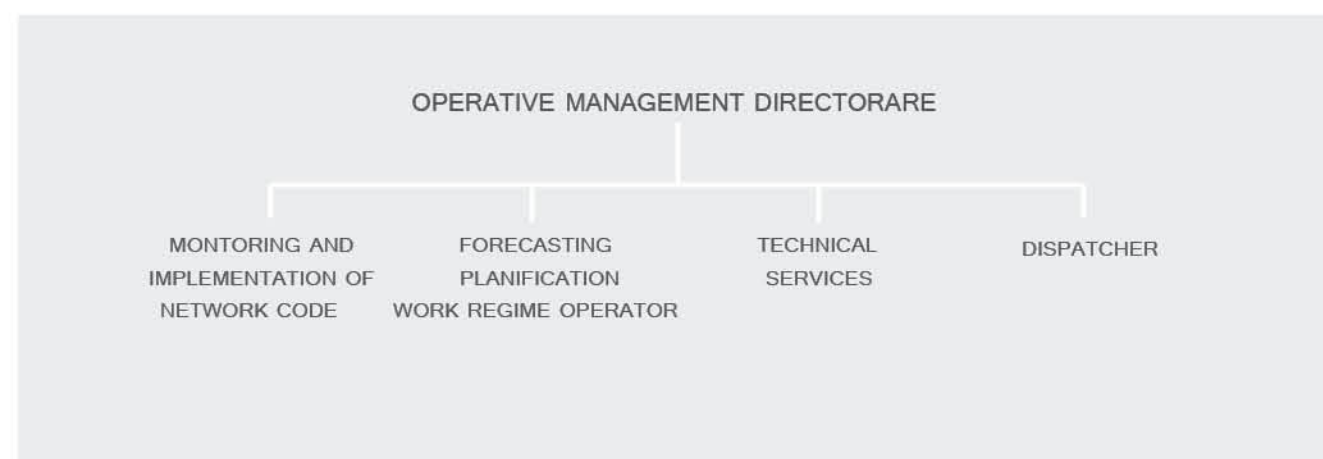
**TSO, as a system operator, performs the following functions:**

1. It makes forecasting duty of the electric energy system in short and medium terms, considering the forecast of electric energy demand.
2. It operates the generation and transmission system, checking and guaranteeing the level of safety of energy supply in accordance with the Network Code and ENTSO-E standards.
3. In cooperation with neighboring TSOs and implementing the methodology established by ENTSO-E, defines the cross-border transmission capacity for any limit and direction of energy flows, in annual, monthly and daily periods, paving the way to the electric energy market and energy exchanges realized by the users of the Network, members of the electric energy market.
4. It manages ancillary services necessary for the normal functioning of SE, and other operative requirements related to balancing and quality of the supply in conformity with technical standards and

definitions of the Network Code and the Rules of Electric Energy Market.

5. It manages the generators and the electric energy demand in real time, providing the balance between generation, exchange and consumption of energy.
6. It plans on daily / hourly basis the coverage of the demand, prepares the plan for energy production, time scheduling, for every plant and controls the safety level of the supply by applying the safety criteria N-1.
7. It carries out the exchanges and harmonization of time scheduling of the energy exchanges with the neighboring TSOs and coordination center of the region for the day in advance, as well as the calculation of exchange energy for every interconnection for the day preceding.
8. It plans and authorizes the release from the work of network elements guaranteeing the work safety of the system in coordination with the Network Users.
9. It maintains and develops respective data base and prepares the appropriate information about the work of the Electric Energy system and makes it available to the respective authorities.
10. It analyzes the work of the Energy System and proposes concrete measures for the maintenance of the work safety, keeping the necessary connections within the company with Network Users, TSOs of the region and the Regional Coordination Center.

## 2 ORGANIZATIONAL CHART

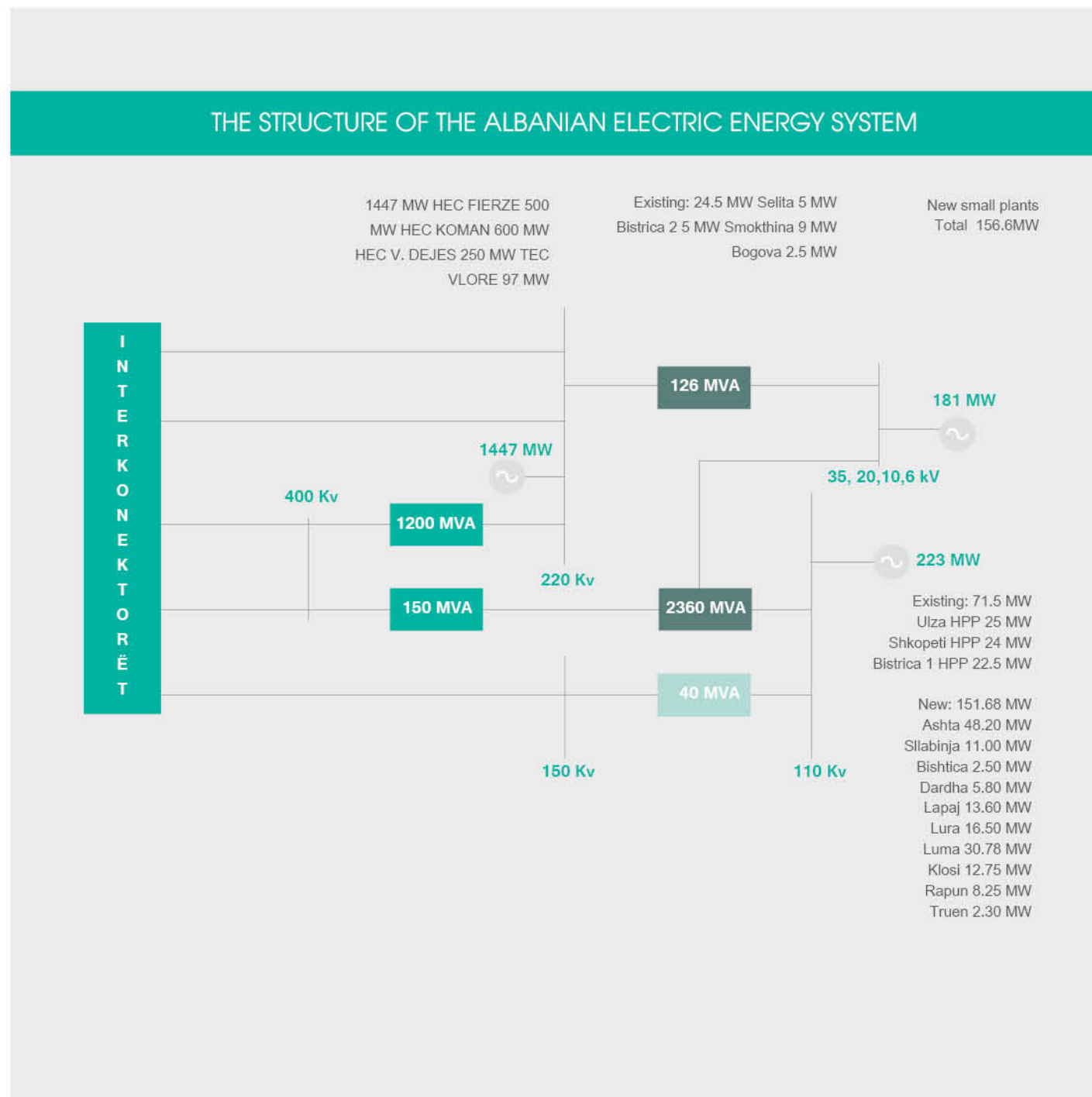




# 3 AKTIVITY DURING 2014

In accordance with functional task this directorate is focused on determining the mode of usage of the Transmission System in terms of stability and work safety of the system which is closely related to the operative management of SE as a whole, in accordance with the Network Code, Model and Market Rules.

The Structure of Albanian Electric Energy System for 2014 (MW Generator Nominal Capacity at NS and Transformation Nominal Capacity of the TSO Corporation in MVA) is as follows:



## The main data of the transmission network for 2014

TSO owns and operates 15400 kW, 220 kV and 150 kV substations, with a total of installed power of 3826 MVA. 220 kV network works in a closed circuit connecting the main plants in the north of the country with the loads of consumption concentrated mainly in the center and south of the country. 110 kV network is extended throughout the country and is used to supply the Distribution System and Qualified Consumers. A part of this network works in a closed circuit and the rest in the radial form.

Hydro plants dominate the generation sector of the country and the production of electric energy in Albania is highly dependent on hydrological conditions throughout the year, ranging approximately from 3 TW / h in a dry year, 7 TW / h in a moist year. This big change

in the production in dry and moist years reduces the reliability of the generating system and necessitates the provision of imported electric energy to meet the country's demand of electric energy.

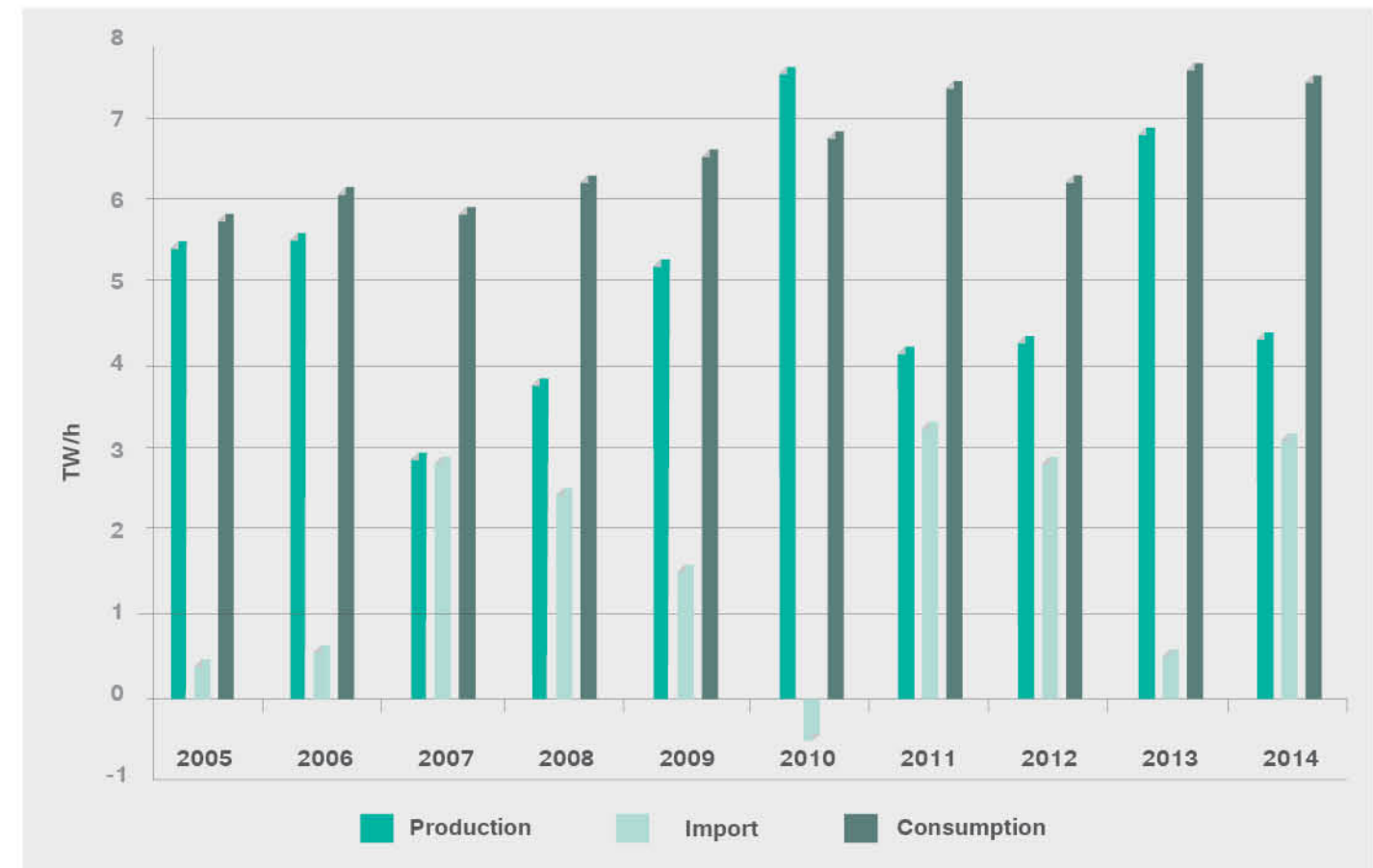
TSO currently operates synchronously with the European transmission network ENTSO-E through interconnection lines with neighboring countries of 400 kV and 220 kV voltages. In January 2015 was signed the Operating Agreement LTA (Long Term Agreement) for synchronous operation with the European transmission network ENTSO-E, through which, our country enjoys the status of a full right member in this grouping of networks nodes of the Transmission European countries, ENTSO-E.

## Production, exchange, consumption, in TW/h

### The Data of the last 10 years (2005-2014)

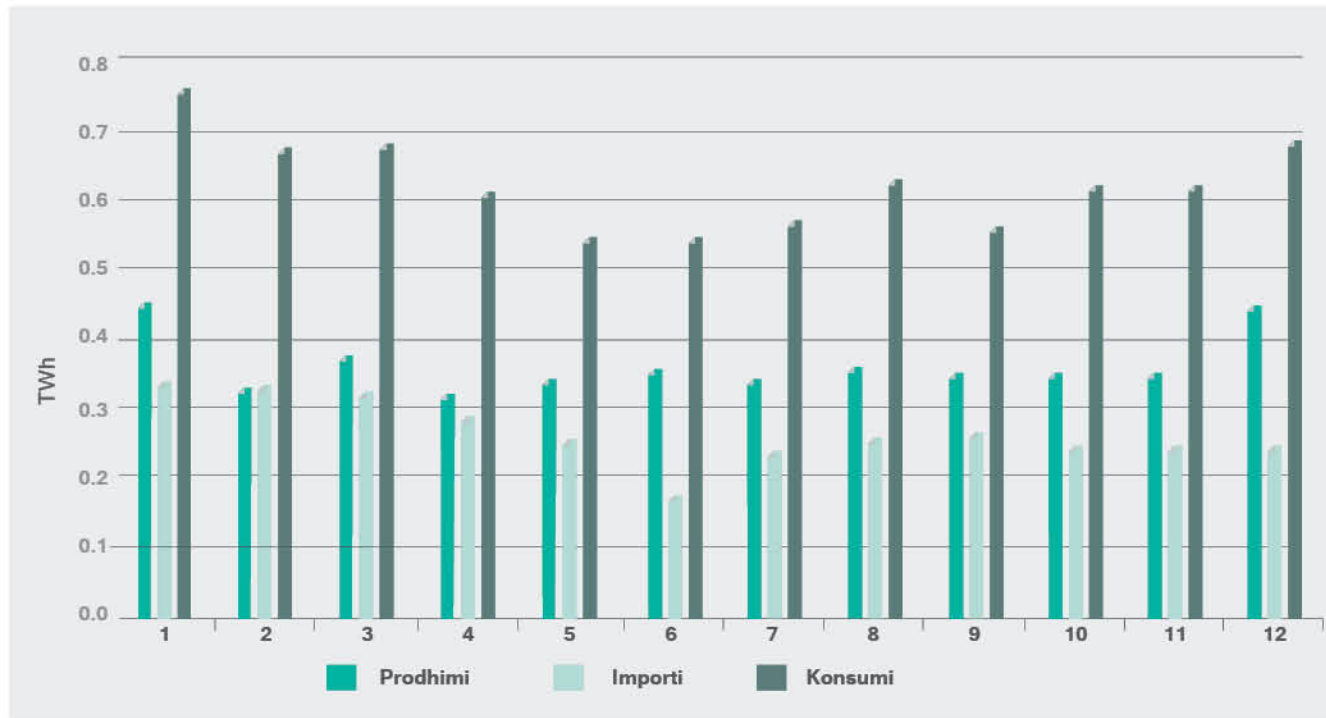
To cover the electric energy demand, the Albanian Electric Energy System has become a net importer of energy, for about two decades, with the exception of 2010, when the net exchanges resulted in 732 GW /

h in the export direction as a result of abundant water flows in the Drin cascade, which were about two times higher than the average many-year long water flow level. In table are presented the production, consumption and exchanges over the years:





The data of 2014

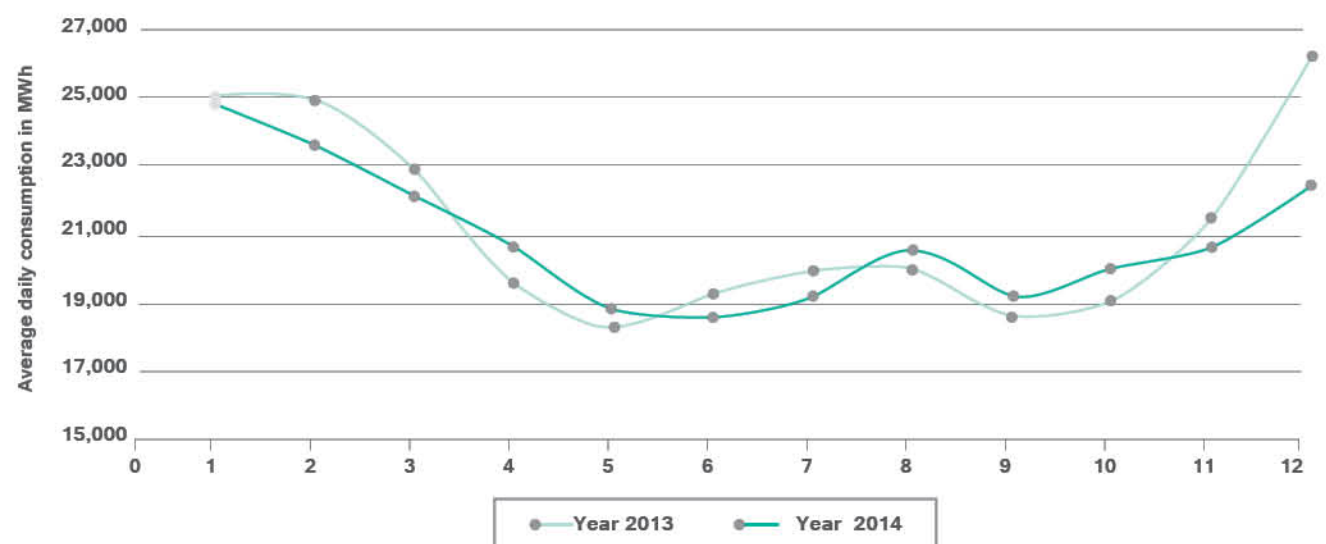


The year 2014 is considered as a normal year regarding the ambient temperatures and the main parameters of our electric energy system. Total consumption resulted 7,473 TW / h, with 4.406 TW / h generated from domestic production and 3.067 TW /h were imported. The water flows in the Drin cascade, in spring and in autumn, resulted higher than the forecasted water flows (calculating average), which helped in maintaining relatively high levels in lakes and cascades, and consequently in the availability of a sufficient electric energy reserve.

The import of electric energy in the first three months of the year was slightly higher than the predicted amount of imports, due to insufficient water flows cascade, and AEC inability to meet the demand of EDO. However, in the remaining months of the year, import were slightly lower than the forecast as a result of increased

waterflows and reservoir levels of the cascade, but also of the decreasing trend of domestic consumption. Physically, the amount of imported electric energy was realized in 87% from the border with Montenegro and 13% from the border with Greece. Generally, electric energy consumption was approximate to the forecasted values in the annual plan, with the exception of the last two months, which were confronted with a significant reduction in the total consumption of the country (about 10% less than the same period of a the previous year), as a result of the measures taken by the Government and EDO to reduce non-technical losses of the distribution network, and increase the level of cashing.

During 2014 we are not faced with serious breakdowns or non-anticipated events associated with the termination or limitation of electric energy supply to consumers of the country.

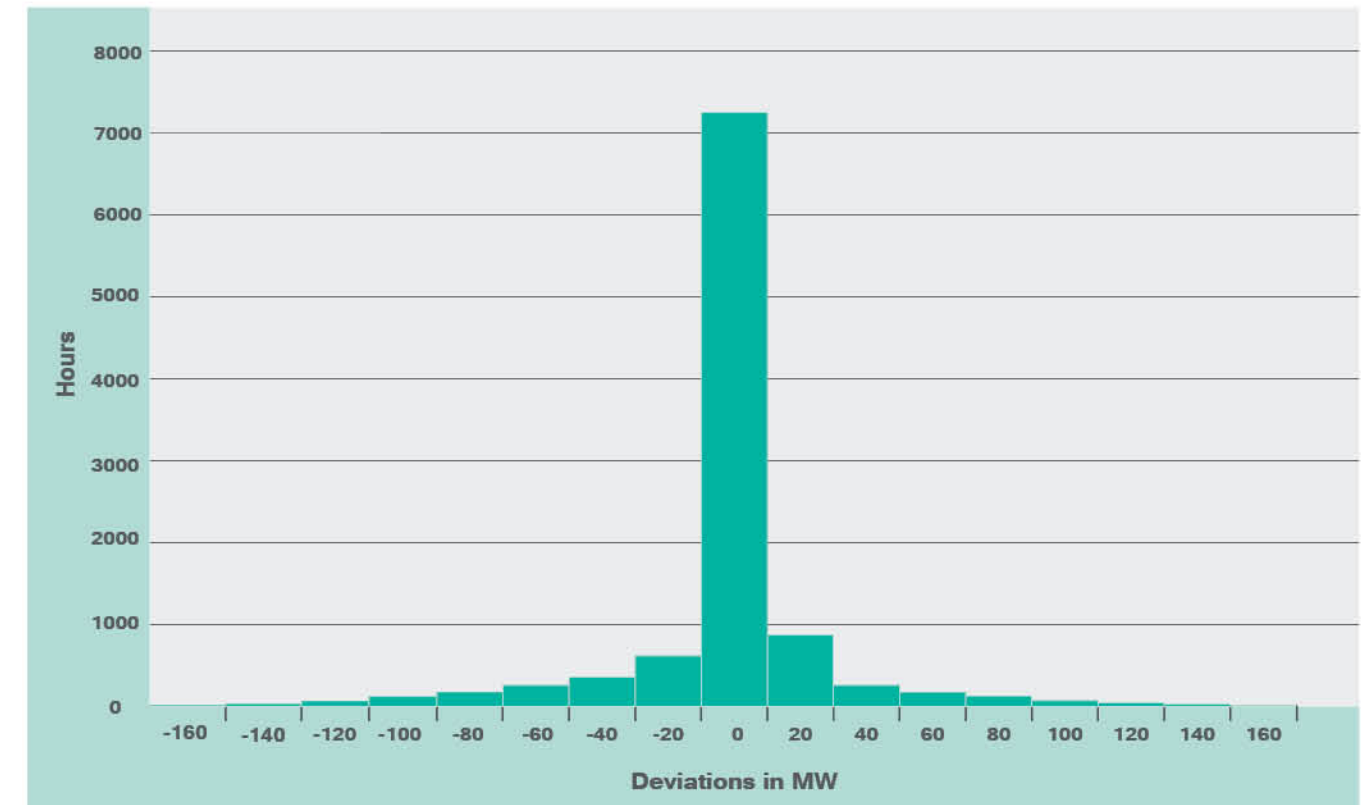


The balance of the electric energy system

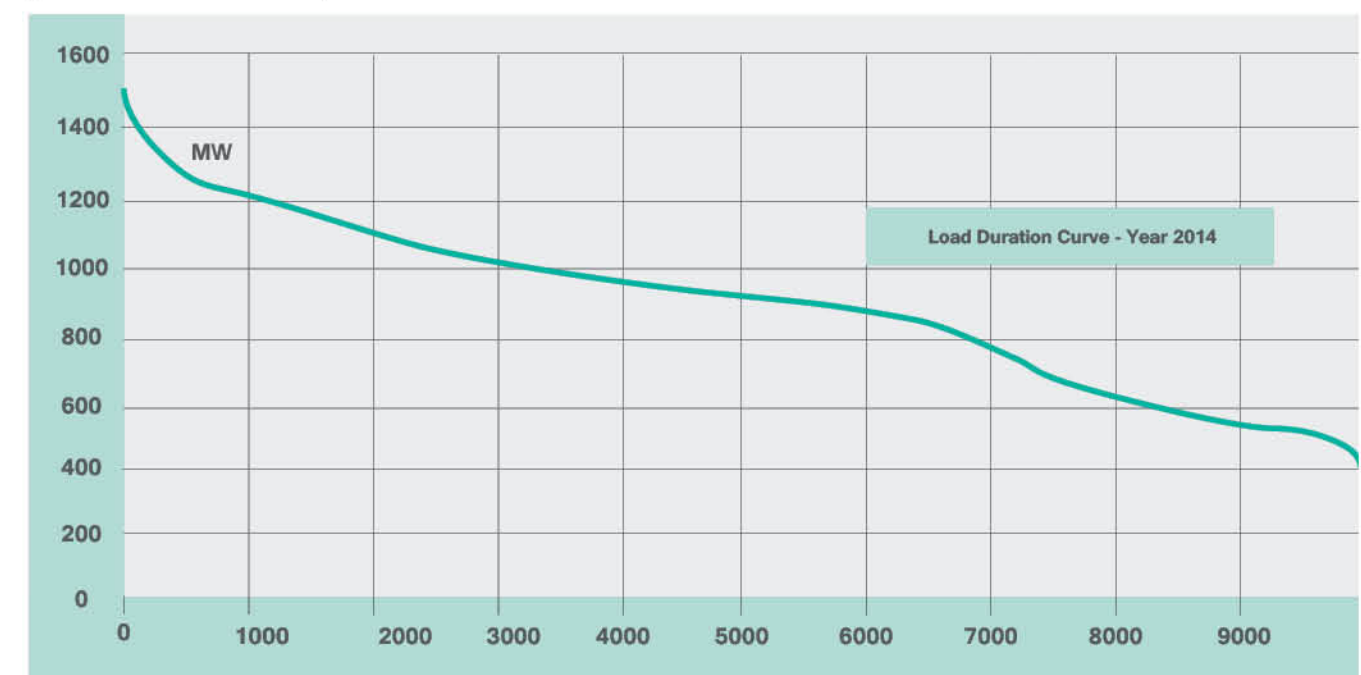
In the following diagrams is presented the curve of the continuity of the registered load of the country, where it can be seen that for about 3000 hours in a year the consumption is of over 1000 MW. A stable balance between production and consumption is a prerequisite for a stable system that guarantees the safety of supply in the frequency set at 50 Hz. This means that production and consumption should be coordinated in such a way to maintain the required balance.

Daily operation of the system includes harmonization (maintaining balance) between generation and consumption in real time and in a continuous way, in order to ensure the stability and maintenance of qualitative parameters at a satisfactory level of voltage and frequency. As a result of commissioning of the AGC LFC secondary regulation in the three plants of AEC and the care shown by our operators there was a qualitative increase for keeping under control the deviations, compared with 2013.

The chart below is the timetable deviations Exchange Programme for 2014.

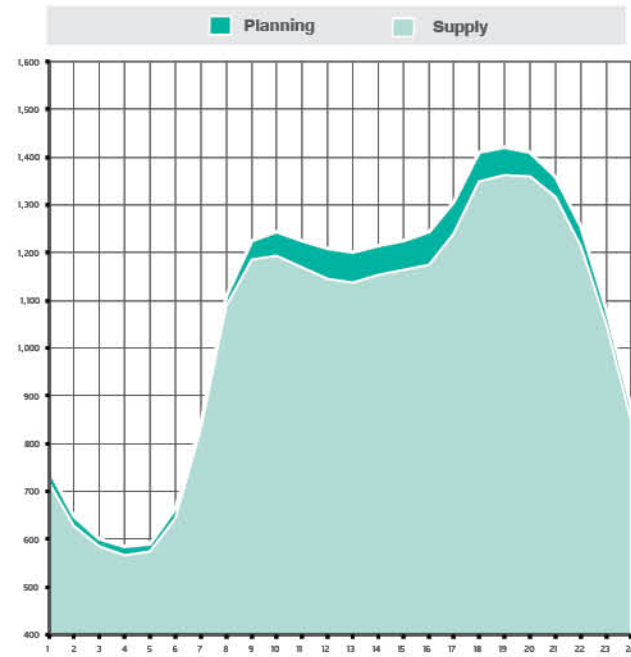


In the chart below the load curve registered continuity of the country, where it seems that around 3000 hours a year of domestic consumption loads is ranked over 1000 MW.



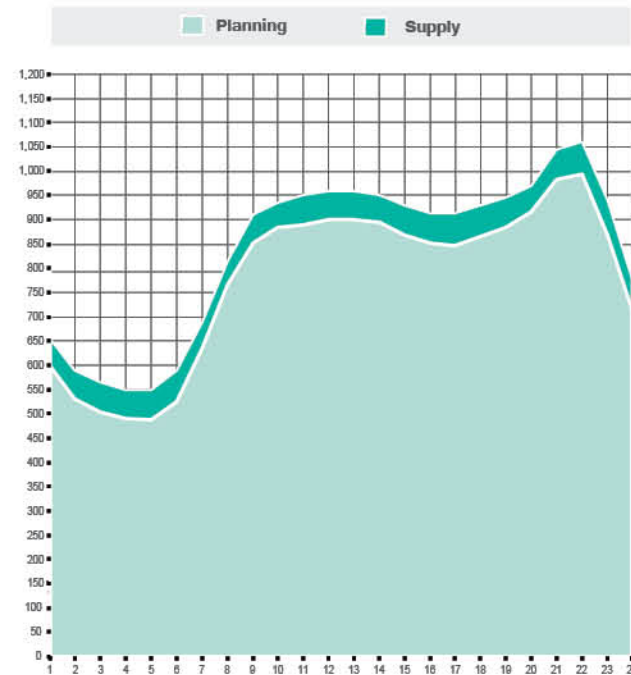


In the diagrams below, for the two characteristic months of the year, January and July, is given the realization of key parameters such as the production, the exchange, the consumption, and their comparison with the forecast made at the beginning of the year.



Monthly	Supply	765,260 MWh	100%
	Generation	450,783 MWh	59%
	Import	314,477 MWh	41%

Period	HPP (MW)	TPP (MW)	GEN (MW)	EXCH (MW)	Supply (MW)	Forecasted demand (MW)	Changing demand (MW)
00 01	285	0	285	-430	715	745	30
01 02	181	0	181	-448	629	650	21
02 03	141	0	141	-444	585	600	15
03 04	131	0	131	-435	566	585	19
04 05	125	0	125	-449	573	590	17
05 06	181	0	181	-464	645	665	20
06 07	381	0	381	-452	833	845	12
07 08	658	0	658	-432	1,089	1,110	21
08 09	779	0	779	-405	1,184	1,225	41
09 10	794	0	794	-400	1,194	1,245	51
10 11	766	0	766	-402	1,168	1,225	57
11 12	744	0	744	-402	1,145	1,210	65
12 13	724	0	724	-413	1,137	1,200	63
13 14	725	0	725	-427	1,151	1,215	64
14 15	743	0	743	-421	1,164	1,225	61
15 16	754	0	754	-422	1,175	1,245	70
16 17	812	0	812	-426	1,238	1,305	67
17 18	943	0	943	-406	1,349	1,410	61
18 19	954	0	954	-408	1,362	1,420	58
19 20	952	0	952	-406	1,358	1,410	52
20 21	903	0	903	-412	1,315	1,360	45
21 22	801	0	801	-409	1,211	1,255	44
22 23	634	0	634	-415	1,050	1,080	30
23 24	430	0	430	-420	850	880	30
<b>Total</b>	<b>14,541</b>	<b>0</b>	<b>14,541</b>	<b>-10,144</b>	<b>24,686</b>	<b>25,700</b>	<b>1,014</b>



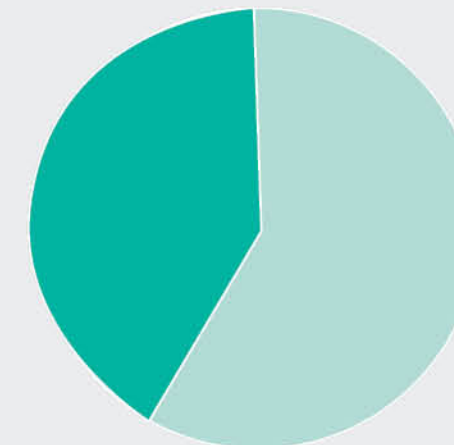
Monthly	Supply	578,370 MWh	100%
	Generation	356,945 MWh	62%
	Import	221,425 MWh	38%

Period	HPP (MW)	TPP (MW)	GEN (MW)	EXCH (MW)	Supply (MW)	Forecasted demand (MW)	Changing demand (MW)
00 01	293	0	293	-306	598	655	57
01 02	225	0	225	-305	530	590	60
02 03	196	0	196	-309	505	565	60
03 04	177	0	177	-314	491	550	59
04 05	173	0	173	-314	487	550	63
05 06	210	0	210	-316	527	590	63
06 07	326	0	326	-309	635	690	55
07 08	462	0	462	-304	766	815	49
08 09	552	0	552	-300	852	910	58
09 10	595	0	595	-288	883	935	52
10 11	603	0	603	-287	891	950	59
11 12	622	0	622	-278	900	960	60
12 13	622	0	622	-279	901	960	59
13 14	614	0	614	-281	895	950	55
14 15	588	0	588	-281	869	930	61
15 16	568	0	568	-285	852	915	63
16 17	563	0	563	-285	847	915	68
17 18	568	0	568	-297	865	930	65
18 19	586	0	586	-298	884	945	61
19 20	618	0	618	-297	915	970	55
20 21	689	0	689	-296	985	1,045	60
21 22	702	0	702	-293	995	1,060	65
22 23	564	0	564	-304	868	940	72
23 24	401	0	401	-316	716	780	64
<b>Total</b>	<b>11,514</b>	<b>0</b>	<b>11,514</b>	<b>-7,143</b>	<b>18,657</b>	<b>20,100</b>	<b>1,443</b>

The following table gives the balance of electric energy transmitted in the transmission network during 2014.

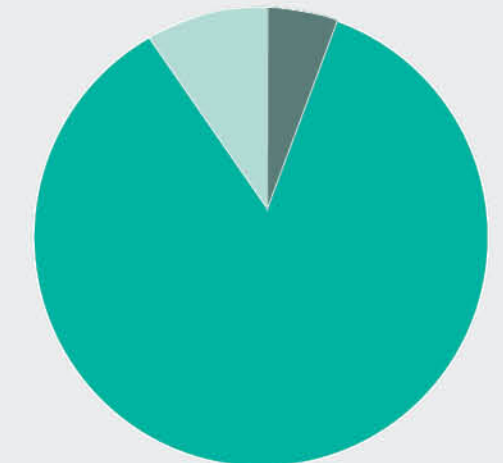
Nr.	Discription	Unit	January	February	March	April	May	June	July	August	September	October	November	December	Annual
I	TOTAL INCOME ENERGY IN TSO SYSTEM	GWh	784.8	663.8	696.9	610.0	584.7	569.4	589.7	637.1	574.8	621.1	630.0	737.1	7,699.26
a	- Domestic production	"	446.53	321.04	369.21	310.74	321.62	354.04	350.92	381.77	337.84	367.01	333.08	449.47	4,343.27
b	- Import energy	"	338.25	342.72	327.66	299.23	263.04	215.36	238.82	255.35	237.00	254.08	296.87	287.61	3,355.99
II	TOTAL TRANSMITTED ENERGY	GWh	768.14	649.53	682.34	597.62	571.91	557.36	576.68	622.13	563.04	609.40	617.58	722.59	7,538.31
a	- export energy	"	23.79	10.44	22.95	4.96	20.35	34.27	17.40	22.72	25.25	22.49	28.27	55.60	288.50
b	- Transmitted energy for the DS	"	701.57	597.75	610.79	532.66	491.97	466.89	509.21	543.25	471.41	513.11	516.42	597.52	6,552.57
c	- Transmitted energy for the Qualified Clients	"	42.78	41.34	48.61	59.99	59.59	56.20	50.06	56.16	66.38	73.80	72.88	69.47	697.25
III	LOSSES IN THE TRANSMISSION NETWORK + NV	GWh	16.65	14.23	14.53	12.35	12.74	12.03	13.07	14.98	11.80	11.70	12.37	14.49	160.942
IV	LOSSES IN THE TRANSMISSION NETWORK	%	2.12	2.14	2.08	2.03	2.18	2.11	2.22	2.35	2.05	1.88	1.96	1.97	2.09

Total Income energy in the TSO system



Total Transmitted Energy

- Export energy
- Transmitted energy for the DS
- Transmitted energy for the Qualified Clients





## System management system utilizing SCADA / EMS

In the Transmission System Operator TSO is implemented the management network platform of electric energy : "Network Manager". This platform provides all the functions of the SCADA / EMS (Supervisory Control and Data Acquisition / Energy Management System), and a number of other functions.

During 2014, this platform has been in full operation. Applications of "Network Manager" are also used for conducting audits and analyzes in real time, as well as for the optimization and planning purposes. These powerful tools of the network operation provide us of facilities and daily effective operation.

## SCADA (Supervisory Control and Data Acquisition).

In the control system implemented in TSO Corporation are monitored and operated in real time all the 220 / 400kV substations and the major and most important part of H0kV substations. Among the main functions provided by SCADA module of "Network Manager" is:

- The collection of the data from substations and their monitoring by the National Dispatcher Center in real time.
- Besides monitoring of the substations of TSO Corporation as well as the major part of the substations of EDO, in the National Dispatcher Center are even monitored important substations of Montenegro CGES (Montenegro Control Center) as well as of Greece, IPTO (Greek Control Center).
- Monitoring of the border substations is enabled by utilizing Electronic Highway, a closed network between TSOs.

## Monitoring and the progress of events:

- The supervision, control and commanding from the center dispatcher center);
- The filing of the data and events;
- The calculations and data reports;
- The graphic interface between the user and "Network Manager"

## EMS (Energy Management System).

EMS is the package of network applications, which through internal studies of the system, based on its current state and parameters of any element of the energy system involved in SCADA , optimizes the system condition. This module is composed of several applications, which interact in the network with each other and at the same time can be managed individually from each other. Among the main network applications implemented in "Network Manager" are:

**-SNP (Telemetry Snapshot):** This application photographs by telemeasuring the state system and makes them available to other network applications.

**-SAR (Status and Analog Retrieval):** It collects and coordinates the photographed data from SNP together with the reference data contained in the database.

**-NMB (Network Model Builder):** This application builds current energy network topology, based on the data of the breakers conditions.

**-SE (State Estimator):** It is the main component with regard to the functioning of the EMS, because it estimates the current state of the electric energy system. It makes an assessment of the overall energy system in a stable condition.

**- SA (Security Analysis):** Through this application are conducted the safety tests of the energy networks. Automatic Generation Control (AGC), Automatic Generation Control is a module, which automatically adjusts the generator output to maintain the frequency and the exchange in the intraday values. During 2014 this module has been in constant utilization, keeping in control the three largest hydropower plants in Albania (Fierza, Koman and Vau Dejes).

## Other functions implemented in the package "Network Manager"

Besides the main modules mentioned above, in the "Network Manager" are included other functions, too, which help us for a much more efficient operation of dispatcher control center. Among the main functions included are:

- ICCP (Inter Control Center Protocol), which enables the transfer of real data to control centers of neighboring countries, provided in the policies of ENTSO-E.
- Load Shedding is another function implemented in

the "Network Manager", by means of which it is possible to automatically disconnect some elements of electric energy network in cases when demand for electric energy is greater than generation available.

- STLF (Short Term Load Forecast) is the application, which, based on statistical data and predictions of temperatures, makes a forecast on the load of the power system for a short period of time of 15 days.
- CF (Congestion Forecast) is an instrument for analyzing the state of the electric network in the future.

## Interface with ENTSO-E

TSO Cooperation, being part of the European Transmission Network and in order to meet the ENTSO-E standards, during 2014 has fulfilled certain obligations regarding the TSO interface with the other TSOs, and with ENTSO-E itself. In this context, the TSO Corporation has implemented all the requirements for being an official part of the "Electronic Highway", and initiated the data processing necessary for Transparency Platform of ENTSO-E

## Electronic Highway

Electronic Highway (EH) is a closed dedicated network between TSOs of Europe. Through this network are exchanged data in real time and unreal time, too. In early 2014 TSO Corporation by following the directives of ENTSO-E has implemented network node installed in substations "Tirana 2", at the National Dispatcher Center. Network communication lines EH are: IPTO Greece: Leased Line 10 Mbps, PTP CGES Montenegro: Private Line 10 mbps over SDH Network, PtP Service data exchange in real and unreal time is implemented with Montenegro and Greece.

## Transparency Platform

The transparency Platform is a central platform of ENTSO-E in accordance with no. 543/2013 regulation (EU) to ensure continuous access to the data on the electric energy market across every participating TSO. Being one of the obligations that each TSO must fulfill, during 2014 TSO initiated the progression of the data in the appropriate formats and intervals by publishing them later in the Transparency platform.





## 4 ACTIVITY DURING 2014 ACCORDING TO THE SECTORS OF DDOS

The Dispatcher Office has made the operative management of the coordinated work of the electric plants, transmission networks and substations and even the interface with the Distribution System. For employees of the Dispatcher Central, year 2014 has been an busy year for the fulfillment of its primary tasks, such as keeping the balance in SE, the creation of conditions for carrying out the overhauls (maintenance) by the Transmission Operative Units, the elimination of defects and failures at the shortest time possible, the communication in a professional way with operating personnel of neighboring TSOs, the scheduling of the exchange program according to the format specified in

the second policy of Operational Manual of ENTSO-E, etc.

During this year besides planned overhauls (maintenance) by the Operative Units of the TSO, the elimination of the failures and defects in SE, operators have been quite committed in carrying out operational activities in order to create the working conditions for the contractors and subcontractors of TSO Corporation, in the implementation of many projects for the extension of a new 110 kW lines (South Ring), strengthening of substations (Zemblak, Korg) and in the laying of optical fiber (OPGW).



### Control Office of Network Code Enforcement by the Users

Pursuant to the provisions of the Network Code and ENTSO-E and the Energy Community policies during 2014 (February 2014), for the first time it was established within the Directorate of the System Operative Management the new office of the control of the Network Code Enforcement by the Transmission Network Users. This office during 2014 has conducted a series of activities, among which may be mentioned: The organization and the establishment of the relevant committee for reviewing of the Network Code and the administration of the process of reviewing and updating of the Network Code.

The cooperation for the preparation of various bilateral agreements of operation, as well as ancillary services with the AEC.

Pursuant to the provisions of the Network Code and "Connections Agreements" with different users of the Transmission Network is carried out the monitoring of all the transmission network users and the collection of the information and data according to the Network Code. It is carried out the monitoring of the levels 110 kW, 220 kW, 400 kW voltage in different nodes of

system and in the loaded nodes, Qualified Costumers and new generating units ( Kukes S/T, Lapaj HPP, Dardha HPP Truen HPP, Fushe-Arez S/T, Lura HPP 1 & 2 & 3, Kalimash substation etc.);

It is carried out on monthly bases the monitoring of the power factor "Cos cp" especially for qualified customers (COLACEM," Antea Cement - Titan group "," Kurum ", GSA, ARMO);

The control, inspection and testing on annual basis of several independent producers of electric energy EPP pursuant to the requirements of the Network Code. So are inspected and tested Lapaj HPP, Bele cascade HPP 1 & 2, Dardha HPP, Truen HPP for voltage management issues (absorption capability of the reactive power);

Pursuant to the provisions of the Transmission Network Code is drafted and presented to ERA the "Annual Report of 2014", for the Inspection and Monitoring of the Transmission Network Users / Participants of the Electric Energy Market and the Problems found during the carrying out of their monitoring, testing and inspection (PPE, EDO and KK).

### The Office of Work Regime

Based on the Network Code and Work Regulation of the DDO, the office of the work regime of SE, during 2014 has conducted a series of activities, among which among may be mentioned:

The performing of calculations for the required overhauls for every element of production-transmission system and defining the measures to be taken in any case in order to maintain job safety and the level of voltage within the norm.

The filling the database with loads and other indicators of the system, the preparation of the tables and graphics of the dynamics of the production, the consumption, the exchange, the quota in Fierza and the reserves in the Drin cascade.

During 2014, TSO has been in the role of the Coordinator of the Working Group for the coordination of overhauls for Southeastern Europe Region. Every week in cooperation with the Dispatcher Office (every Thursday) is conducted the weekly teleconferences with the participants of the group, where the parties mutually inform on their situation in the Transmission System (network schemes, loads, different disconnections,

weather temperatures, peak load, etc.).

The carrying of the different simulations and calculations through the software "TNA Analyzer", such as the NTC calculations, study of the static stability of SE, but also of that of Southeast Europe (SEE), being in the role of coordinator for planned overhauls, as well as creating a monthly model in advance M + 2 (set for 10:30 on the third Wednesday of the month).

The preparation of the materials for the TSO website (daily chart of the realized load, tables on the final scheduling on the interconnection lines and on the free capacities in the interconnection, to be used as intraday card in collaboration with the intraday group).

This volume of work is carried out by the specialists of this office, but also with the great commitment of young engineers of the Services Office, who worked with passion for the duties they were charged, but also as a participant in the working groups of ENTSO-E.



## IV Maintenance and Utilization of Transmission

### 1 The function of the maintenance and utilization of the Transmission Directorate

The directorate of Maintenance and Utilization of Transmission is organized in five offices. Depending of this department are the Transmission Maintenance Units and Transmission Operative Units. This organization of this directorate is necessary for carrying out its functional tasks. This directory has the following functional tasks:

- The optimum exploitation of the maintenance of the transmission network and substations by carrying out overhauls in lines and in the primary equipment of the substations .
- The maintenance of relay protection system and Control-monitoring.
- The utilization and maintenance of telecommunications systems in service of the TSO and the entire system.
- The control and the maintenance of the measuring

system, of the electric energy inside the OST, in the interconnection lines and in the dividing borders with EDO and HPP / TPP's.

- The control and the implementation of all technical and organizational measures for technical safety at work.

TSO has six operational units throughout the country, which have been created taking into account the area and the importance of substations and high voltage lines.

Operating units are responsible for the activity of TSO in the respective energy regions. They are organized, in order to have sufficient action independence and are equipped with tools, machinery and specialized staff to cope with the tasks and responsibilities for the progress of the regions they cover.

### 2 The assets of the transmission system

The Albanian Transmission System consists of the transmission lines, substations and any other elements with voltage level of 110 kV to 400 kV.

Below are listed the main assets of the Transmission System:

- **The transmission lines:**

400 kV – 293.6 km;  
220 kV – 1150.3 km;  
150 kV – 34.4 km;  
110 kV – 1405.0 km.

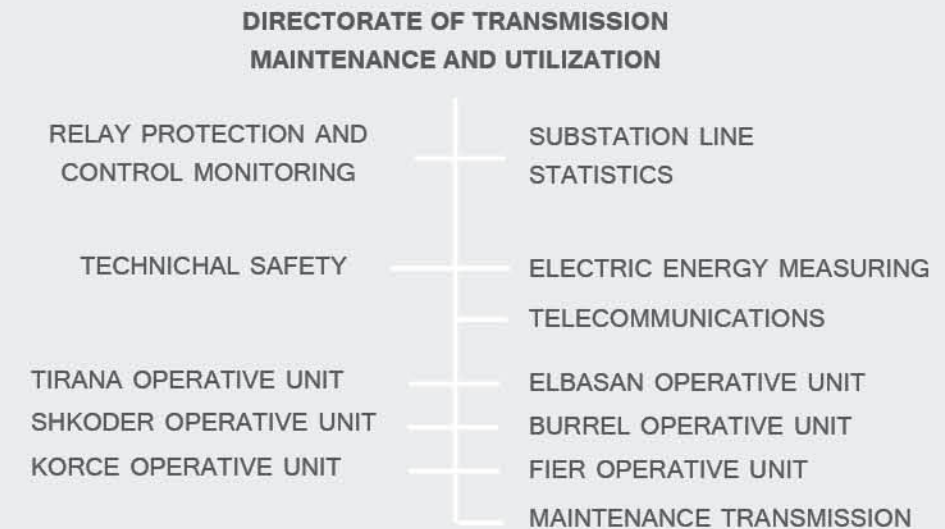
- **The transformers:**

400/220 kV – 1200 MVA;  
400/110 kV – 150 MVA;  
220/110/20 kV – 440 MVA;  
220/110/TM kV – 1920 MVA;  
220/20 kV – 126 MVA;  
150/110 kV – 40 MVA;

The Albanian Electric Energy System operates synchronously with the Continental Europe Synchronous Area and they are connected through the interconnection lines:

- 400 kW Tirana 2 – Podgorica (Montenegro) line
- 400 kW Zemblak – Cardia (GR) line
- 220 kW Fierze – Prizren (KS) line
- 220 kW Koplík – Podgorica (M.ZI) line
- 150 kW Bistrica – Myrtos line

## 3 ORGAZATIONAL CHART



### 4 Activities during 2014 according to each sector

#### Lines, substations and Statistics Office

The object of the work of Lines, Substations and Statistics Office is the utilization and the maintenance of the network of electric energy transmission.

This task is realized through organizing a coordinated cooperation with peripheral Operative Units and the Transmission Maintenance Unit, which has in its staff heavy tools and specialists trained for intervention in critical cases. Also an important task is the continuous tracking and with necessary attention of the problems, failures, shortcomings expressed by the transmission system in relation to the programming of necessary intervention for increasing the safety of electric energy supply within optimal parameters. For having a qualitative work of the Transmission System are important the planning of overhauls, which plans are drawn up by this office.

The overhauls plan of the substations primary equipment is drafted taking into account the continuous information received by maintenance personnel as well as respecting the recommendations of their usage manuals.

Regarding the high voltage lines, overhauls plans are drafted based on periodic information coming from the line sectors of peripheral units and the problems

encountered in previous years. There are carried out all the prophylactic controls and lines overhauls.

There are analyzed the disconnection for breakdown and defects in substations and transmission lines, concentrating on the actions of the primary equipment ( power breakers) or non-selective actions of relay protection. After the analysis of the breakdown are taken and implemented measures to improve the situation.

It should be emphasized that, after the full reconstruction of the substations in the past 10 years, in general there are no problems with the functioning of the primary equipments.

An important problem in the use of the transmission system is the elimination of the failures (breakdown). The lines have a wide extension and a part of them is amortized by time. There are often presented defects and breakdowns that after identification are repaired (eliminated) by the personnel of Operative Units itself, in special cases even with the support and in coordination with NJMT. The following table gives a review of the work of the defects and breakdowns of the Transmission System focusing on transmission lines and transforming equipment.



Denomination	Total disconnections	Transitory	Static	Disconnections related to the line			Disconnections not related directly to the line			Different	Duration /hours
				Atmospheric conditions	Line Defect	Overload	Primary equipment	Secondary equipment	Person.		
400 kV Line	21 (4%)	12	9	11	4	0	2	0	2	2	57.5
220 kV Line	119(25%)	72	47	56	26	0	16	2	8	11	284.5
110 kV Line	342(71%)	213	129	150	60	22	43	29	5	33	774
Total Lines	482	297	185	217	90	22	61	31	15	46	1116
Substations	Total unlooks	Transitory	Static	Primary equipment	Secondary equipment	Overload	Atmospheric conditions	Person.	Key refusal	Different	Duration Hours
AUTO. TR	50	23	27	22	4	7	12	2	0	3	159

During 2014 were carried out unplanned works, but very necessary for increasing the safety of the supply with electric energy:

- It was completed the expansion of the 220 kW substation of Shara, moving from the working scheme in T connection to in and out scheme of 220 kW line, L220 - 13
- In April, it began the testing and measurement of technical parameters of all AT-s of the system. At the end of this year we have a complete picture of their technical condition.
- It was worked with intensity for the completion of all Overhead Lines with Earthwire.
- There were carried out work for the replacement of conductor and the strengthening of the pylons in 110 kW line Rrashbull-Shkozet.
- It was worked in difficult conditions for the replacement of no. 123 pylon of 110 kW line Traktora - Ibeline, damaged by ground slides.



## Relay Protection Office

Relay Protection Division is responsible for the maintenance and installation of the relay protection, which is very important for the safe operation of the transmission system. The Albanian Electric Energy System is in a daily progress, where from time to time new objects get connected and the coordination of relay protection system to protect the safety of the Albanian Electric Energy System, is a difficult task and complicated which requires high technical preparation and training, a fact which is realized through a serious daily work. During 2014 the Relay Protection Office has carried a volume of work that lies in some areas.

The object of our work during 2014 has been the relay protection in all 400/220 kW substations of the electric power system.

During all 2014 are analyzed on a daily basis all the relay protection behaviors in the electric energy system by making careful monitoring of actions or inactions of the relays and in various substations are carried out the relevant interference in function of the safety Albanian electric energy system by improving schemes or changing the settings.

In 2014 the Relay Protection Office has pursued and implemented according to the approved graphical plan of the TSO overhauls checking of the settings and relay protection behavior in 220-400 kW lines and in the most important points where there were problems or unjustified actions of the relay protection has made the appropriate interventions in order to improve safety.

During 2014 controls of the relay protection system have been conducted in the following substations: Fierze 220 kW Substation, Fier 220 kW substation, Elbasan 1 220 kV substation, Babice 220 kV substation, Tirana Rrashbull 220 kV substation, Zemblak 400 kV substation etc.

During the 2014, the Relay Protection Office has conducted an important work in supporting of the respective directorate for the implementation of foreign projects. South Albania project that is being implemented in two lots by the companies KONCAR and ENERGOINVEST is one of them. The Relay Protection Office has provided the necessary assistance in the control, the approval of secondary schemes, the return of the answers, as well as the monitoring in real time and quality of these projects.

During the 2014 Relay Protection Office has implemented the relevant training for the relay protection and control monitoring of all the operative units and substations of our electric energy system, helping engineers and technicians in getting introduced and updated with their new equipment.

Relay Protection Office during 2014 has given technical support to all the chief engineer of the operative units to solve everyday problems in the maintenance of substations in the field of relay protection.

During 2014, our office has conducted the preparation of technical specifications for the equipment procured by the OST Corporation in the field of relay protection.

## Energy Measurement Office

EMO (Energy Measurement Office) functions divided into three working groups:

### Technical Group

The technical group has specialists who provide the relevant technical support for any necessary case and breakdown in all energy measurement system. During the utilization of the measurement system, it may be encountered defects of system equipments such as combined transformers CT / VT, digital meters of energy measurement, GSM communication system installed in the meter. Technical group works all the time

in coherence with EMC (Energy Management Centre) and analyzes any case of anomalies presented. Once EMC performs its checks for any measurement point, the final report of the measurement points which have technical problems passes to the technical sector, which in the presence of authorized personnel by the operators connected to the OST, performs the control at the measurement point and repairs it. This working group has on its availability all the technical documents of any measurement point of the system. This group also makes periodic checks on interconnectors in collaboration with specialists from neighboring countries on both sides of the lines according to the standards.



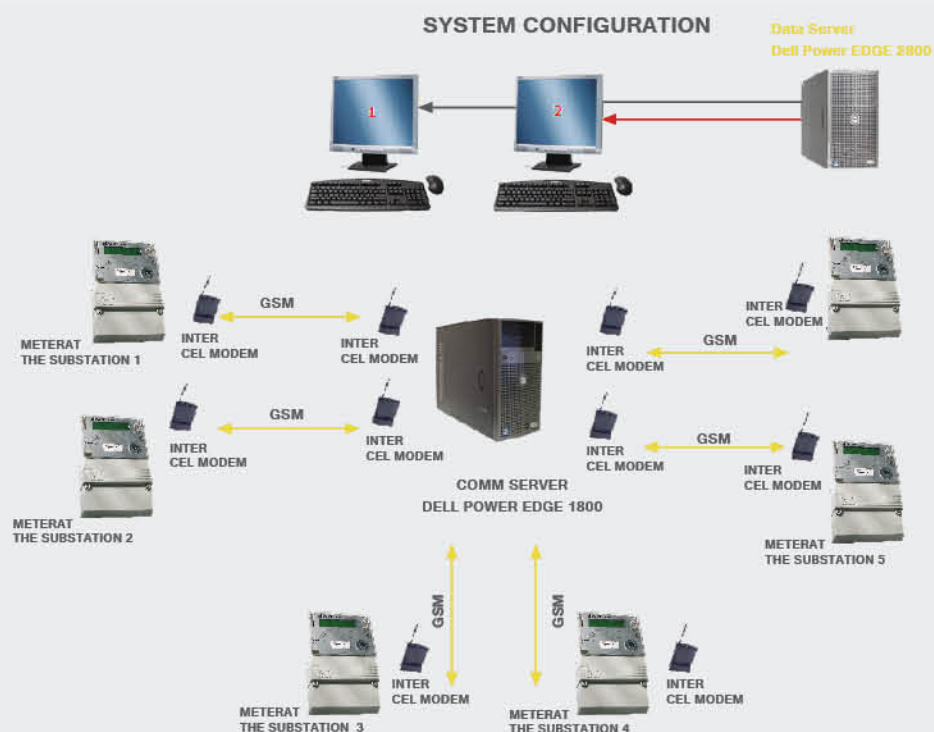


Measuring bay in the measurement point

In the above picture is shown the measuring bay, consisting of the combined transformers of the voltage current, the secondaries of which are only used for energy measurement, measuring electrical box, which consists of terminal box for testing, meter box, communications modem that along with communication antenna, automat of the three phase switch for the secondary of voltage transformer.

**Q EMC Group (Energy Management Center)**

Group EMC processes every day the energy data throughout the whole transmission system and sends it daily to the authorized operators. Also, this center analyzes the electric energy losses in the Transmission System of TSO. In this office are installed two servers, which collect the energy data of all measurement points of TSO. The server communication scheme with the meter box installed in the substation is shown below.



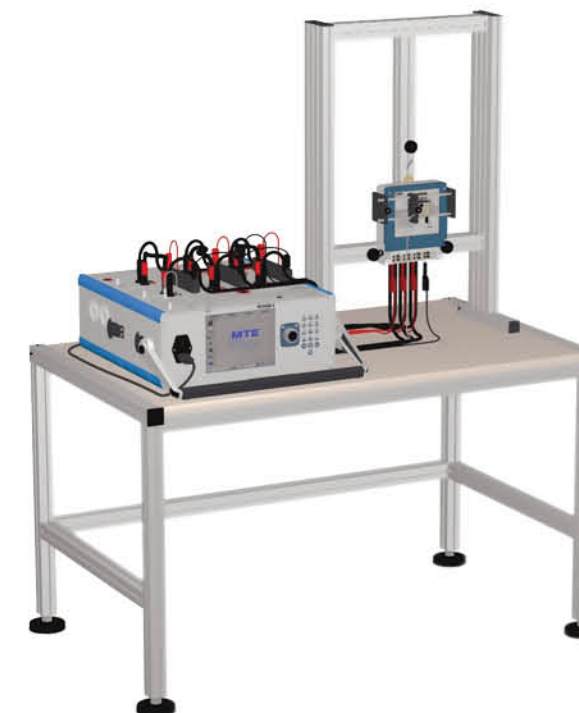
Server communication scheme

In the center is “COMM Server”, which by means of the software “Multi Drive Manager” and a schedule build in this program, automatically calls the data from the memory of each meter box, and this realization is made possible due to its GSM communication signal, between the modem located in the server and that located in any meter box. The data obtained from the meter are stored in “DATA Server”.

**Measurements Central Laboratory**

In the laboratory are tested all the meter boxes before placed at the measurement point. Meter box testing is done by following strictly the technical testing rules and commissioning of the meter boxes. The standard set for testing the meter boxes has the accuracy class 0.02.

Its visual appearance is presented in figure 3:



Meter box testing stall.

**Communications Office**

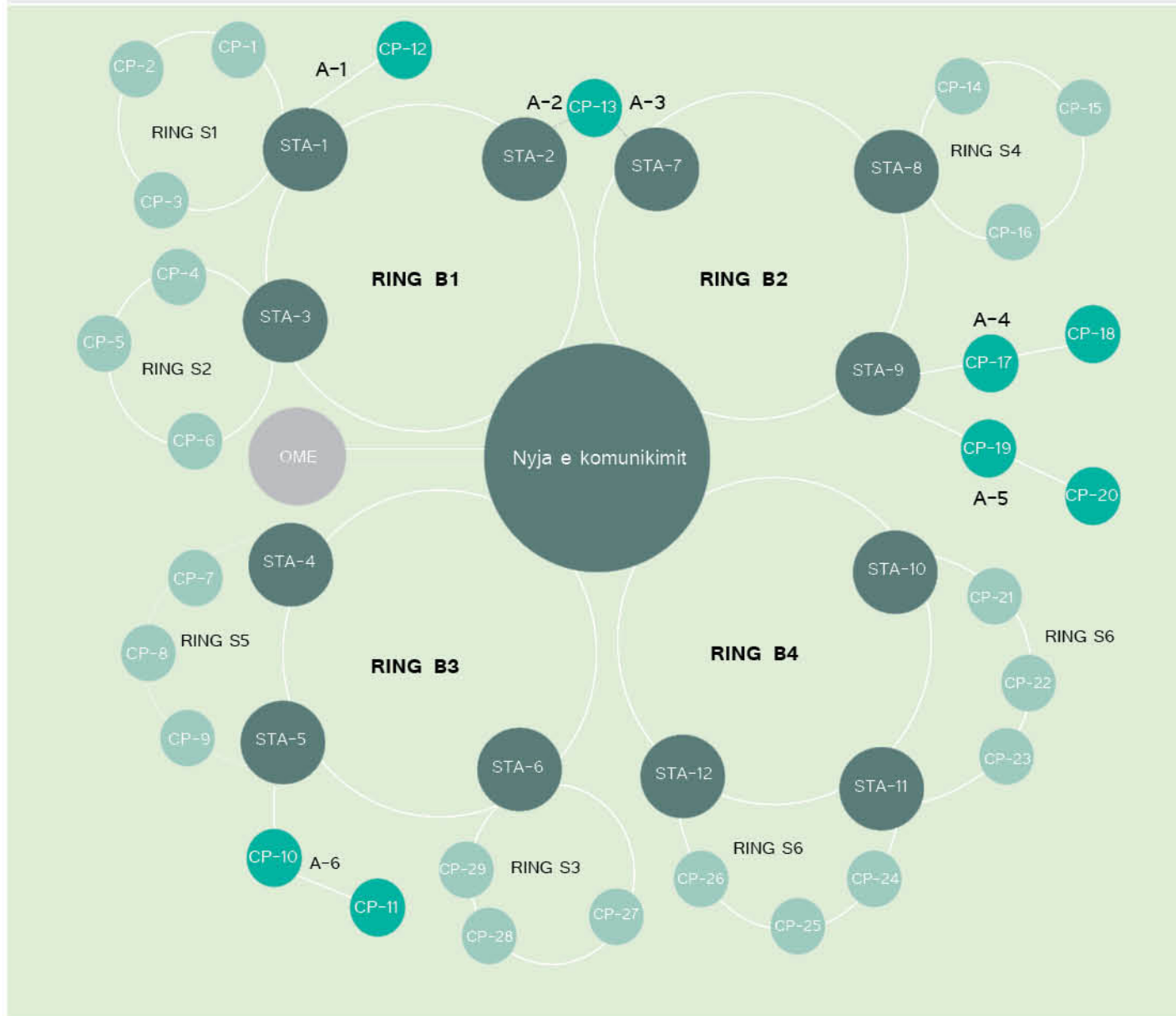
In the context of improving the operation and maintenance of the telecommunications network of the TSO, by the Office of Telecommunications are achieved several objectives aiming at improving the telecommunications network and its systems, and the introduction of new systems in order to enhance the network performance. During 2014 they have been accomplished all the planned objectives:

**The completion of construction of the telecommunications network in the context of “SCADA - New Center Dispatcher” project.**

After a work of several years carried out in the context of “SCADA- the new Dispatcher Center” project for the construction of telecommunications network in function of the communication of substations of the entire energy system with QDS, as well as the compilation and transmission of data through this network from the substations and HPP to the SCADA system, was successfully completed the installation and operation of all the equipments and communication routes of telecommunications network.



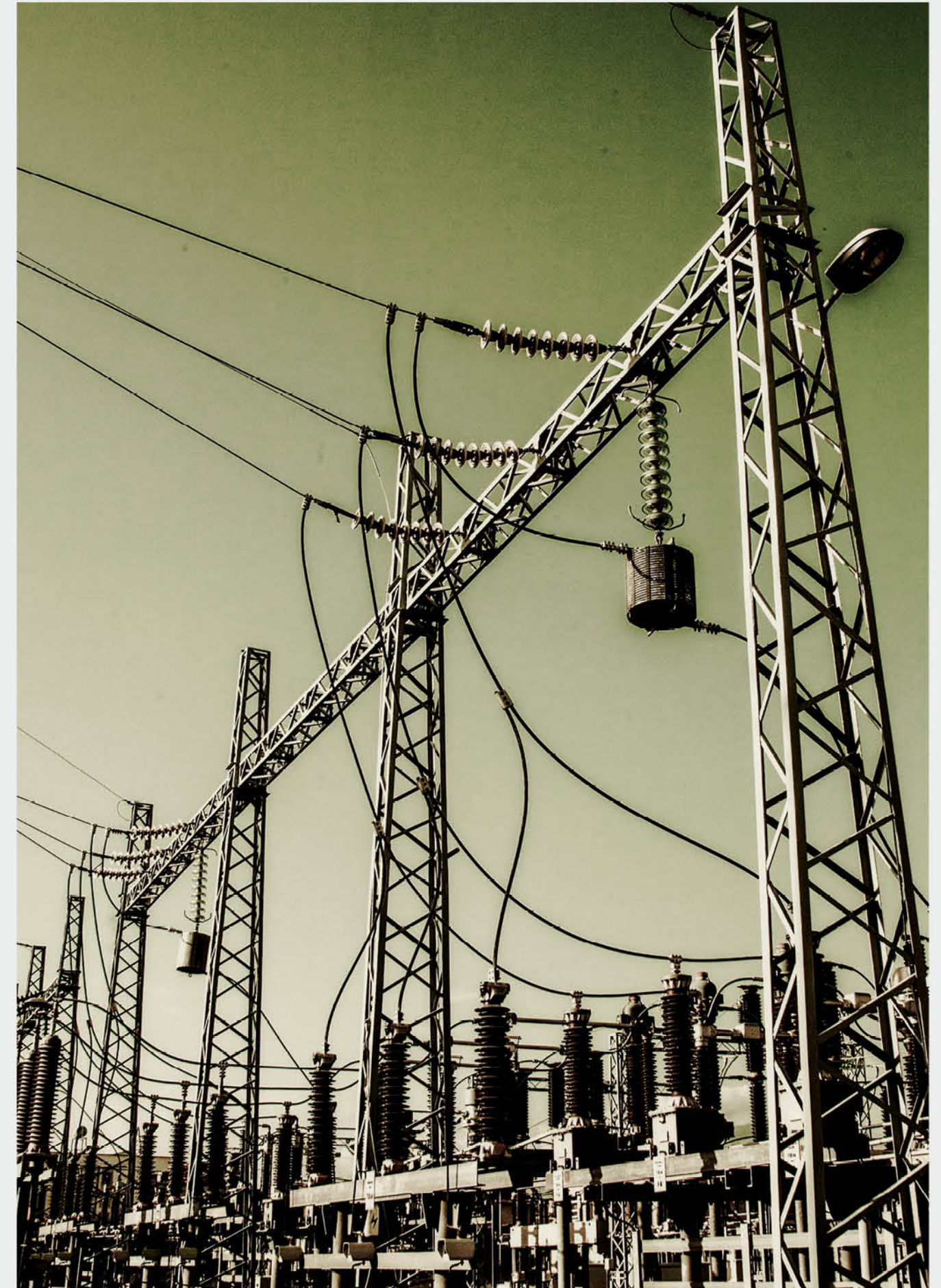
Communication Network Architecture



The expansion of OPGW in 110kV lines - Lot 1

The installation of 170 km of OPGW in 110 kW north lines, in the context of "Expansion of OPGW in 110kW-lines Lot 1" project, has been successfully implemented and are now in function making possible the realization of redundant connections, fast communication paths and, therefore, improving and increasing the performance of telecommunications network, as well as the increase of the safety of communications and reception of the data from the various substations of the system. The installation of OPGW increases the safety in high voltage lines against the action of lightning and short circuits.

110 kW line, where is installed OPGW





### LAN network expansion of TSO in all OST Operative Units

In the framework of the modernization and expansion of the information technology throughout the whole network of OST, the Office of Communications expanded LAN network of TSO in all operative units of OST, as well as in its substations.

All the communication lines of LAN network are 10 Mbit/s, aiming at increasing the speed to 100 Mbit/s in 2015. The entire network was implemented successfully and is now functional.

### Maintenance of telecommunication network

There have been carried out planned maintenance work, in order to keep in high efficiency the operation of telecommunications network during 2014.

Unplanned works are carried out in the context of the repair and solving various defects occurring due to damage to the optic fibers from the human factor, as well as severe weather conditions.

### Technical Safety Office

For 2014, the Technical Safety Office of OST had targets set in the context of increasing the performance of technical safety knowledge and their accurate application in practice. OST performance in relation to the safety at work it is very high, and an indicator of this performance is the lack of any survivors at work.

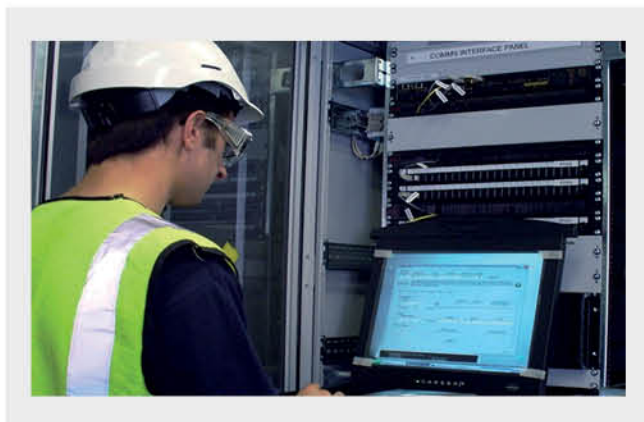
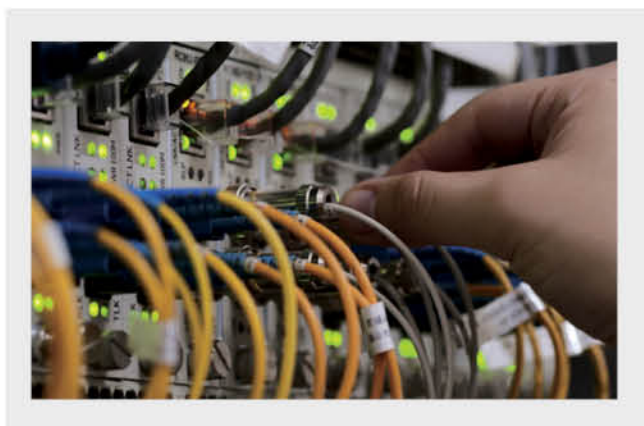
Technical security office functions with technical security specialists in the Operative Units where they exercise continuous controls on the technical safety knowledge of the employees and their implementation during work. During 2014, for their knowledge on the technical safety regulations were tested 524 employees which were provided with a technical safety booklet with respective groups.

For the implementation of the Technical Safety Rules is exercised control during the overhauls of the lines and substations.

It was realized the distribution of technical safety equipments for all operative units, for the completion of any place of work with the necessary equipments of the technical safety determined according to the regulation. During this year a special place for the Technical Safety Office has been occupied by the relations with the state institutions, such as prefectures, ALUIZN, INUK, ASP State Policy, municipalities, communes about the problems of illegal buildings under and near high voltage lines that are administered by OST



Terminale ODF të OPGW.





# V MARKET OPERATOR

## 1 THE FUNCTION OF THE MARKET OPERATOR DIRECTORATE

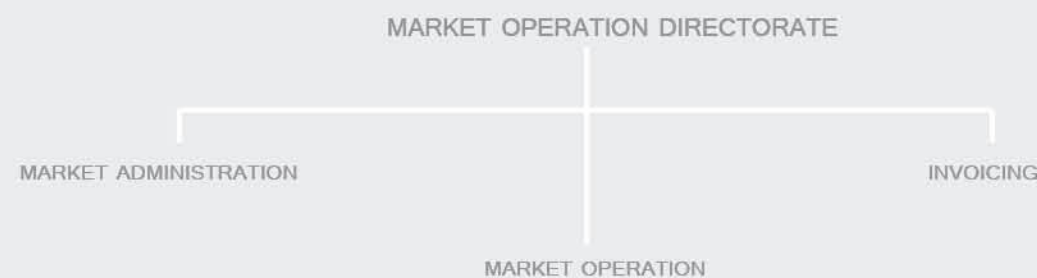
An important role is also played by the Market Operator, whose functions are gradually expanding with the defined steps for the creation of a free and a competitive energy market in Albania, as well as the integration of this market in regional electricity market .

OST as Market Operator is responsible for:

- i. the organization and administration of the liquidations and payments of electric energy between market participants for a balancing market;
- ii. The organization of a process in which all the parties implement the Market Rules;
- iii. The accounting on behalf of commercial parties for a balancing energy and the services provided by OST;
- iv. The management of the process of the liquidations declaration;

- v. Invoicing and collection of financial obligations owed to OST by the payments of Parties for the Transmission Service, Ancillary Services, the payment for the interconnections and the payment for the energy purchase according to the "Market Rules ;
- vi. Exporting or importing of the energy by the parties that have provided balancing energy purchased by OST
- vii. The management of the thinking process of "Market Rules"
- viii. Providing market information according to "Market Rules"
- ix. Performing other functions that are assigned by "Market Rules" or ERE.

## 2 ORGANIZATIONAL CHART

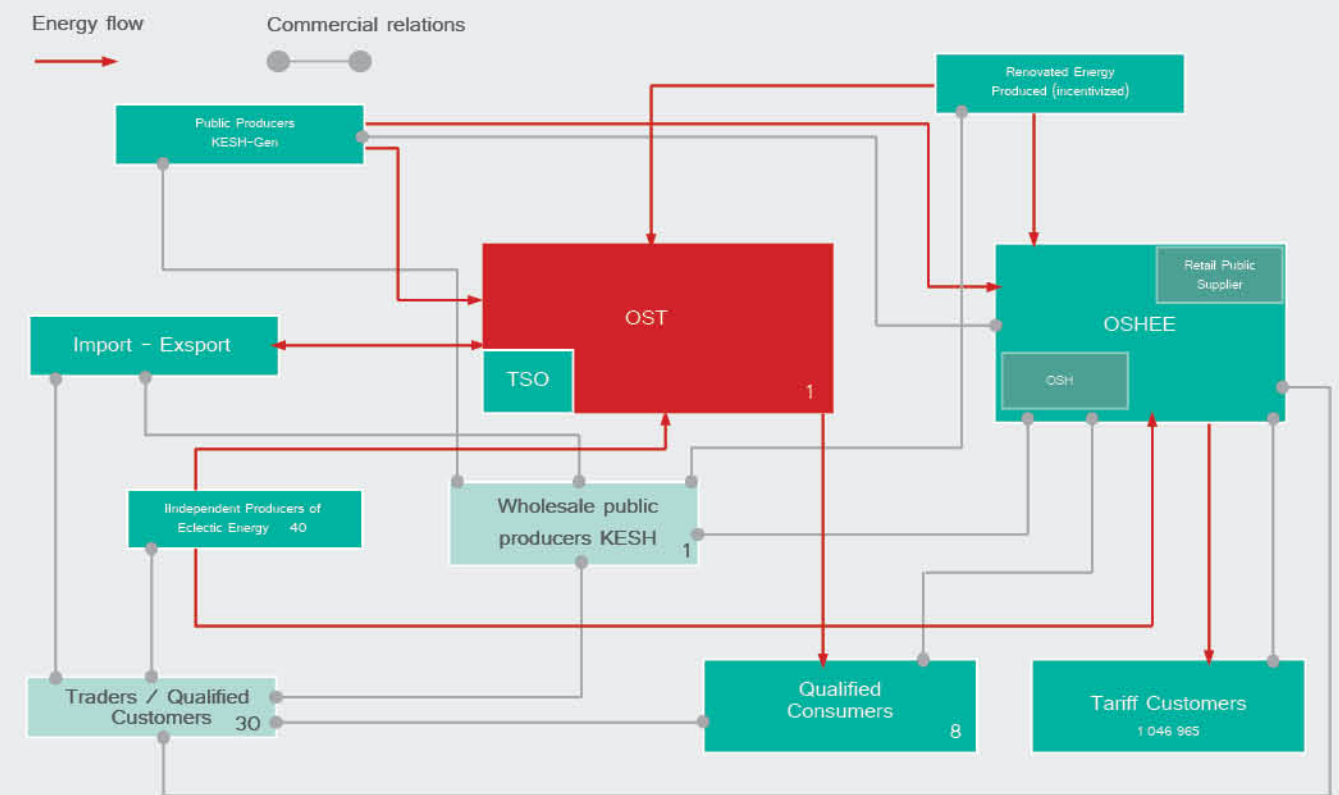


# 3 ACTIVITY DURING 2014

Based on its obligations, DOT activity objectives during 2014 are related to:

- Periodically verification of the requirements of actors in the energy sector for participating in the energy market.
- The promotion of the efficiency of the energy market through the implementation of the Market Rules.
- The efficient implementation of the Energy Market Rules, in order to provide maximum benefits to all market participants.
- The promotion of the transparency and effective competition between participants of the electric energy market in the country.

### MARKET STRUCTURE



### Registration of market participants

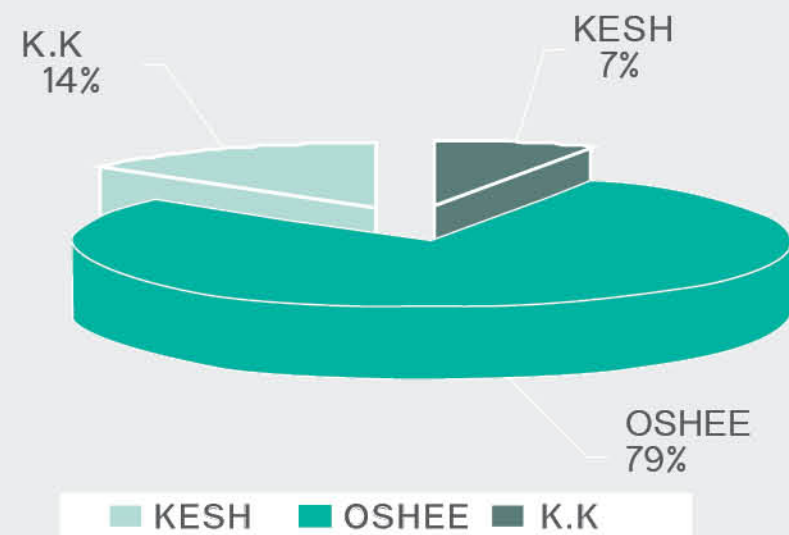
In the continuation of the work for the registration of Market Participants by the end of 2014, result registered 23 subjects, which are licensed by ERE with a role in the market:

- 11 are furnishers,
- 19 are traders,
- 7 are manufacturer.

For 2014 Albania's electricity market, in accordance with the respective definitions of the law, results with 9 qualified consumers.



### Import for 2014 according to the categories



### Allocation of interconnection capacities

In relation to the allocation of interconnection capacities, for 2014, are followed the respective procedures according to the rules approved by the ERE with decision no. 140, date 22/11/2013, "Regulation on the allocation of interconnection capacity"

In accordance with these ERA decisions are conducted the annual auctions, (for the period 1 January to 31 December 2014), the monthly auctions (for each month), and the daily auctions (starting from 1 September 2014 and in continuation).

In the monthly auctions held by the OST, out of 23 registered market participant in the OST, participated 13 subjects.

In the auctions are presented and evaluated 1657, with a total of 7,209,391 MW / h, with a total bids value of 27,030,130 Euros.

In the auction resulted 676 bid auction as winning ones, with a total of 3,765,010 MW / h, with a total value of 10,657,365 Euros.

We highlight that the request of the participants was clearly expressed in the import direction in Albania,

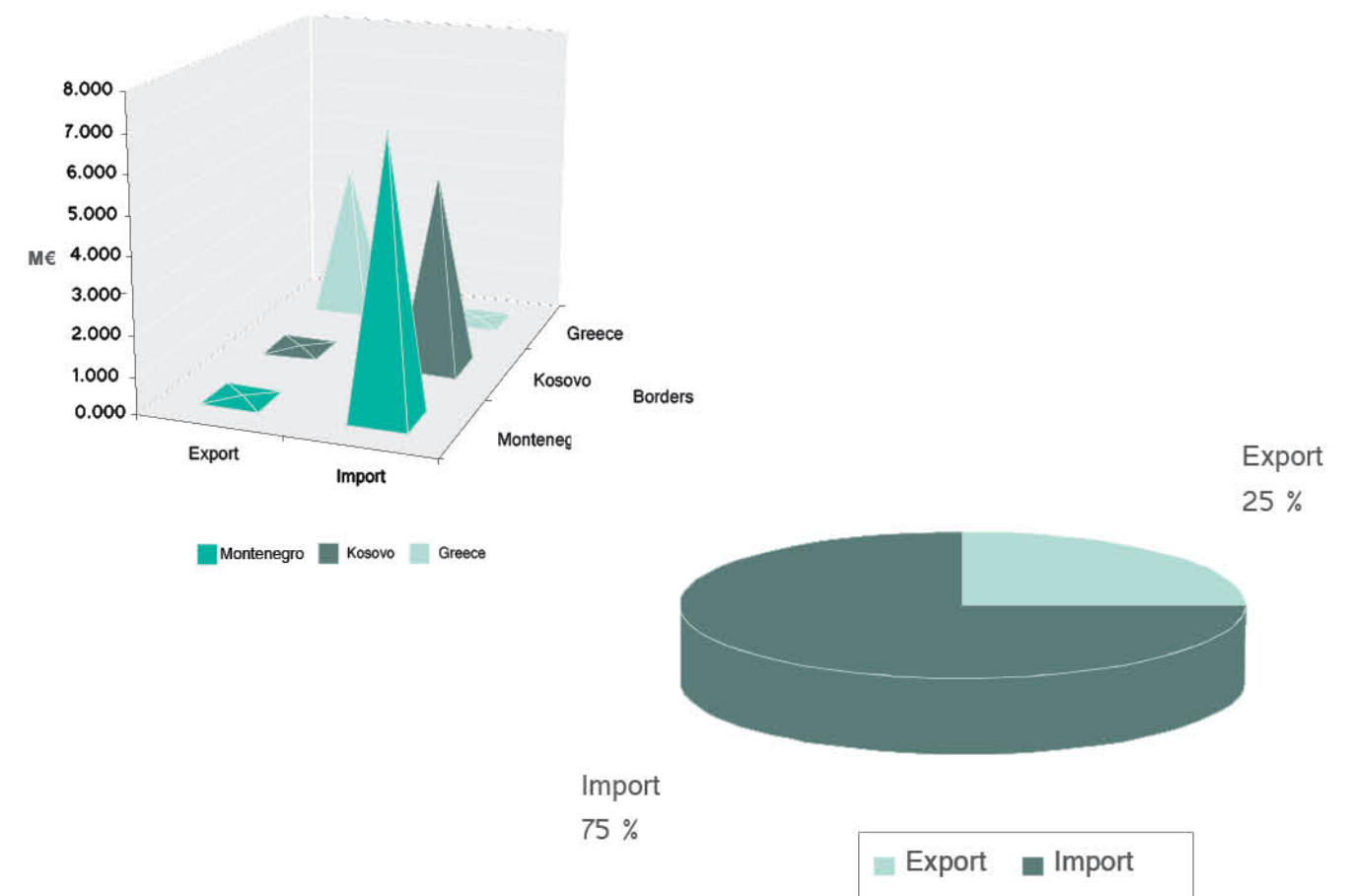
with a bids value in this area of 21,913,538 Euros, 81% of the total bids.

It is worth mentioning that there has been no advertising, reserve or objections of the market participants participator in the auction about the deadlines, procedures, process of the conduction of the auction, the bid evaluation process, determining the winners and auction prices, communication and publication of the auctions notification and their results.

In accordance with decision no. 61, date 07/07/2014 ERE, OT has put in daily auction the unallocated capacity in the annual auction, unallocated capacity in the regular monthly auction, as well as the "free" capacity, which are not nominated in (D-2) by market parties.

In total are put and allocated in daily auction 22,831 MW / h and resulted allocated with congestion 4 97 MW / h. The total value of ATC allocated in daily auctions of TSO is 17,067 Euros.

### Incomes from the 2014 auctions

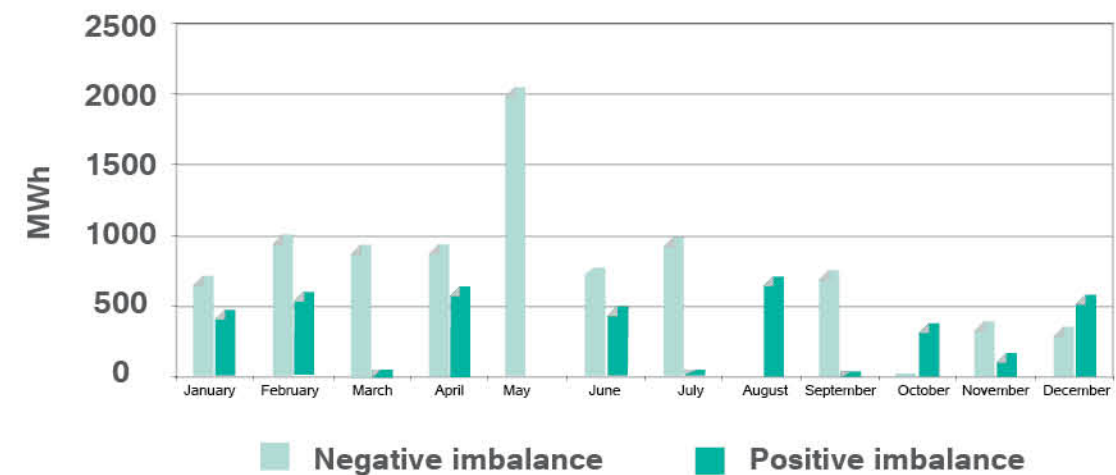


### Imbalances

For the imbalances, ERE approved the changes of the Market Rules, which do not affect in the way of calculating of the imbalances and penalties of Market Participants in imbalance, as well as the compensation of the KESH for balancing the transmission system.

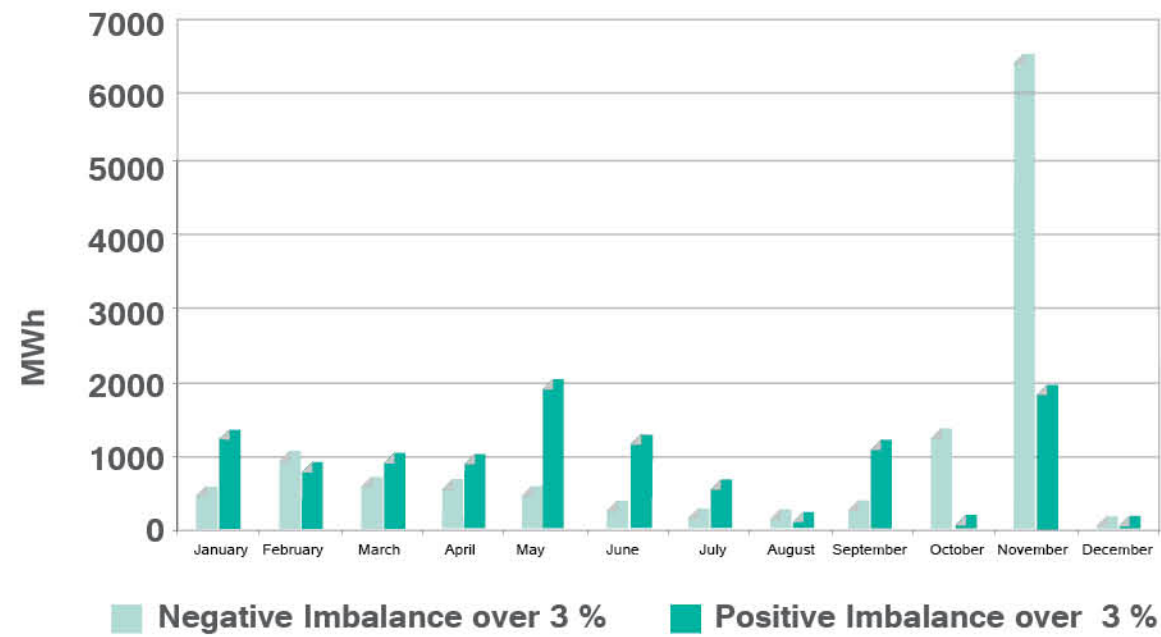
In the following tables and graphs is presented a summary of the total volume of deviations within the tolerance of  $\pm 3\%$  of Market Participants for the period January to December 2014. Deviations within these range are not penalized in monetary value. They are compensated by the parties with energy.

### Imbalances within the range $\pm 3\%$

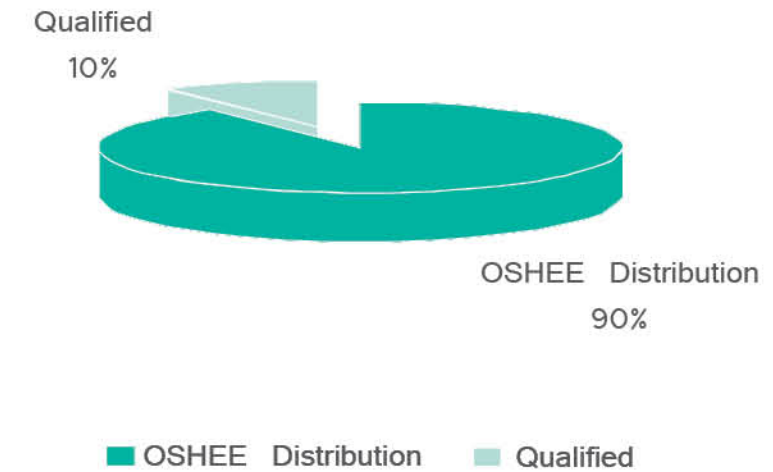




Imbalances outside the range  $\pm 3\%$



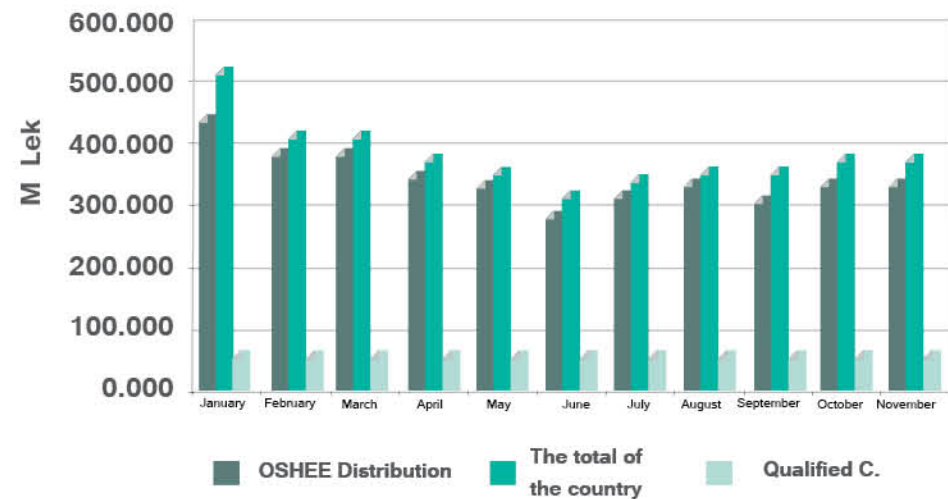
Transmission fare in million Lek



### Transmission Service

OST applies the transmission fare according to the price approved by ERE over the usage of the transmission system by Market Participants.

Transition fare 2014



### Ancillary services

Ancillary services in the transmission system continued the process of drafting of the regulatory framework. ERE, with decision no. 141, dated 12.26.2014 approved the fare for the Ancillary Services while with the decision no. 9, dated 04.02.2015 was approved the Agreement between KESH and TSO for the provision of Ancillary Services and the Balancing of the Electric Energy System, available for implementation by 1 January 2015.

### Transparency and publications

Transparency is very important aspect of the work of OT.

OT website is part of that of OST, in which are published:

- The data on the legislation on the electric energy market, such as the law of the energy sector, market model, market rules, market approved codes, formats of the approved standard contracts, ERE decisions etc;
- The data on the registration in OT, such as the registration procedure, recording respective formats, the list of market parties;
- The data on the capacity auctions in interconnections, such as the annual and monthly auctions notification, the annual and monthly auctions results.
- Different notification that has to do with different operations, such as imbalances prices.

The data are kept published and are periodically updated.

OT publishes even other information regarding the operation of the electric energy market, the procedures applied in the market, the standard contracts or document formats.

Among the main objectives supported by the OST is the regional cooperation, the participation in regional working groups in support of the treaty directives Electric Energy and Vienna Secretariat.

Providing the electronic platform for the market operation remains a priority of requests for the support of DOT work, as it will serve for increasing at a contemporary level the communication of the market participants with OT, it will increase volumes and quality for the information needed for the operation of the market in a correct and transparent way and it will increase the performance of market operation and it will avoid the potential errors in the calculation.



## VI KIM FI PLAN OF THE DEVELOPMENT OF THE TRANSMISSION SYSTEM

OST develops the transmission system in accordance with the long-term demands for the energy supply of the country, the development plans for new sources of energy and coordinates the development of interconnection network with the neighboring countries.

### 1 Projects for the developments of the Transmission System

The most important benefits of the new projects are: the reduction of energy supply and transmission losses. From 2005 to 2014 the demand for electric energy has increased by 35%, while power losses were reduced from 4.56% to 2, 09%.

Meanwhile, there are in the implementation phase important projects and TSO has a well defined plan for the development of the Transmission System.

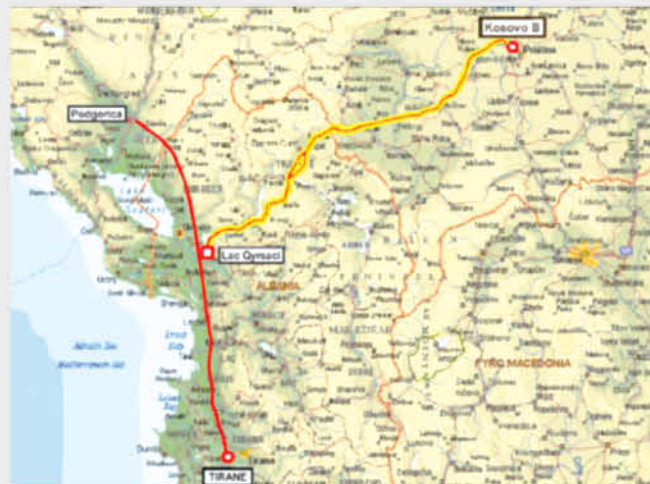
### 2 The projects in the process of implementation

#### 400 kW interconnection line Albania - Kosovo.

The project is an investment of the German Government, supported by the KfW Bank. The Albanian part is 42 million Euros and includes:

- The expansion of "Tirana 2" substation and the installation of a 120 MVar Shunt-Reactor;
- The construction of new air line 400 kV Tirana 2 - Kosovo B. The full length of the line is 242 km.

The part that passes in the Albanian territory is 151.5 km, where the first 80 km include the completion of the second circuit of Tirana - Podgorica line, from Tirana to Lag Qyrsaqe and 71.5 km of new line with an extension up to the border.



Air line map 400 kV Tirana 2- Kosovo B

The extension of the conductor of the second circuit of the existing pylons 400 kV



The throwing of the concrete for the basement of the new pylons.

The project is in the implementation phase and the line is predicted to be in operation in the beginning of 2016





**Reinforcement of the 110 kV transmission network of South Albania.**

The project is an investment of the German Government, financed by KfW Bank, 49 million Euros, which include:

- The construction of a new 110 kV line Babice - Saranda, 104 km;
- The construction of a new 110 kV line Erseke - South, 55.7 km;
- The reconstruction of the 110 kV line Korc - Erseke, 39 km;
- The reconstruction of 110 kV tract Permet - Kelcyre - Memaliaj, 39 km;
- The completion of the second circuit 110 kV line Zemblak - Korg, 13.4 km.
- The strengthening of Zemblak substation, 150 MVA



South Albania map



The expansion of Babice Substation



Earth system in Permet substation





The installation of the new 150 MV transformer in Zemblak substation

The project is in the implementation phase and will be completed by the beginning of 2016

#### The construction of the new National Center and the headquarters OST

The project is funded by the Italian Cooperation, 23 million Euros and consists of the construction of the new National Dispatcher Center and OST Headquarters, as well as the establishment of a new system of SCADA / EMS with all its functions.

The project is in the implementation phase. SCADA / EMS system was temporarily installed 400 kV "Tirana 2" substation and is in full operation.



The building of the new National Dispatcher Center is expected to be completed on September 2015  
The project of the new National Dispatcher Center and TSO Headquarters.

#### 110 kV Line Peshkopi - Lapaj.

The project is financed by funds of the OST, 3.4 million Euros and includes:

- The construction of a new air 110 kV line Bishop - Lapaj, 27,2 km;
- The expansion of substations Peshkopi and Lapaj with two new 110 kV outputs respectively.



The extension of the conductor

The project is in the implementation phase and the line is predicted to be in operation at the end of 2015.

#### 110 kV line Uznove - Corovode.

The project is financed with funds of OST, 3, 89 million Euros and includes:

- The construction of the first region of the new 110 kW air line with two circuits Uznova - Corovode, 33 km;
- The expansion of Uznova substation with a new 110 kW output.

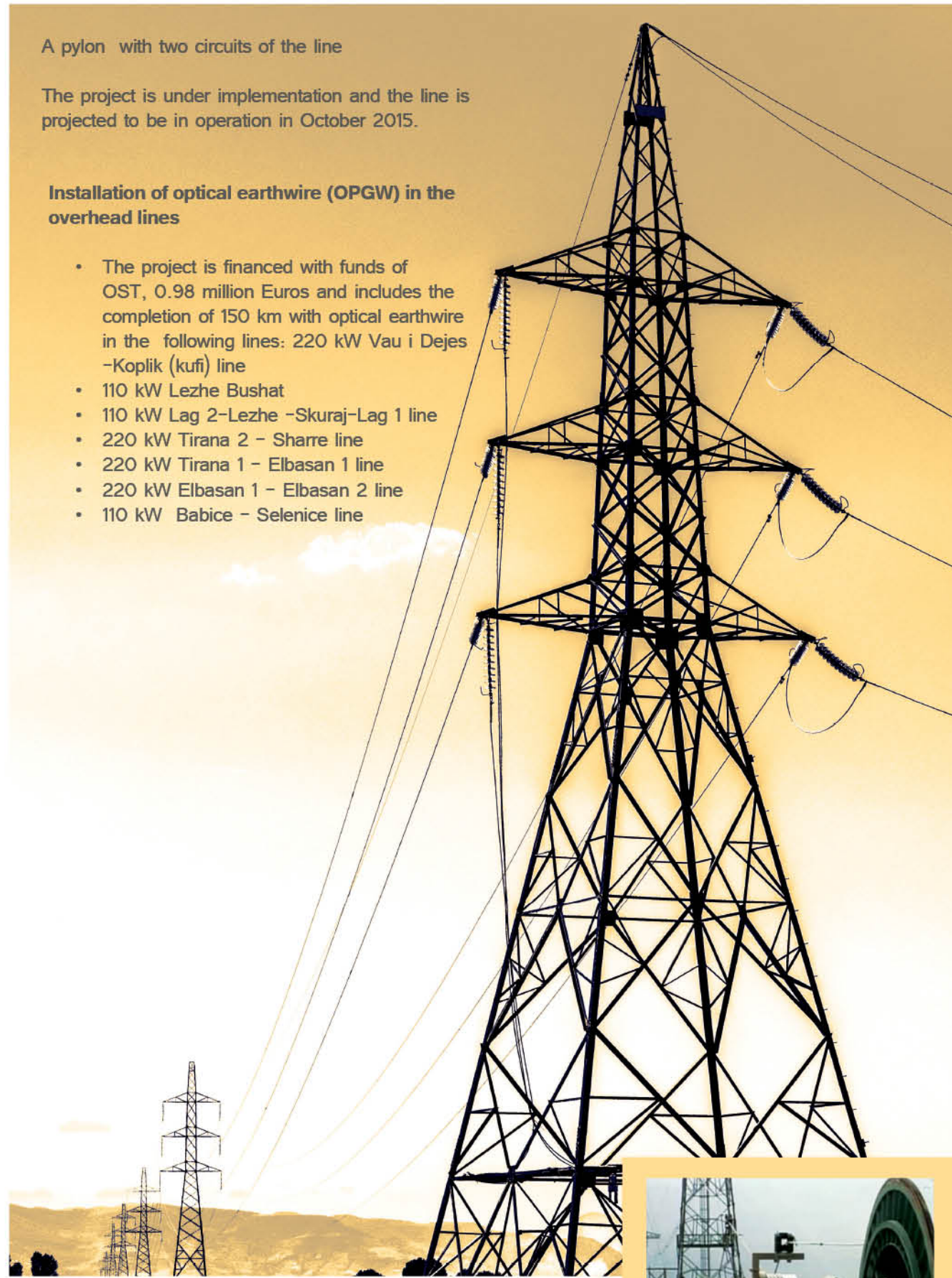


A pylon with two circuits of the line

The project is under implementation and the line is projected to be in operation in October 2015.

**Installation of optical earthwire (OPGW) in the overhead lines**

- The project is financed with funds of OST, 0.98 million Euros and includes the completion of 150 km with optical earthwire in the following lines: 220 kW Vau i Dejës -Koplik (kufti) line
- 110 kW Lezhe Bushat
- 110 kW Lag 2-Lezhe -Skuraj-Lag 1 line
- 220 kW Tirana 2 - Sharre line
- 220 kW Tirana 1 - Elbasan 1 line
- 220 kW Elbasan 1 - Elbasan 2 line
- 110 kW Babice - Selenice line



The Extension of the optical earthwire

The project is in the implementation phase and will be completed in September 2015.

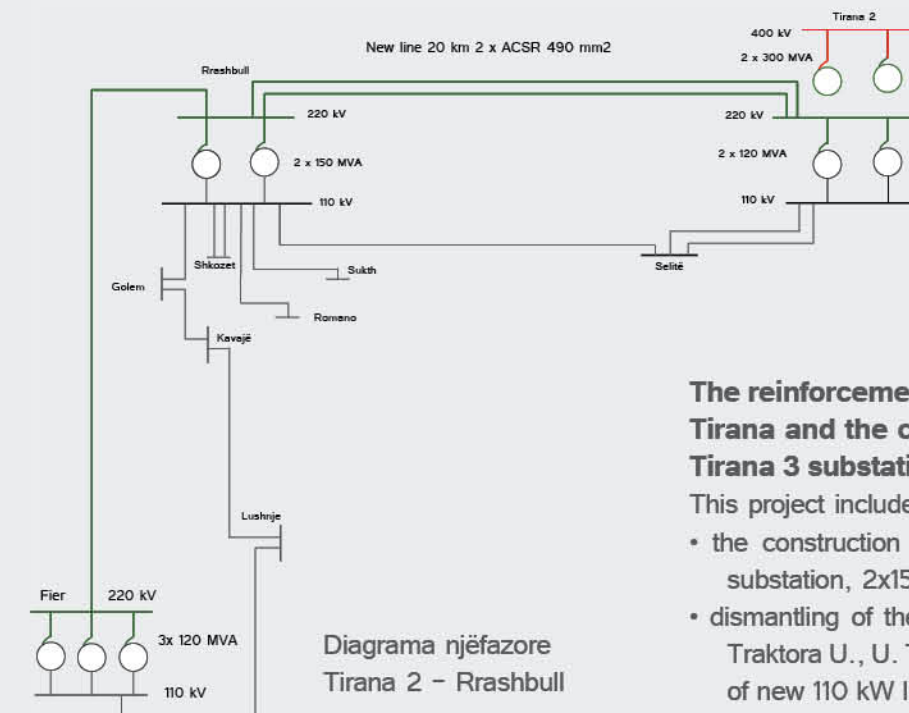


### 3 Important projects for the development of the Albanian Transmission System

**220 kV line with two circuits Tirana 2 - Rashbull and the strengthening of Rashbull substation**

This project includes:

- The construction of a new 220 kW line with two circuits, Tirana 2 - Rashbull, about 18 km and two new 220 kV output lines in the respective substations.
- The strengthening 220/110 kV substation of Rashbull, 2x150 MVA



**The reinforcement of the 110 kW ring network of Tirana and the construction of the new 400/110 Tirana 3 substation**

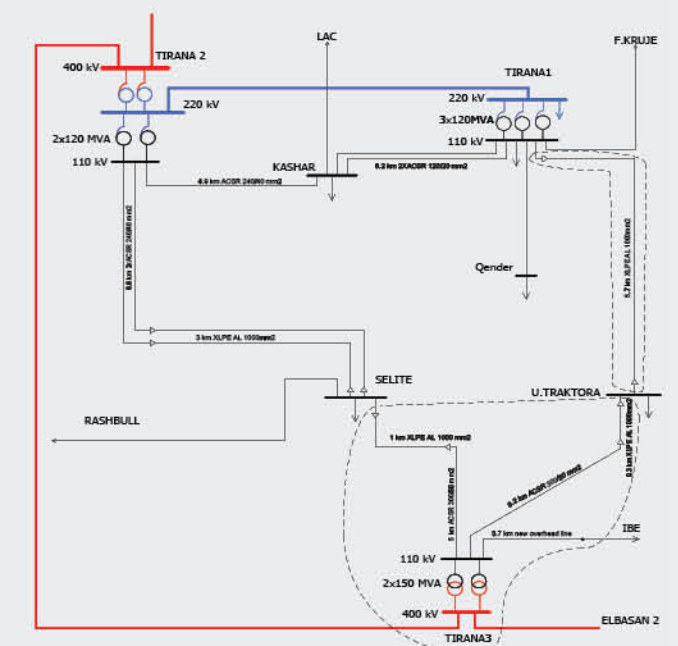
This project includes:

- the construction of the new 400/110 kW Tirana 3 substation, 2x150 MVA.
- dismantling of the existing 110 kW airline Tirana 1 - Traktora U., U. Traktora - Selitë, and the construction of new 110 kW lines (approximately 17 km airline with a ACSR-300 mm² conductor and 7 km line cable with XLPE- 1000 mm² conductor).

Benefits: This project is very important for the National Transmission System, because solves problems such as overloading of the existing line, the implementation of the safety criteria N-1, reduction of transmission losses and unsupplied energy.

- It improves the energy supply in a very wide region that includes Durrës and Kavajë district, giving a positive impact throughout the southern region of Albania;
- It meets all the requirements of Albanian and European legislation concerning the environment protection;
- It will have a positive impact on the overall economy and in the improvement of the quality of life for the Albanian population;
- It will increase the possibilities for a further development of tourism due to the improvement of the supply with the electric energy.

The feasibility study of this project, funded by WBIF projects, was prepared by a consortium COWI / IPF. The project will be financed by the German Government through KfW Bank. In 2015 TSO will select the consulting company.



One phase diagram of 110 kW ring net of Tirana.



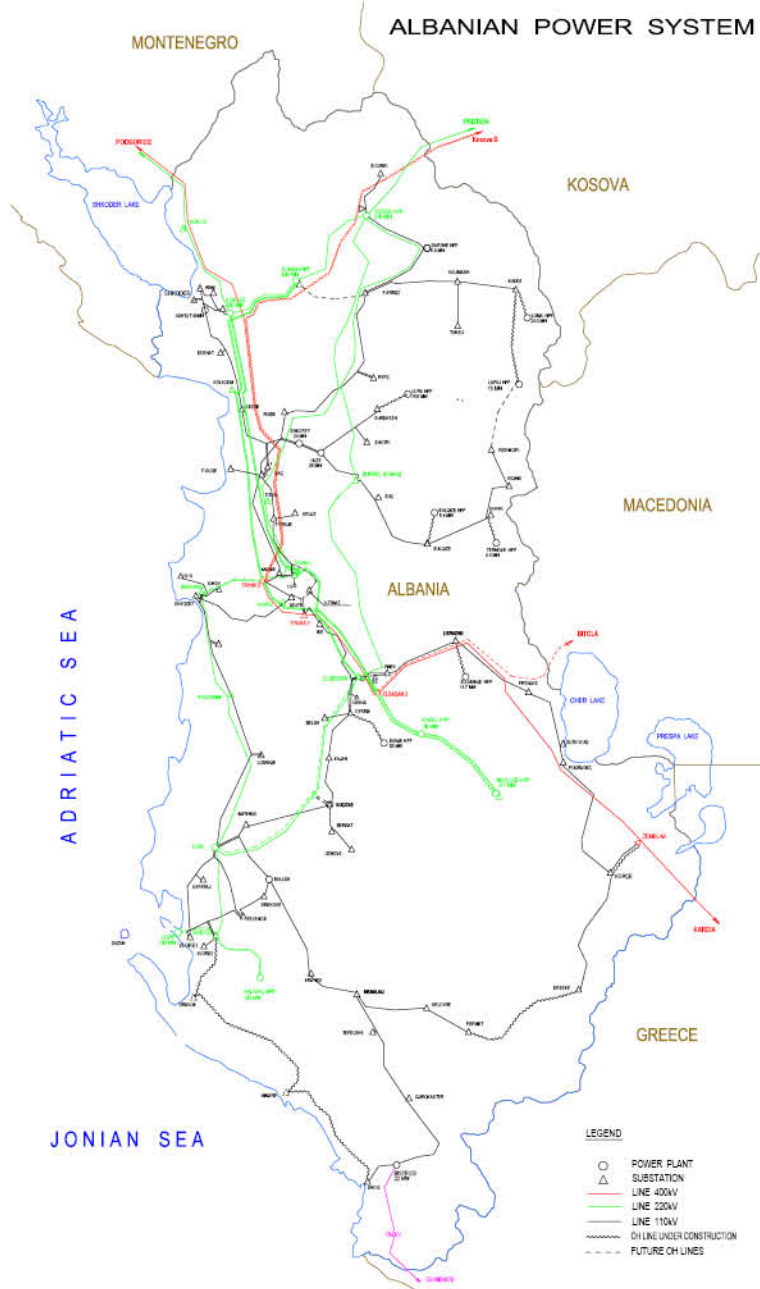
Benefits: Energy flows transiting from the 400 kW interconnection to the 110 kW national network;

- The increase of the safety of the system operation;
- Higher quality of the supply, and increased reliability for the region of Tirana;
- The reduction of losses in the transmission network;
- The reduction of unsupplied energy,
- The project meets all the requirements of European and Albanian legislation in relation to the protection of the environment. The feasibility study of this project, funded by the WBIF projects was prepared by COWI / IPF consortium. The project will be financed by the German Government through KfW Bank. In 2015 the OST will select consulting company.

**Albania - Macedonia 400 kW interconnection overhead line and the expansion of 400 kW Elbasan 2 substation.**

This project includes:

- The construction the new 400 kW Elbasan 2 - Bitola air line, about 151 km, 56 km in the Albanian territory
- The expansion of 400 kW Elbasan 2 substation with two 400 kW double, a new line output and a 400 kV shunt reactors 120 MVAR.



The map of Elbasan - Bitola 400 kW line



Benefits:

- The development of the existing network, closing 400 kV ring between Albania - Macedonia - Greece;
- The improvement of the network capacity to fit the forecasted load and the increase of transit as well as the possibility of connections of new generators, improving the transmission capacity in Albania, Macedonia and in the Balkan region in general;
- The improvement of the reliability of the regional network, general safety of the supply, and flexibility in the operation of the power system;
- The reduction of losses in the transmission system;
- The improvement of the quality of electric energy supply (normalization of voltage levels, stabilization of the distribution of power flows and fluctuations of the frequency etc.
- It supports the development of the regional energy market in South Eastern Europe and the creation of trading opportunities with Bulgaria and Italy;
- Mutual Support between Macedonia and Albania because of the diversity of electric energy generation (Albania - Hydro, Macedonia - Thermo);
- It reduces the cost of providing reserve capacity, as well as provides mutual support emergency.

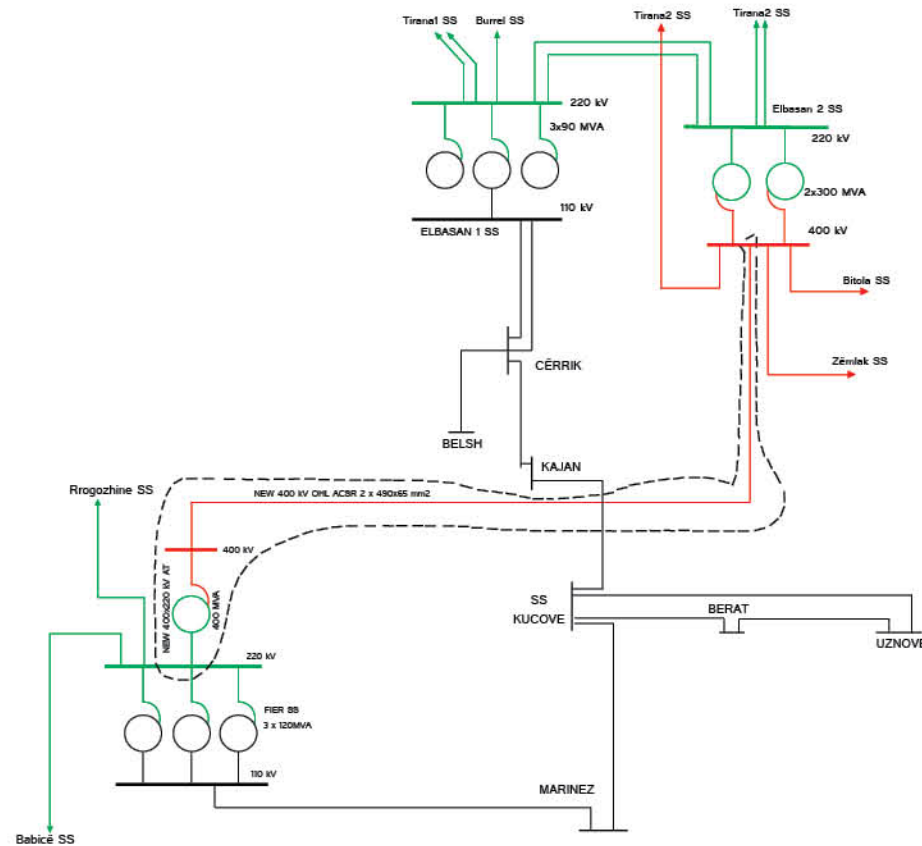
The feasibility study of this project, funded by WBIF projects, was prepared by a consortium COWI / IPF. OST and MEPSO (MK) have established joint working groups to pursue this project.



## Elbasan 2 - Fier 400 kW Transmission Overhead Line

Fier region will be changed into a very important point for future connection of new generating energy sources from natural gas and hydro power plants in the cascade of Vjosa River. This project includes:

- The construction of new 400 kW air line Elbasan 2 - Fier, about 70 km, and two 400 kW line output in Elbasan 2 substation and Fier substation.
- The expansion of 220 kW Fier substation, 1x400 MVA and the connection with the transmission network.



One phase diagram, 400 kW Elbasan - Fier

### Benefits:

- The general improvement of the standards, reliability, quality and efficiency of the transmission system in the central and southern Albania;
  - The reduction of transmission losses (cost reduction of supply) in the central and southern area of 220 kW network;
  - The reduction of the unsupplied electric energy for about 400,000 consumers;
  - The improvement of the service quality in social and economic terms;
  - The encouragement of the economic development of the central region of Albania due to a better supply of electric energy and the reduction of the load limits;
  - The reduction of overloading the 220 kW network.
- The feasibility study of the project, funded by WBIF was prepared by Mott Mac Donald / IPF consortium.
- For this project and the abovementioned TSO is in negotiation phase with KfW Bank, which has expressed interest in financing the two projects. The European Community will make possible a grant, as part of this project.

## VII Financial Reviews

### 1 Financial position review

((All the sums are LEK))

#### ASSETS

	2014	2013
Long-term assets		
Long-term assets material	41,746,767	38,827,789
Long-term assets Nonmaterial	49,489	52,610
Advance payment for the suppliers	1,437,187	2,073,547
Financial invoicing assets	17,957	117,081
<b>The total of the assets</b>	<b>43,251,400</b>	<b>41,071,027</b>

#### SHORT-TERM ASSETS

inventory	905,163	907,373
Invoicing by clients and other assets	9,722,496	6,818,595
Financial invoicing assets	104,557	152,611
Monetary means in cash box and in bank	1,257,653	467,866
Revenue tax	-	22,530
<b>The total of the assets</b>	<b>11,989,869</b>	<b>8,368,975</b>
<b>The total of the assets</b>	<b>55,241,269</b>	<b>49,440,002</b>

#### CAPITAL

Capital stock	9,694,008	9,694,008
Other reserves	1,737,442	1,737,442
Reevaluated reserves	9,069,000	9,093,705
Legal reserves	443,028	364,792
Income from the preceding year	3,210,680	1,533,991
<b>The total of the capital</b>	<b>24,154,158</b>	<b>22,423,938</b>

#### OBLIGATION

##### Long-term obligations

Loans	21,717,970	20,294,803
Government grant	591,281	659,906
Payable commercials and others	491,620	404,502
Provisions	1,183,990	-
Postponed tax obligation	1,453,877	1,550,348
<b>The total of the obligations</b>	<b>25,438,738</b>	<b>22,909,559</b>

##### Short-term obligation

Loans	2,658,619	1,558,232
Payable commercials and others	2,949,525	2,548,273
Obligations on tax revenue	40,229	-
<b>The total of the obligations</b>	<b>5,648,373</b>	<b>4,106,505</b>

#### The total of obligations

<b>The total of obligations</b>	<b>31,087,111</b>	<b>27,016,064</b>
<b>The total of the capital and obligations</b>	<b>55,241,269</b>	<b>49,440,002</b>



## 2 Income review (Losses)

(All the sums are LEK)	2014	2013
Incomes from the Service transmission	6,718,152	5,514,067
Other incomes	169,142	20,372
	<b>6,887,294</b>	<b>5,534,439</b>
Materials in use and consumption	(76,196)	(98,795)
Transmission cost	(392,459)	(422,217)
Personnel expenditure	(993,115)	(814,804)
Amortization expenditure and devaluation	(1,609,884)	(1,557,739)
Provisions expenditures	(987,596)	-
Other expenditures	(204,876)	(236,665)
<b>Operative profit</b>	<b>2,623,168</b>	<b>2,404,219</b>
Net financial income	(74,157)	105,795
Interest expenditures	(192,278)	(172,944)
<b>Net financial cost</b>	<b>(266,435)</b>	<b>(67,149)</b>
<b>Profit before tax revenues</b>	<b>2,356,733</b>	<b>2,337,070</b>
Tax revenue	(445,336)	(801,394)
<b>Annual net profit</b>	<b>1,911,397</b>	<b>1,535,676</b>

TSO incomes for 2014 (million lek)



TSO Expenditure for 2014 (million lek)

