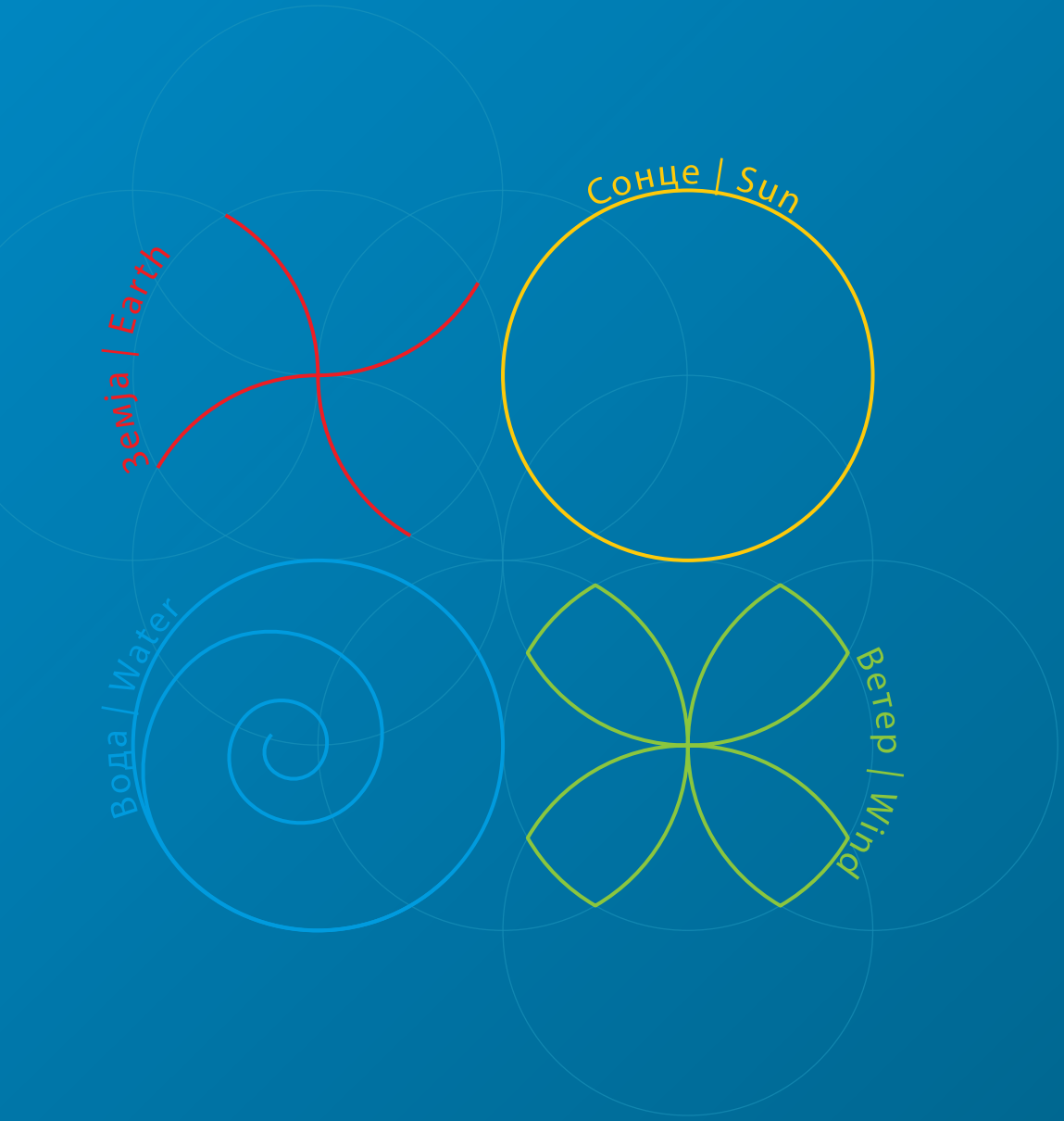


ELEM
MACEDONIAN POWER PLANTS

THE ENERGY OF OUR COUNTRY

Annual Report 2012

CONTENT

Letter from General Manager Mr. Dejan Boskovski to employees in AD ELEM

Dear Colleagues,

We are coming to an end of year full of challenges for energy power system where all contributors in JSC "Macedonian Power Plants" approached with extreme seriousness, determination and professionalism. These last twelve months were proof of how this company functions in specific conditions in a year which is also a great jubilee – 55 years from commissioning of HPP "Vrutok". This year, besides the fact that it was occasion worth celebrating, we in AD ELEM understand it as additional reason for demonstrating greater devotion, professionalism and seriousness. It is indeed the only way for this Company to maintain its position as one of the most strategic subjects in Republic of Macedonia.

We are saying farewell to a year when we accomplished a number of important projects. Modernization of aggregates in TPP "Bitola" was finished and at the same time began investment grip for modernization of boiler system in TPP "Bitola 3". The main belt conveyor coal system from Brod-Gneotino to Suvodol in length of 10 kilometers was commissioned. Also, belt conveyor system for ash removal in REK "Oslomej" was commissioned and our country became richer with one new electricity generation capacity – hydropower plant "Sveta Petka".

Dear colleagues, honored cooperators, we expect year full of new challenges, period of ambitiously set plans and expected results. Employees as main force are supporting pillar of AD ELEM and the success of the Company depends on their personal engagement and their ordinary professional efforts. Only by team work and entire dedication to work, we shall accomplish what we have planned. During the incoming period, we expect realization of extremely important projects, not only for JSC "Macedonian Power Plants" but generally for Republic of Macedonia. In 2013 we continue with activities for modernization of boiler system of TPP "Bitola 2", complex process for rehabilitation of six hydropower plants – second phase and construction of Wind Park "Bogdanci". We shall be working on preparation activities for construction of HPP "Boskov Most", storage "Lukovo Pole" and Korab Intake as well as project for heating system of Bitola, Novaci and Mogila, and we shall start with first activities for realization of project "Spilje 2". Certainly, these are only part of the projects for which I believe we all shall work with dedication.

I hope that at the end of the following 2013 year, we shall be proud and satisfied of the achieved results and surpassed positive expectations. Along with our mutual work, we contribute for constant and stable functioning of energy system in Republic of Macedonia. I am certain that in the future period we shall have possibility to establish more productive partnerships which shall lead to the same goal: stable, reliable and effective energy power system.

Dejan Boskovski,
General Manager and President of Board of Directors (BD) of AD ELEM

MISSION

Our philosophy of working is that generation from domestic resources is the most profitable and acceptable in long-term for Macedonia. **Energy of our country, energy for our future**. We have clear and solid direction – maintenance and modernization of existing capacities and developing of new manners for generating of electricity.

We invest in additional researches of domestic resources of coal, we invest in renewable sources and we develop strategy for exploitation of wind energy. We create conditions in order to provide quality and easily reachable services for our clients.

We are directed towards upgrading the potential of people and technology. The position which we hold on the electricity market obliges us to continue with our mission.

VISION

We are responsible company, well-known partner among domestic and international institutions. Our vision is clear, simple and determined within the boundaries of reality. We are working with dedication in order to join contemporary and technologically progressive countries. We are actively making efforts for entire liberalization and opening of electricity market for all consumers.

We are involved in establishing of electricity stock exchange and attracting domestic and foreign investors. It is the only way for providing of assets for investments in energy where we shall directly contribute for development of domestic economy.

We take care for the energy of our country and its appropriate use.

About AD ELEM

commencement of twentieth century. Owning to small diesel power plant, the first light bulb was lit in Skopje in 1909. This power plant was used for supplying of the pump station of city waterworks, illumination of Municipality building, only a single street and quarters of the Turkish Wali.

Starting from 1909, JSC "Macedonian Power Plants" (AD ELEM) is unbreakably connected to development and generation of electricity in our country. It is founded as independent company in 2005 and its operation and generation capacities are dating since the moments when the first light bulb was lit in Skopje. Since its foundation until today, the focus of the Management team of AD ELEM is directed towards development and investment in modernization and rehabilitation of existing capacities and construction of new ones.

Investment activities are being realized in amount of approximately 100 million Euros during 2012. This assets show how firmly we have decided to crate stable and energy independent grid in our country.

Our hydro and thermal power plants are constantly operating and they are maintained during entire day and night. Regarding our capacities, we provide around 96 percent of the entire domestic generation of electricity. During 2012, we produced totally 5.369,9 GWh of electricity, where 4.482,5 GWh (83%) by thermal power plants and 887,3 GWh (17%) by hydropower plants. 7.490.574 tons of coal were excavated during 2012 from our mines. Therefore, JSC "Macedonian Power Plants" is not accidently strategically the most important company – the pillar of Macedonian energy power system.

Behind the good results and success of the company, there are 4.732 employees. They know best what it means to maintain the existing generation capacities in excellent condition. The success of the work depends on the people who are aware of responsibility and challenge and accomplish their tasks in time and professionally. Therefore, we constantly invest in education of our employees. We take care for each of them to have the necessary knowledge and to be appropriately educated for its job position by organizing various trainings, tuitions and seminars.

Electricity is driving force of each country. Its progress and economic development entirely depend on electricity generation.

Aware of energy significance in the development of Republic of Macedonia, AD ELEM set a brave plan with projects which shall enable satisfying of necessities for electricity in the forthcoming years. Our task, besides continuous and stable electricity generation, is finding new sources of energy. Macedonia abounds with this kind of energy sources, minerals and resources which could provide sufficient amount of energy for all our necessities. Having the proper management and preparing of development plans, these natural resources shall be transferred into stable, safe and renewable electricity source. About us, in AD ELEM, each drop of water and each piece of land has enormous significance because we know that the power of energy is hidden there.

GENERAL DATA

THERMAL POWER PLANTS

Thermal power plants are priority in the energy power system. They cover 82% from electricity generation in JSC "Macedonian Power Plants".

The largest thermal capacity is REK "Bitola" with its three units – Bitola 1, 2 and 3 with annual average net-generation of 4.400 GWh. Modernization process of the three aggregates in REK "Bitola" was finished in 2012 and it was investment in amount of 55,9 million Euros where installed capacity of thermal power plant was increased for 25 MW respectively its total installed capacity is 700 MW. The coal with average caloricity of 8.000 kJ/kg is basic fuel in REK "Bitola".

REK "Oslomej" belongs in thermal system of Macedonia with installed capacity of unit of 125 MW and average annual net-generation of 500 GWh. The coal with average caloricity of 7.600 кJ/кg is basic fuel in REK "Oslomej".

HYDROPOWER PLANTS

Total installed capacity of hydropower plants is 538 MW respectively 40% from the total capacities in our company. We have eight hydropower plants, both of them are run-of-river, "Raven" and "Vrben" and six of them are accumulation, "Vrutok", "Spilje", "Globocica", "Tikves", "Kozjak" and "Sveta Petka" which has started with electricity generation on 01.08.2012.

Regarding the total generation of electricity in AD ELEM, hydro generation provides around 18% and it is used, first of all, due to satisfying of daily variations of electricity consumption and providing of system regulation services which result in achieving larger flexibility and availability of energy power system.

CORPORATE MANAGEMENT

MEMBERS OF BOARD OF DIRECTORS OF AD ELEM – SKOPJE ARE:

Dejan Boskovski, M.M.E. Mech. Eng. - President of Board of Directors with title General Manager;
Fatmir Limani, B.Sc. History - member of Management Board with title Deputy General Manager;
Vladimir Ognjanovski, B.Sc. Lawyer - member of Management Board with title Manager of legal and personnel affairs;
Dimitar Tanurkov, M.M.E. Mech. Eng. - member of Management Board with title Manager of electricity generation;
Jasna Ivanova-Davidovikj, B.Sc. Civil Eng. - member of Management Board with title Manager of Development and Investments;
Slavica Besova, B.Sc. Economics - member of Management Board with title Manager of Finance;
Kosta Papasterevski, B.Sc. El. Eng. - member of Management Board with title Manager of Commerce.

Board of Directors of AD ELEM – Skopje during 2012 made decisions over many questions significant for operating of the company and promulgated a lot of decisions among which the most important are:

- Decision for adopting of regulations for electricity surplus sale for 2012;
- Decision for adopting Report from Central inventory commission for accomplished property inventory of AD ELEM – Skopje with condition 31.12.2011;
- Decision for promulgating list of codes of AD ELEM - Skopje;
- Decision for promulgating of accounting plan of AD ELEM – Skopje;
- Decision for adopting of Financial report from operating of AD ELEM for the period 1.1.2011 to 31.12.2011;
- Decision for adopting of Annual account for the period 1.1.2011 to 31.12.2011 of AD ELEM - Skopje;
- Proposal – decision for distribution of profit according to Annual account for of AD ELEM - Skopje;
- Decision for determining criteria for annulment of employment contracts with concluding of written agreement;
- Decision for concluding of annex-contract with Power Machines Russia;
- Annual report for overhaul activities of generation capacities of AD ELEM – Skopje for 2011;
- Plan for annual overhaul activities in generation capacities of AD ELEM – Skopje for 2012;
- Decision for starting of procedure for debit with state guarantee for project „Rehabilitation and modernization of TPP Bitola' with decrease of NOx at unit 3 and unit 2";
- Report for realization of Annual investment program for 2011 of AD ELEM – Skopje;
- Information for accomplished estimation of real property, plants and equipment of AD ELEM – Skopje due to necessities of financial reports with condition 1.1.2011;
- Decision for erasing of Restaurant for public food and accommodation ROIS DOOEL Novaci, AD ELEM – Skopje – under liquidation;
- Decision for beginning of procedure for establishing of new DOOEL ELEM TURS – Skopje;
- Decision for establishing of DOOEL ELEM TOPLIFIKACEIJA DOOEL – Novaci;
- Decision for establishing of Company ELEM TURS DOOEL Skopje;

- Decision for approving of scholarships;
- Annual report for accomplished results from operating of AD ELEM – Skopje for 2011;
- Decision for adopting of Audit report for 2011;
- Decision for promulgation of Program for volunteers in JSC "Macedonian Power Plants" in state ownership, Skopje;
- Decision for adopting Protocol regarding modernization of boilers in TPP "Bitola";
- Decision for distribution of profit according to Annual account for 2011 of ELEM TREJD DOOEL Skopje;
- Decision for concluding of Loan Agreement with Deutsche Bank AG;
- Decision for joining of DUT Molika and DUT Popova Sapka to ELEM TURS DOOEL Skopje;
- Decision for erasing of ROI Oslomej DOOEL Oslomej – under liquidation;
- Plan for generation due to satisfying of electricity necessities of AD ELEM – Skopje for 2013;
- Financial plan for 2013 of AD ELEM – Skopje;
- Decision for determining of Agreement for joining of DUT Molika DOOEL Bitola and DUT Popova Sapka DOOEL Tetovo to ELEM TURS DOOEL Skopje;
- Decision for concluding of Contract with EMERSON Process Management;
- Decision for concluding Protocol with EVN AD Macedonia Skopje;
- Decision for accepting information about the project "Rehabilitation of HPP – second phase" and increasing of own participation in the project;
- Requirement from subsidiary Energetika for approving of regulated maximum income and regulated average price for generation, distribution and supplying with thermal energy for heating for regulated period from 1.1.2013 to 31.12.2013;
- Decision for erasing of Separation DOOEL Oslomej – under liquidation;
- Decision for establishing of DOO for generation of thermal energy;
- Decision for establishing of DOO for supplying with thermal energy;
- Decision for establishing of DOO for distribution of thermal energy;
- Annual investment program of AD ELEM – Skopje for 2013;
- Annual plan for public procurement of AD ELEM – Skopje for 2013;

ORGANIZATION OF COMPANY

Organization parts of Company are Head Office and seven subsidiaries which do not have authority of legal entity. Head Office is in Skopje and subsidiaries are: REK Bitola – Novaci with head office in Novaci, REK Oslomej – Oslomej with head office in Oslomej, HPP Mavrovo – Gostivar with head office in Gostivar, HPP Crn Drim – Struga with head office in Struga, HPP Treska – Skopje with head office in Skopje, HPP Tikves – Kavadarci with head office in Kavadarci and Energetika – Skopje with head office in Skopje.

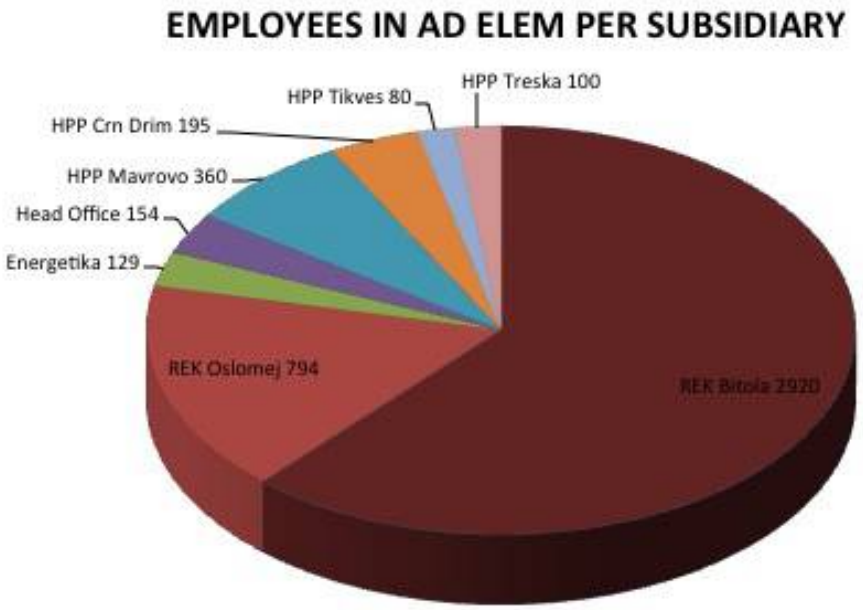
Each subsidiary is managed by manager, respectively managers which are appointed by Board of Director and whose authorities are determined in Statute and Regulations for internal organization of Company. Regulations for internal organization more concretely regulate internal organization of the Company by departments, offices, divisions with job positions and description of operating tasks for each job position.

CORE CAPITAL

Core capital of the Company amounts 31.738.878.000 denars or 517.818.006 EUR according to middle course of National Bank of Republic of Macedonia. The capital of the Company is divided on 31.738.878 regular shares with nominal values of 1000 denars.

EMPLOYEES AND QUALIFICATION STRUCTURE OF EMPLOYEES

In AD ELEM – Skopje until 31.12.2012 there are 4.732 employees out of which in **REK Bitola – Novaci** 2920, **REK Oslomej – Oslomej** 794, **HPP Mavrovo – Gostivar** 360, **HPP Crn Drim - Stuga** 195, **HPP Tikves – Kavadarci** 80, **HPP Treska – Skopje** 100, **Energetika – Skopje** 129 and in **Head Office** 154 employees.



During 2012, there was ongoing procedure for voluntary termination of labor relation of employees in Head office and subsidiaries of AD ELEM – Skopje, in accordance with Collective Agreement, with concluding of written agreements for cancelation of employment contract of employees and according to which, labor relation of totally 66 employees ceased in AD ELEM – Skopje.

Out of total number of employees in the Company, there are 7 employees with VIII degree of education, VII/2 – 58 employees, VII/1degree – 451, VI degree – 149, V degree – 177, IV degree – 1856, III degree – 1166, II degree – 509 and I degree – 419 employees.

COMPANIES ESTABLISHED BY AD ELEM – SKOPJE

JSC Macedonian Power Plants, in state ownership, Skopje is founder of Limited Liability Companies established by one entity including:

- Company for tourism, catering, recreation and sport, **ELEM TURS** DOOEL – Skopje, founded in 2012 where companies DUT Molika DOOEL – Bitola and DUT Popova Sapka DOOEL – Tetovo were joined to the Company on 1.11.2012;
- ELEM TREJD DOOEL – Skopje, established in 2009;
- Company for supply with thermal energy **ELEM TOPLIFIKACIJA** DOOEL – Novaci, established in 2012;
- Factory for equipment and parts **FOD** DOOEL – Novaci, AD ELEM – Skopje, established in 1997;
- Factory for maintenance, overhaul and transport **FORT** DOOEL – Oslomej, AD ELEM – Skopje, established in 1996;

At the same time, JSC Macedonian Power Plants, in state ownership, Skopje is one of the founders of the following Companies:

- Limited Liability Company for generation of thermal energy ELEME GENERATION DOO Skopje, established in 2012;
- Limited Liability Company for generation of thermal energy ELEME SUPPLY DOO Skopje ,established in 2012 ;
- Limited Liability Company for generation of thermal energy ELEME DISTRIBUTION DOO Skopje, established in 2012;

ELEM – TREJD

AKACTIVITIES OF ELEM – TREJD

ELEM – TREJD DOOEL Skopje actively operate on electricity market. Its activities during electricity surplus sale are founded transparently and on non-discriminating operation in accordance with Energy Law of Republic of Macedonia as well as in accordance with other acts which refer to this activity. Electricity market characteristics contribute for ELEM – TREJD DOOEL to proactively follow the markets from neighboring countries as well as stock markets where energy sources are being traded. According to the data form market and stock market analyses, appropriate decisions are made for the following steps, for example, when sale notice is published, which proportion is used regarding the tariff, etc.

Cumulatively, during 2012, ELEM –TREJD DOOEL Skopje has realized contract in total amount 19.008.503,52 EUR and regarding that amount, 419.163,00 MWh of electricity quantity is delivered.

ELEM-TREJD DOOEL Skopje during the last quarter of 2012 is successfully prepared for action on free market for the following year and participation on public notices for the companies for covering of losses in their systems. At the same time, having the most favorable bid, ELEM-TREJD DOOEL acquired right in 2013 to deliver 60.781 MWh of electricity from operator of energy transmission system.

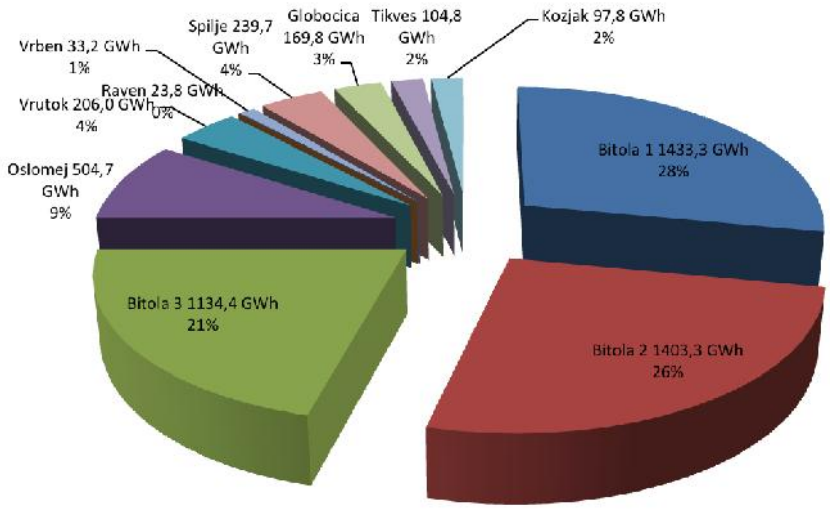
ANNUAL REPORT FOR GENERATION, REALIZED SUPPLY AND SOLD ELECTRICITY SURPLUS OF JSC "MACEDONIAN POWER PLANT" – SKOPJE FOR 2012

Basic indicators for generation, realized supply and sold electricity surplus of AD ELEM for 2012 are contained in the report.

1. RESULTS

Generation results 2012

	Planned generaton	Accomplished generation	Index
	GWh	GWh	Accomplished/Planned
Thermal Power Plants	**4.888,7**	**4.482,5**	**91,7%**
Bitola 1	1.461,1	1.433,3	**98,1%**
Bitola 2	1.589,0	1.403,3	**88,3%**
Bitola 3	1.221,4	1.134,4	**92,9%**
Oslomej	601,0	504,7	**84,0%**
Energetika	16,1	6,8	**42,3%**
Hydropower plants	**812,0**	**887,3**	**109,3%**
Vrutok	195,2	206,0	**105,5%**
Raven	24,1	23,8	**98,6%**
Vrben	27,5	33,2	**120,8%**
Spilje	238,5	239,7	**100,5%**
Globocica	154,1	169,8	**110,2%**
Tikves	98,9	104,8	**105,9%**
Kozjak	62,5	97,8	**156,6%**
Sveta Petka	11,1	12,2	**110,5%**
TOTALLY	**5.700,6**	**5.369,9**	**94,2%**



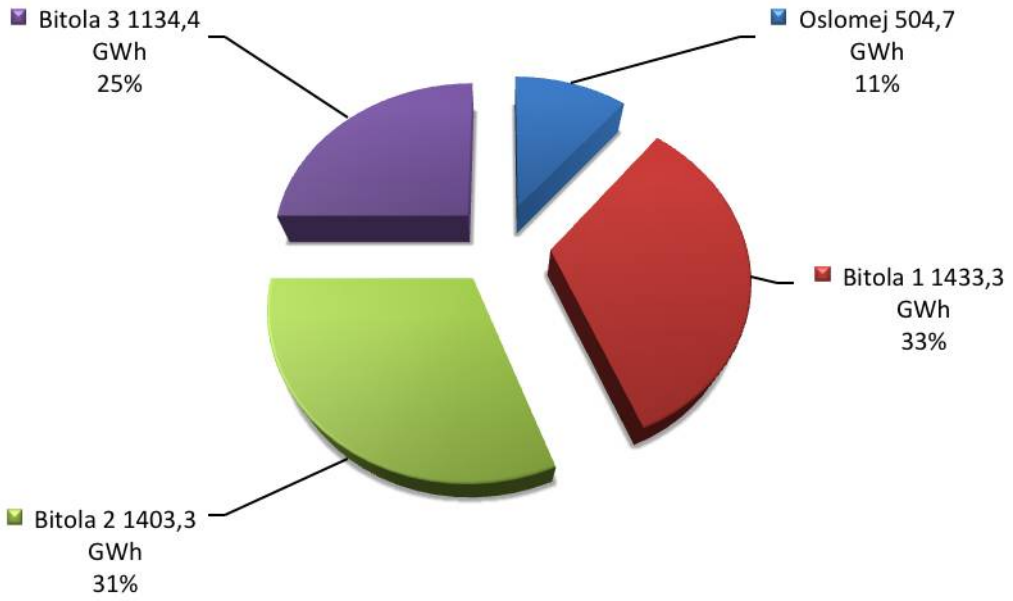
Compared to generation plan for 2012, AD ELEM has realized generation of 5.369,9 GWh which is 94,2% accomplishment of planed generation. Thermal power plants have realized 8,3% lower generation than planned while hydropower plants have produced 9,3% more than planned.

2. STRUCTURE OF AD ELEM

2.1. Thermal power plants

Thermal power plants are priority in the energy power system. They cover 82% from electricity generation in AD ELEM. The largest thermal capacity is REK "Bitola" with its three units – Bitola 1, 2 and 3 with annual average net-generation of 4.400 GWh. The coal with average caloricity of 8.000 kJ/kg is basic fuel in REK "Bitola". REK "Oslomej" belongs in thermal system of Macedonia with installed capacity of unit of 125 MW and average annual net-generation of 500 GWh. The coal with average caloricity of 7.600 кЈ/кg is basic fuel in REK "Oslomej".

THERMAL POWER PLANTS	Installed power MW	Net geneation GWh	Year of com-missioning	Operating hours h	Basic fuel	Energy value of fuel kJ/kg
Bitola 1	233	1.433,3	1982	7965:46:00	Coal	7199
Bitola 2	233	1.403,3	1984	7752:25:00	Coal	7199
Bitola 3	233	1.134,4	1988	6033:20:00	Coal	7199
Oslomej	125	504,7	1980	6272:52:00	Coal	6442
TOTALLY	**824**	**4.475,7**				

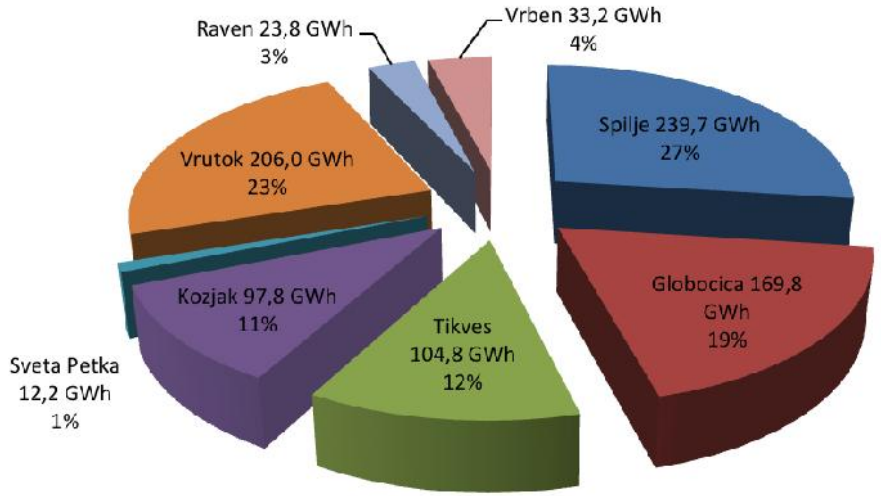


2.2. Hydropower plants

Total installed capacity of hydropower plants is 538 MW respectively 40% from the total capacities in our company. In AD ELEM there are eight hydropower plants, both of them are run-of-river, "Raven" and "Vrben" and six of them are accumulation, "Vrutok", "Spilje", "Globocica", "Tikves", "Kozjak" and "Sveta Petka" which has started with electricity generation on 01.08.2012.

Regarding the total generation of electricity in AD ELEM, hydro generation provides around 18% and it is used, first of all, due to satisfying of daily variations of electricity consumption and providing of system regulation services which result in achieving larger flexibility and availability of energy power system.

HYDROPOWER PLANTS	Number of agregates	Installed powerMW	Net generation GWh	Year of commissioning	Type of power plant
Vrutok	4	150	206,0	1957/1973	Accumulation
Raven	3	19,2	23,8	1959/1973	Run-of-river
Vrben	2	12,8	33,2	1959	Run-of-river
Spilje	3	84	239,7	1969	Accumulation
Globocica	2	42	169,8	1965	Accumulation
Tikves	4	114	104,8	1968/1981	Accumulation
Kozjak	2	80	97,8	2004	Accumulation
Sveta Petka	2	36	12,2	2012	Accumulation
TOTALLY	**22**	**538**	**887,3**		

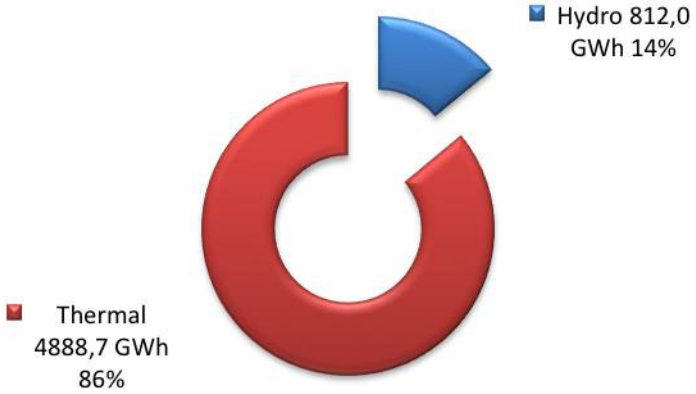


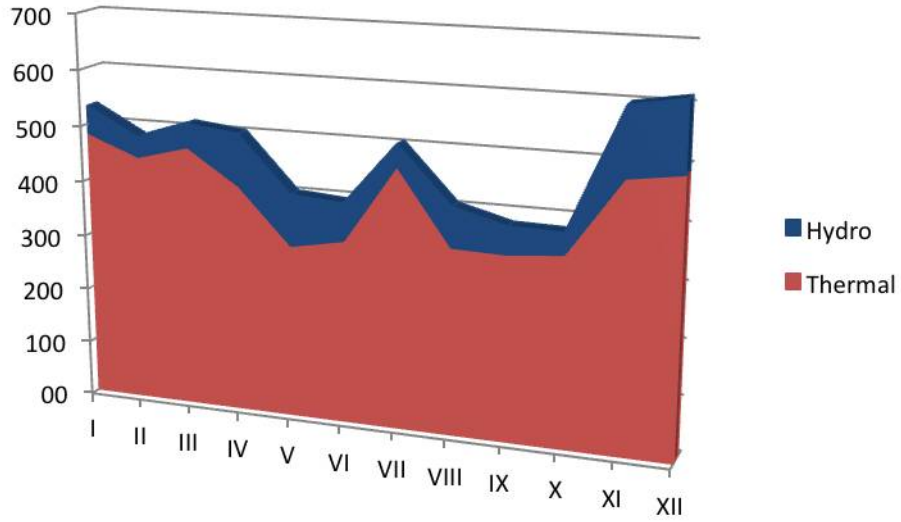
3. PLANED ELECTRICITY GENERATION OF AD ELEM FOR 2012

According to generation plan for 2012, planed generation of AD ELEM was 5.700,6 GWh out of which 4.888,7 GWh (86%) was supposed to be generated by thermal power plants and 812,0 GWh (14%) by hydropower plants.

MONTHLY BALANCE OF ELECTRICITY POWER GWh

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Thermal	482,9	446,3	471,1	408,9	310,3	328,1	467,2	334,3	331,7	340,5	476,9	490,5	4.888,7
Hydro	49,0	35,4	41,4	92,8	91,2	66,2	37,5	70,4	48,0	37,1	120,2	122,6	812,0
TOTALLY	**531,9**	**481,7**	**512,5**	**501,7**	**401,5**	**394,3**	**504,8**	**404,7**	**379,7**	**377,6**	**597,1**	**613,1**	**5.700,6**





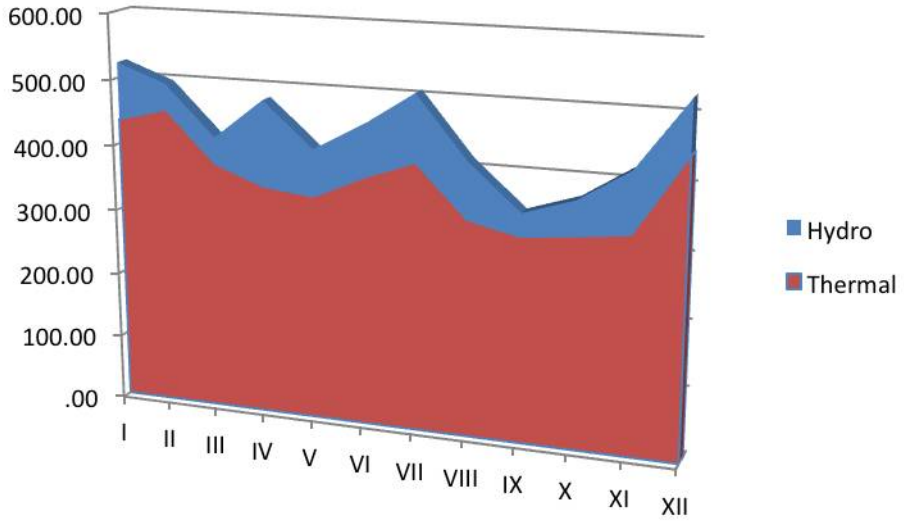
4. ELECTRICITY GENERATION

During 2012 AD ELEM produced totally 5.369,9 GWh of electricity, 482,5 GWh (83%) by thermal power plants and 887,3 GWh (17%) by hydropower plants.

4.1. Realized monthly generation

MONTHLY GENERATON OF ELECTRICITY POWER GWh

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Thermal	436,8	456,5	379,8	351,2	342,9	377,8	405,9	328,1	310,7	318,8	327,7	446,2	4.482,5
Hydro	86,8	39,3	39,9	130,0	70,5	78,3	100,7	84,9	34,5	51,6	91,9	79,0	887,3
TOTALLY	**523,6**	**495,9**	**419,7**	**481,2**	**413,4**	**456,1**	**506,6**	**413,0**	**345,3**	**370,5**	**419,5**	**525,2**	**5.369,9**

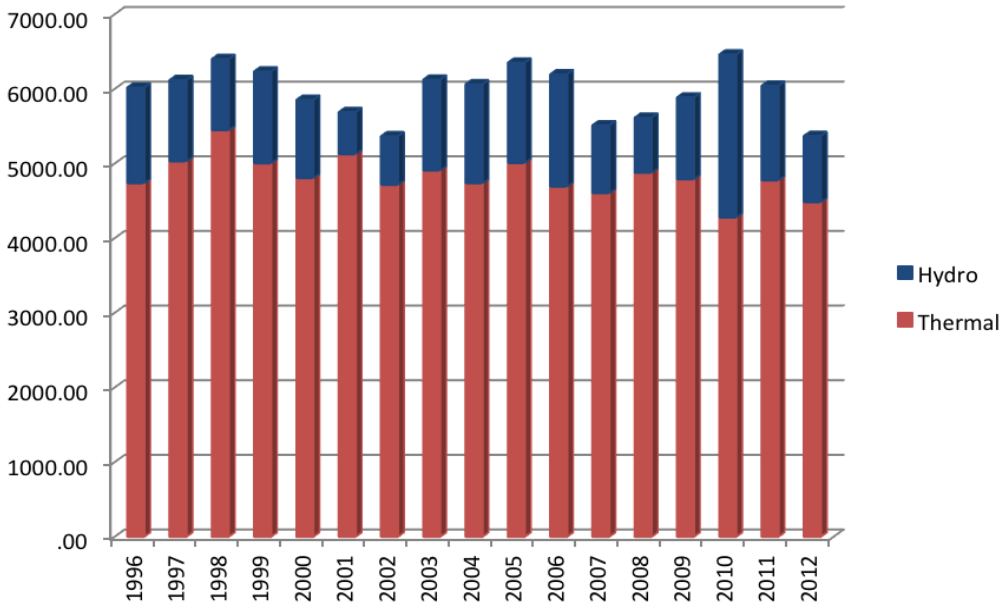


4.2. Realized electricity generation of AD ELEM during past years

Generation of AD ELEM in 2012 is lower than realized generation in 2011 for 673,7 GWh (11,1%).

ANNUAL GENERATION OF ELECTRICITY POWER GWh																	
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Ther-mal	4.734,90	5.028,80	5.445,30	5.003,90	4.805,80	5.124,40	4.714,50	4.906,50	4.735,00	5.007,80	4.690,90	4.602,70	4.877,30	4.788,60	4.277,40	4.775,70	4.482,50
Hydro	1.283,60	1.090,10	955,60	1.231,30	1.047,80	564,90	652,20	1.218,90	1.328,30	1.344,70	1.504,90	910,5	738	1.097,60	2.184,80	1.267,90	887,3
TOTALLY	**6.018,5**	**6.118,9**	**6.400,9**	**6.235,2**	**5.853,6**	**5.689,3**	**5.366,7**	**6.125,4**	**6.063,3**	**6.352,5**	**6.195,8**	**5.513,2**	**5.615,4**	**5.886,2**	**6.462,3**	**6.043,6**	**5.369,9**

	2012	2011	12/11	12	11
	GWh	GWh	%	%	%
Thermal	4482,5	4775,7	-6,1	83,5	79,0
Hydro	887,3	1267,9	-30,0	16,5	21,0
TOTALLY	**5369,9**	**6043,6**	**-11,1**	**100,0**	**100,0**

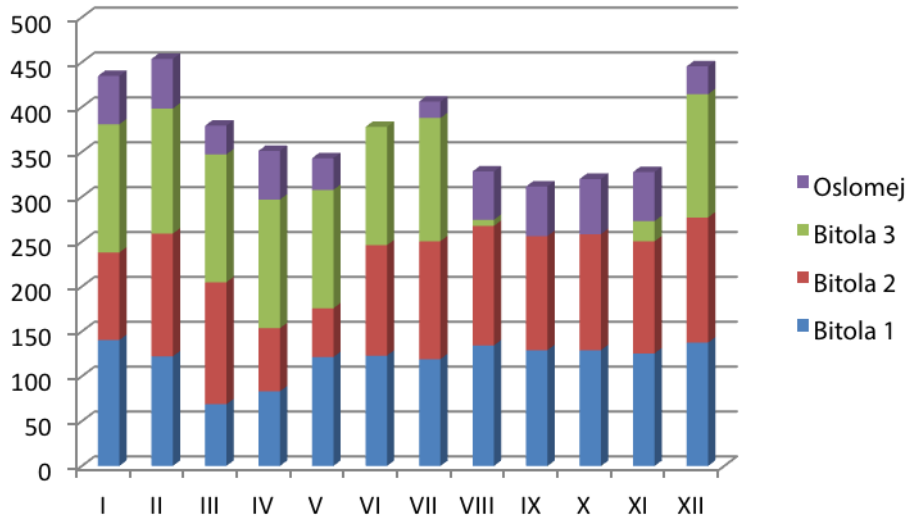


5. THERMAL POWER PLANTS

Thermal power plants generated 4.475,7 GWh in 2012, namely „Bitola 1" accomplished generation of 1.433,3 GWh (33 %) from total thermal generation, „Bitola 2" - 1.403,3 GWh (31 %), „Bitola 3" - 1.134,4 GWh (25 %) and „Oslomej" - 504,7 GWh (11 %).

MONTHLY GENERATION - THERMAL POWER PLANT GWh

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Bitola 1	140,3	122,1	68,8	83,1	121,4	123	119,1	134,4	129,1	129,1	125,5	137,4	**1.433,3**
Bitola 2	97,6	136,8	135,9	70,4	54,3	123	131,4	133,1	127,1	129,3	124,8	139,6	**1.403,3**
Bitola 3	142,9	139,4	142,5	143,4	132	131,9	137,3	6,9	-0,7	-0,9	22,6	137,3	**1.134,4**
Oslomej	53,8	55,3	32	54,2	35,3	-0,2	18,2	53,8	55,3	61,4	54,7	31	**504,7**
TOTALLY	**434,6**	**453,6**	**379,1**	**351,2**	**342,9**	**377,8**	**405,9**	**328,1**	**310,7**	**318,8**	**327,7**	**445,2**	**4.475,7**



Electricity generation from thermal power plants in 2012 is lower for 300,0 GWh (6,3%) regarding 2011.

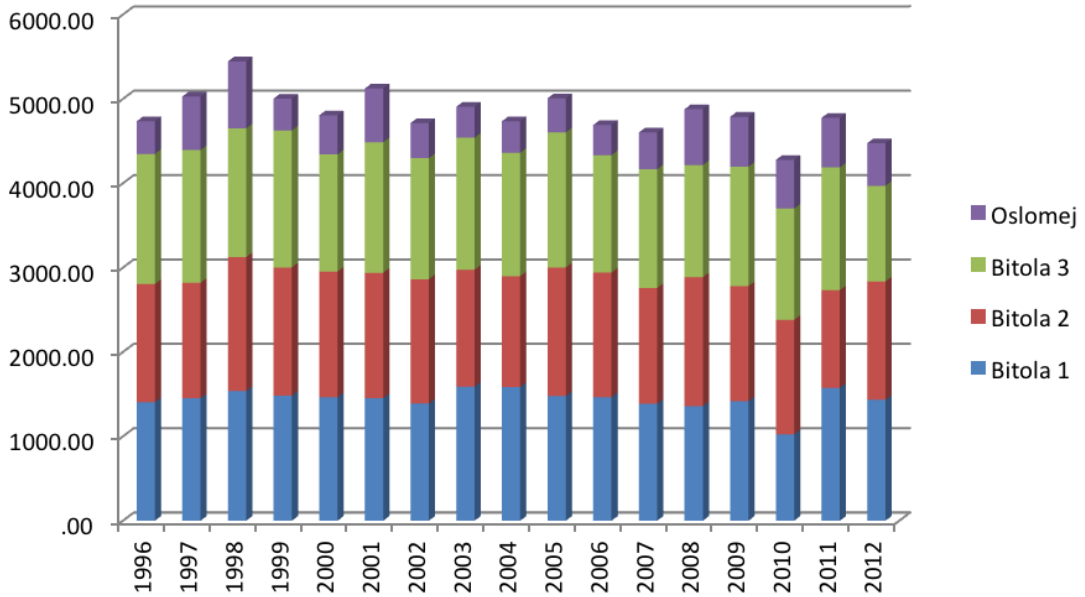
Generation in „Bitola 3“ is lower regarding 2011 for 22,1%, and it is due to necessary time for accomplishment of modernization and automation of turbo aggregate and modernization of boiler which lasted 113 days. At the same time, generation in „Bitola 1“regarding 2011 is lower for 9% due to examination of installed equipment from accomplished modernization in 2010 within guarantee deadline and it lasted 27 days, while in „Bitola 2“ is accomplished larger generation for 21,4% regarding 2011. „Bitola 1“ and „Bitola 2“ have realization of usual average annual generation.

Thermal power plant “Oslomej” generated 14% lower generation regarding previous 2011 and it is within average annual generation.

THERMO POWER PLANT GENERATION PER YEAR GWh

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bitola 1	1.406,6	1.451,7	1.537,9	1.483,1	1.463,7	1.452,5	1.389,4	1.590,3	1.585,3	1.478,0	1.465,9	1.386,3	1.357,0	1.416,2	1.024,1	1.575,8	1.433,3
Bitola 2	1.399,3	1.369,1	1.586,1	1.519,3	1.489,3	1.487,5	1.472,9	1.383,6	1.313,4	1.524,6	1.475,0	1.372,9	1.530,1	1.364,0	1.357,0	1.156,2	1.403,3
Bitola 3	1.542,4	1.572,1	1.527,6	1.624,6	1.389,1	1.545,8	1.435,4	1.566,6	1.463,5	1.600,9	1.393,1	1.407,3	1.328,9	1.417,0	1.318,8	1.456,8	1.134,4
Oslomej	386,6	635,9	793,7	376,9	463,7	638,6	416,8	366,0	372,8	404,3	356,9	436,2	661,4	591,4	577,5	586,8	504,7
TOTALLY	**4.734,9**	**5.028,8**	**5.445,3**	**5.003,9**	**4.805,8**	**5.124,4**	**4.714,5**	**4.906,5**	**4.735,0**	**5.007,8**	**4.690,9**	**4.602,7**	**4.877,3**	**4.788,6**	**4.277,4**	**4.775,7**	**4.475,7**

THERMO POWER PLANT	2012	2011	12/11	12	11
	GWh	GWh	%	%	%
Bitola 1	1.433,3	1.575,8	-9,0	32,0	33,0
Bitola 2	1.403,3	1.156,2	21,4	31,4	24,2
Bitola 3	1.134,4	1.456,8	-22,1	25,3	30,5
Oslomej	504,7	586,8	-14,0	11,3	12,3
TOTALLY	**4.475,7**	**4.775,7**	**-6,3**	**100,0**	**100,0**



6. OVERHAUL ACTIVITIES AND OUTAGES

Planned overhaul activities were started and finished this year according to previously determined dynamics and time.

Overhaul activities

Overhaul activities

HPP/TPP	Date of		Description
	Beginning	Finishing	
REK Bitola			
Unit 1	16.03.2012	12.04.2012	**Revision of generator, filter sanation, examination of all turbine beds, repair of mill tract and reinforcement, examination of MUR and electrical issues**
Unit 2	-	-	**Smaller technical grips are accomplished**
Unit 3	03.08.2012	24.11.2012	**Modernization and automation of turbo aggregates and modernization of boiler**
REK Oslomej			
Aggregate	18.05.2012	16.07.2012	**Regular revision of boiler with replacement and reparation of damaged parts, sanation of beds and blades of turbine, examination of equipment from MUR and electrical issues**
HPP Vrutok			
Aggregate A	10.09.2012	02.10.2012	**Complete revision of aggregates and equipment;**
Aggregate B	10.09.2012	02.10.2012	**Complete revision of aggregates and equipment;**
Aggregate C	03.10.2012	12.10.2012	**Complete revision of aggregates and equipment;**
Aggregate D	03.10.2012	12.10.2012	**Complete revision of aggregates and equipment;**
HPP Raven			
Aggregate A	10.09.2012	17.09.2012	**Revision of aggregates and equipment**
Aggregate B	18.09.2012	24.09.2012	**Revision of aggregates and equipment**
Aggregate C	24.09.2012	05.10.2012	**Revision of aggregates and equipment**
HPP Vrben			
Aggregate A	07.09.2012	07.11.2012	**Revision of aggregates and equipment; Replacement of capsules, seals and turbine oil; Revision of domestic turbine**
Aggregate B	07.09.2012	07.11.2012	**Revision of aggregates and equipment; Replacement of capsules, seals and turbine oil; Revision of domestic turbine**
HPP Tikves			
Aggregate A	28.05.2012	31.05.2012	**Revision of aggregates and equipment**
Aggregate B	04.06.2012	08.06.2012	**Revision of aggregates and equipment**
Aggregate C	18.06.2012	22.06.2012	**Revision of aggregates and equipment**
Aggregate D	11.06.2012	15.06.2012	**Revision of aggregates and equipment**

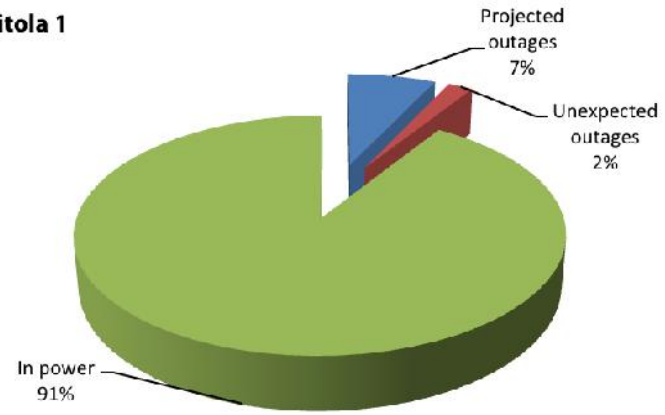
HPP Globocica			
Aggregate A	06.08.2012	10.08.2012	**Revision of aggregates and equipment, capital overhaul of transformer B, repair of cavitation damages**
Aggregate B	09.07.2012	01.08.2012	**Revision of aggregates and equipment, capital overhaul of transformer B, repair of cavitation damages**
HPP Spilje			
Aggregate A	21.08.2012	25.08.2012	**Revision of aggregates and equipment, cleaning of trash rack from entrance inflow**
Aggregate B	27.08.2012	31.08.2012	**Revision of aggregates and equipment, cleaning of trash rack from entrance inflow**
Aggregate C	03.09.2012	07.09.2012	**Revision of aggregates and equipment, cleaning of trash rack from entrance inflow**
HPP Kozjak			
Aggregate A	-	-	**Smaller technical grips are accomplished**
Aggregate B	-	-	**Smaller technical grips are accomplished**

Review of duration of planned and unplanned outages in the thermal power plants in 2012.

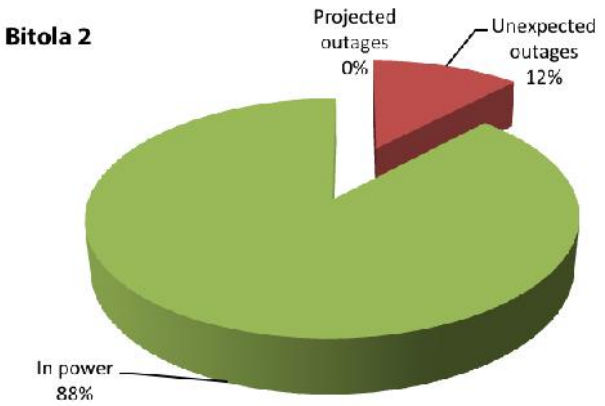
	OUTAGES h							
Thermal power plants	**Bitola 1**		**Bitola 2**		**Bitola 3**		**Oslomej**	
	P	**N**	**P**	**N**	**P**	**N**	**P**	**N**
January	0:00:00	19:17:00	0:00:00	240:32:00	0:00:00	10:39:00	0:00:00	94:47:00
February	0:00:00	64:57:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00
March	381:05:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	318:27:00	43:35:00
April	274:46:00	4:16:00	0:00:00	359:35:00	0:00:00	0:00:00	0:00:00	103:14:00
May	0:00:00	5:50:00	0:00:00	415:25:00	0:00:00	0:00:00	314:12:00	0:00:00
June	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00	720:00:00	0:00:00
July	0:00:00	59:04:00	0:00:00	7:52:00	0:00:00	0:00:00	365:37:00	125:50:00
August	0:00:00	0:00:00	0:00:00	0:00:00	695:24:00	0:00:00	0:00:00	35:43:00
September	0:00:00	0:00:00	0:00:00	0:00:00	720:00:00	0:00:00	0:00:00	61:05:00
October	0:00:00	0:00:00	0:00:00	0:00:00	744:00:00	0:00:00	0:00:00	0:00:00
November	0:00:00	0:00:00	0:00:00	8:11:00	567:21:00	0:00:00	0:00:00	3:23:00
December	0:00:00	8:59:00	0:00:00	0:00:00	0:00:00	13:16:00	0:00:00	325:15:00
Totally	**655:51:00**	**162:23:00**	**0:00:00**	**1031:35:00**	**2726:45:00**	**23:55:00**	**1718:16:00**	**792:52:00**
	818:14:00		**1031:35:00**		**2750:40:00**		**2511:08:00**	

P* Projected outages
N* Unexpected outages

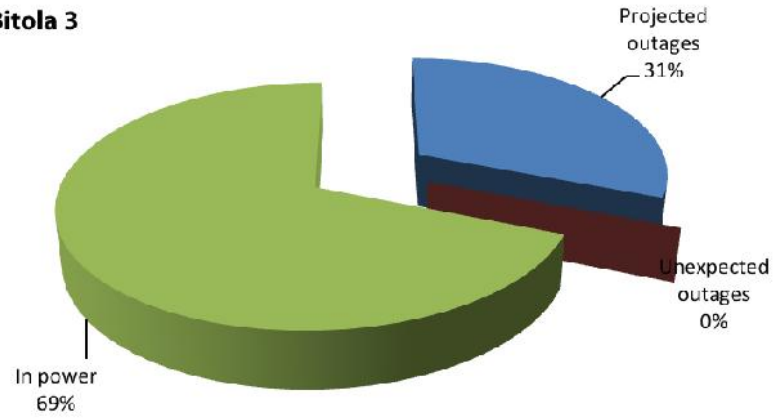
Bitola 1



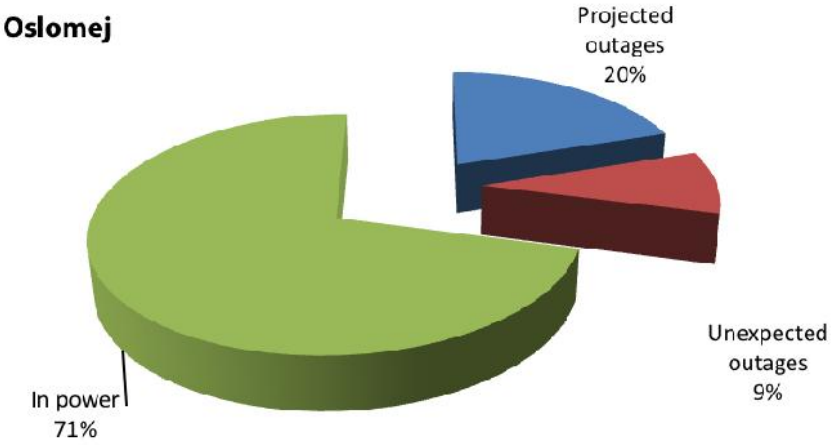
Bitola 2



Bitola 3



Oslomej



In the following tables, there is comparison of number of outages and overhauls and their duration regarding previous years.

Number of outages regarding 2011 is lower for 4 (11,43%), and regarding 2010 is lower for 3 (8,82%), regarding 2009 is larger for 2 (6,9%), and regarding 2008 is larger for 12 (63,16%) and regarding 2007 is larger for 8 (34,78%).

Total duration of outages and overhauls in 2012 is 7111:37:00 hours and it is larger for 17,98% regarding 2011, and lower for 9,68% regarding 2010, larger for 35,26% regarding 2009, larger for 25,14% regarding 2008 and lower for 10,09% regarding 2007 and it is due to accomplished modernization and automation of turbo aggregate and modernization of boiler in TPP „Bitola 3“, which lasted 113 days or 2.726 hours.

Number of outages and overhauls

Number of outages and overhauls

		REK Bitola				REK Oslomej	Totally TPP	Вкупно ТЕЦ
		Unit 1	Unit 2	Unit 3	Totally	Aggregate 1		
Outages	2006	2	3	7	12	14	**26**	**26**
	2007	5	2	7	14	5	**19**	**19**
	2008	4	5	2	11	4	**15**	**15**
	2009	8	3	5	16	9	**25**	**25**
	2010	10	4	5	19	11	**30**	**30**
	2011	8	6	3	17	15	**32**	**32**
	2012	6	4	2	12	15	**27**	**27**
Overhauls	2006	No overhaul	No overhaul	No overhaul	0	No overhaul	**0**	**0**
	2007	1	1	1	3	1	**4**	**4**
	2008	1	1	1	3	1	**4**	**4**
	2009	1	1	1	3	1	**4**	**4**
	2010	1	1	1	3	1	**4**	**4**
	2011	No overhaul	1	1	2	1	**3**	**3**
	2012	1	No overhaul	1	2	2	**4**	**4**
Totally	2006	2	3	7	12	14	**26**	**26**
	2007	6	3	8	17	6	**23**	**23**
	2008	5	6	3	14	5	**19**	**19**
	2009	9	4	6	19	10	**29**	**29**
	2010	11	5	6	22	12	**34**	**34**
	2011	8	7	4	19	16	**35**	**35**
	2012	7	4	3	14	17	**31**	**31**
Comparison of 2012 with previous years [%]	2006	250,00%	33,33%	-57,14%	16,67%	21,43%	**19,23%**	**19,23%**
	2007	16,67%	33,33%	-62,50%	-17,65%	183,33%	**34,78%**	**34,78%**
	2008	40,00%	-33,33%	0,00%	0,00%	240,00%	**63,16%**	**63,16%**
	2009	-22,22%	0,00%	-50,00%	-26,32%	70,00%	**6,90%**	**6,90%**
	2010	-36,36%	-20,00%	-50,00%	-36,36%	41,67%	**-8,82%**	**-8,82%**
	2011	-12,50%	-42,86%	-25,00%	-26,32%	6,25%	**-11,43%**	**-11,43%**

Време на застои и ремонти

Number of outages and overhauls

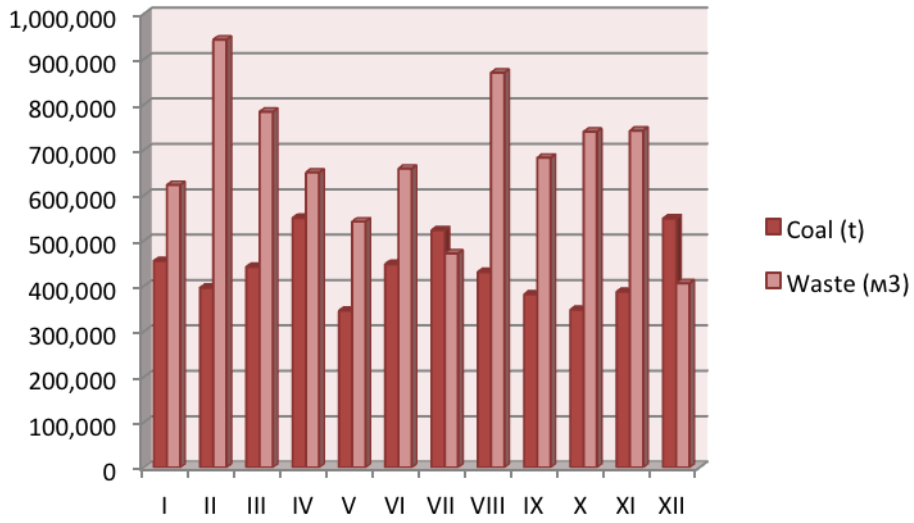
		REK Bitola				REK Oslomej	Totally TPP
		Unit 1	Unit 2	Unit 3	Totally	Aggregate 1	
Outages	**2006**	1071:00:00	1268:00:00	125:21:00	2464:21:00	762:49:00	**3227:10:00**
	2007	340:39:00	82:19:00	120:14:00	543:12:00	300:51:00	**844:03:00**
	2008	132:47:00	29:05:00	89:04:00	250:56:00	191:49:00	**442:45:00**
	2009	143:56:00	40:21:00	63:31:00	247:48:00	705:08:00	**952:56:00**
	2010	342:34:00	508:32:00	170:56:00	1022:02:00	1055:03:00	**2077:05:00**
	2011	456:54:00	416:27:00	71:06:00	944:27:00	469:53:00	**1414:20:00**
	2012	162:23:00	1031:35:00	23:55:00	1217:53:00	792:52:00	**2010:45:00**
Overhauls	**2006**	0:00:00	0:00:00	1419:09:00	1419:09:00	3064:51:00	**4484:00:00**
	2007	1061:42:00	1298:39:00	12:30:00	3428:51:00	3637:12:00	**7066:03:00**
	2008	1503:55:00	931:10:00	1396:01:00	3831:06:00	1409:10:00	**5240:16:00**
	2009	914:07:00	1395:53:00	874:57:00	3184:57:00	1119:40:00	**4304:37:00**
	2010	2622:28:00	725:43:00	1373:13:00	4721:24:00	1075:42:00	**5797:06:00**
	2011	0:00:00	2236:30:00	949:00:00	3185:30:00	1428:08:00	**4613:38:00**
	2012	655:51:00	0:00:00	2726:45:00	3382:36:00	1718:16:00	**5100:52:00**
Totally	**2006**	1071:00:00	1268:00:00	1544:30:00	3883:30:00	3827:40:00	**7711:10:00**
	2007	1402:21:00	1380:58:00	1188:44:00	3972:03:00	3938:03:00	**7910:06:00**
	2008	1636:42:00	960:15:00	1485:05:00	4082:02:00	1600:59:00	**5683:01:00**
	2009	1058:03:00	1436:14:00	938:28:00	3432:45:00	1824:48:00	**5257:33:00**
	2010	2965:02:00	1234:15:00	1544:09:00	5743:26:00	2130:45:00	**7874:11:00**
	2011	456:54:00	2652:57:00	1020:06:00	4129:57:00	1898:01:00	**6027:58:00**
	2012	818:14:00	1031:35:00	2750:40:00	4600:29:00	2511:08:00	**7111:37:00**
Comparison of 2012 with previous years [%]	**2006**	-23,60%	-18,64%	78,09%	18,46%	-34,40%	**-7,78%**
	2007	-41,65%	-25,30%	131,39%	15,82%	-36,23%	**-10,09%**
	2008	-50,01%	7,43%	85,22%	12,70%	56,85%	**25,14%**
	2009	-22,67%	-28,17%	193,10%	34,02%	37,61%	**35,26%**
	2010	-72,40%	-16,42%	78,13%	-19,90%	17,85%	**-9,68%**
	2011	79,08%	-61,12%	169,65%	11,39%	32,30%	**17,98%**

7. MINES

In 2012 from our mines were excavated 7.490.574 [t] of coal. Due to the necessities of TPP „Bitola“ from mine Suvodol were excavated 5.257.221 [t], while from mine Brod-Gneotino - 1.290.123 [t]. Due to necessities of TPP „Oslomej“ from mine Oslomej – west are excavated 757.217 [t] coal, and from local Old mine which is part of former mine Oslomej – East this year is enabled delivery of 186.014 [t] of coal with discontinued mechanization.

SUVODOL MINE - 2012

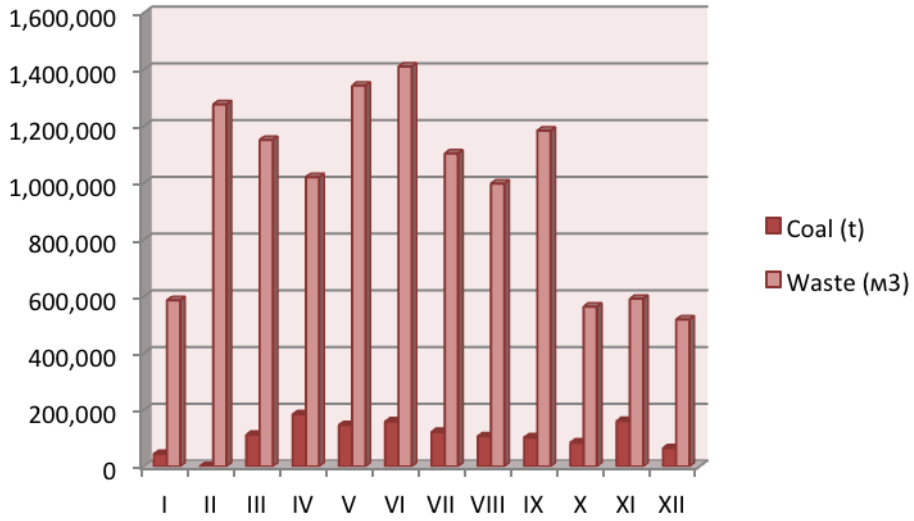
Extraction													
	I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**	**XI**	**XII**	**Totally**
Coal (t)	455.080	396.241	442.259	550.064	345.634	448.361	522.975	430.989	381.639	347.742	387.441	548.795	**5.257.221**
Waste (м3)	622.600	942.700	783.800	650.000	541.900	658.600	471.700	870.003	682.623	740.000	742.270	406.150	**8.112.346**



BROD - GNEOTINO MINE - 2012

Extraction

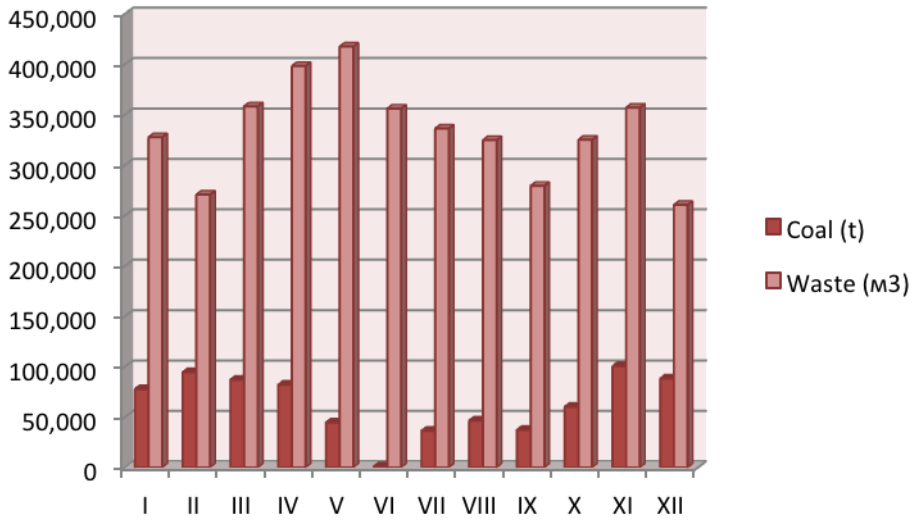
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Coal (t)	44.471	1.519	112.269	184.145	146.378	159.194	122.201	106.937	102.508	84.702	160.806	64.994	**1.290.123**
Waste (м3)	586.200	1.277.000	1.151.500	1.020.500	1.343.000	1.410.000	1.103.700	998.000	1.184.200	564.104	591.532	518.600	**11.748.336**



OSLOMEJ - ZAPAD MINE - 2011

Extraction

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Coal (t)	77.856	94.574	87.131	82.133	44.687	1.000	36.466	46.737	37.367	60.324	100.546	88.396	**757.217**
Waste (м3)	327.751	270.712	358.336	398.336	417.565	356.162	336.290	324.762	279.506	325.210	357.076	260.584	**4.012.290**



OLD MINE MINE - 2011

Extraction

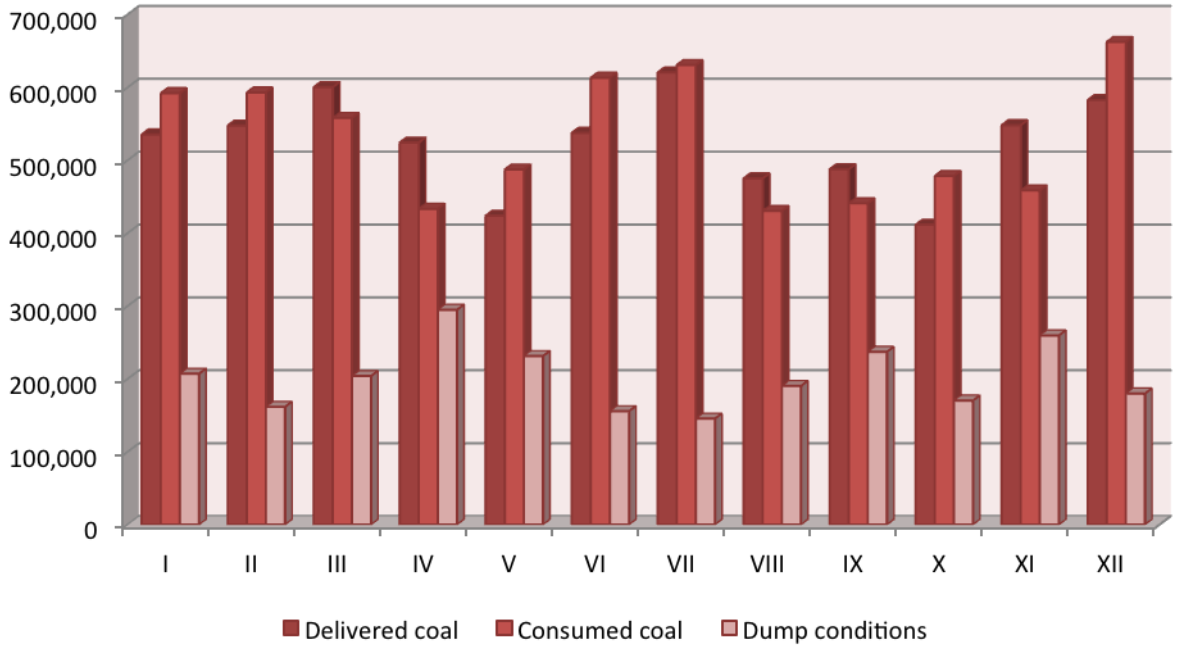
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Coal (t)	0	0	0	0	0	0	45.840	43.736	46.482	43.932	6.024	0	**186.014**
Waste (м3)													**0**

7.1. Consumption of coal and heavy oil for electricity generation

Due to generation of 4.475,7 GWh in thermal power plants was spent:

Coal	**.....**	**7.328.482,00 [t] или 1,64 kg/kWh**
Heavy oil	**.....**	**23.147,00 [t] или 5,17 gr/kWh**

Generation of thermal power plants regarding the last year is realized with 376.378 [t] less coal [4,88 %] and 5.570 [t] more heavy oil [31,69 %] regarding the consumed in 2011. Increased consumption of heavy oil is result of decreased coal quantity which can be perceived from calorific value of coal expressed in kJ/kg.



*Additional 343.963 [t] coals are at auxiliary waste dump Suvodol on 01.01.2013.

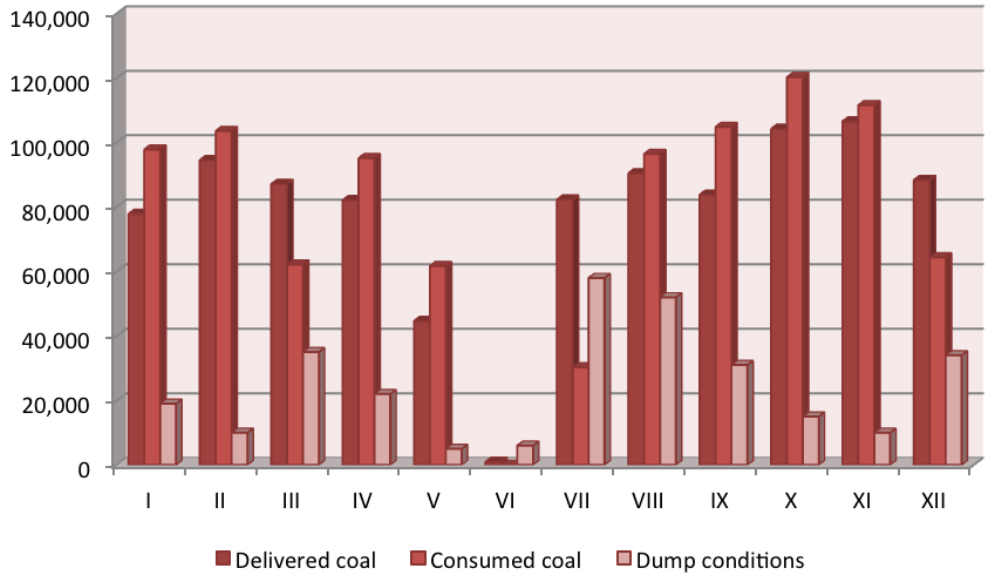
*Additional 268.285 [t] coals are at auxiliary waste dump Brod on 01.01.2013.

TPP BITOLA HEAVY OIL CONSUMPTION t

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
1.579	1.060	1.050	627	1.856	1.425	911	790	1.093	2.236	2.525	1.103	**16.255**

TPP OSLOMEJ COAL CONSUMPTION t

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Delivered coal	77.856	94.574	87.131	82.133	44.687	1.000	82.306	90.473	83.849	104.256	106.570	88.396	**943.231**
Consumed coal	97.856	103.574	62.131	95.133	61.687	0	30.306	96.473	104.849	120.256	111.570	64.396	**948.231**
Dump conditions	19.000	10.000	35.000	22.000	5.000	6.000	58.000	52.000	31.000	15.000	10.000	34.000	
Caloric value kJ/kg	6.417	6.305	6.181	6.724	6.891	0	7.668	6.641	6.247	6.068	5.774	5.951	**6.442**



TPP OSLOMEJ HEAVY OIL CONSUMPTION t

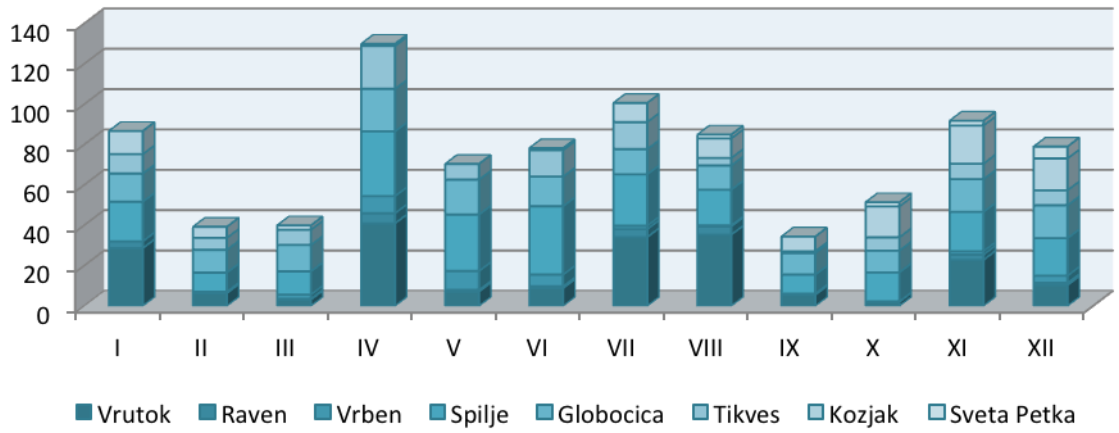
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
634	1.003	377	175	166	0	438	720	604	760	1.052	963	**6.892**

8. HYDRO ENERGY

In 2012 hydropower plants generated 887,3 GWh of electricity as follows: „Vrutok“ - 206,0 GWh (23 %) from total hydro generation, „Raven“ - 23,8 GWh (3 %), „Vrben“ - 33,2 GWh (4 %), „Spilje“ - 239,7 GWh (27 %), „Globocica“ - 169,8 GWh (19 %), „Tikves“ - 104,8 GWh (12 %), „Kozjak“ - 97,8 GWh (11 %) and „Sveta Petka“ - 12,2 GWh (1 %).

MONTHLY GENERATION (GWh) - HYDROPOWER PLANTS

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Vrutok	28,7	6,4	3,2	41	7,2	8,9	34,2	35,4	5,6	2,1	22,9	10,4	**206**
Raven	3,4	0,7	0,4	5	0,8	0,9	3,9	4,1	0,6	0,2	2,6	1,1	**23,8**
Vrben	0	0	2,1	8,5	9,4	5,8	1,7	0,5	0	0	1,7	3,6	**33,2**
Spilje	19,6	9,5	11,5	32,1	28	33,9	25,5	17,7	9,4	14,4	19,5	18,6	**239,7**
Globocica	14	11,3	13,1	21,1	17,3	14,7	12,5	12	10,7	10,8	16,2	16,3	**169,8**
Tikves	9,6	5,9	7,5	21,2	7,8	13,1	13,4	3,7	0,9	6,6	7,7	7,4	**104,8**
Kozjak	11,5	5,5	2,2	1,1	0	1	9,5	9,7	7,3	15,3	18,9	15,8	**97,8**
Sveta Petka	0	0	0	0	0	0	0	1,9	0	2,1	2,4	5,9	**12,2**
TOTALLY	**86,8**	**39,3**	**39,9**	**130**	**70,5**	**78,3**	**100,7**	**84,9**	**34,5**	**51,6**	**91,9**	**79**	**887,3**

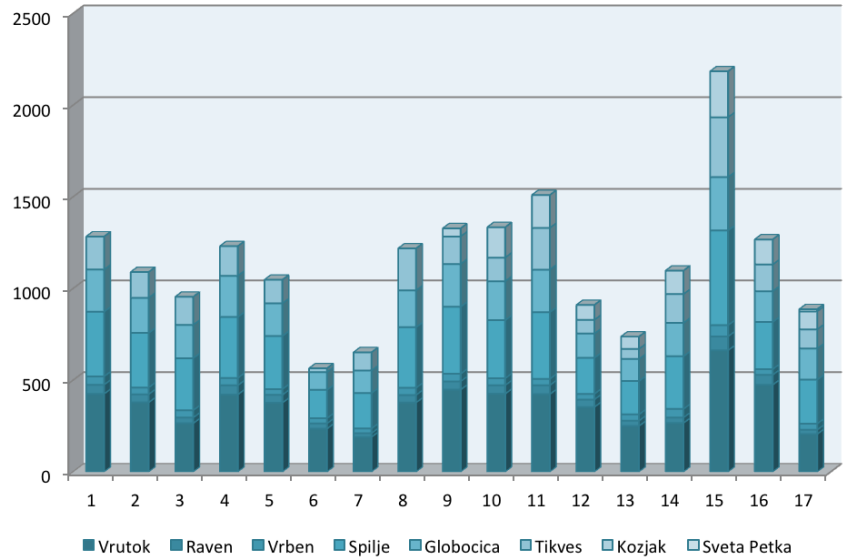


Electricity generation from hydro capacities in 2012 is lower for 380,6 GWh (30,02%) regarding 2011. Unfavorable hydrological parameters in the second half of 2011 and beginning of this year (decreased inflow of water in storages) resulted in decreased generation of hydropower plants regarding the previous year, however, with realized annual plan for generation.

ANNUAL GENERATION (GWh) - HYDROPOWER PLANTS

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vrutok	425,4	378,8	264,9	421,7	376,8	235,4	190,1	378,1	448,4	425,9	423,5	353,5	250	266,7	662,9	474,5	206
Raven	49,9	44,3	31,1	50,3	43,2	28,5	21,2	41,3	45,4	46,5	48,9	41,2	28,8	29,9	76,1	54,6	23,8
Vrben	45,5	37,1	40	40,3	31,4	28,7	25,6	39	41,2	38	34,7	30,8	34,4	46,7	61	31	33,2
Spilje	352,9	297,6	283,9	332,4	289,9	154,3	193,2	330,4	365,6	316,7	363,4	196	182	287,1	516,7	257,4	239,7
Globocica	229,6	191,6	182	225	178,2	96,8	122,7	201,1	233,5	212,9	232,6	132,6	120,2	182,1	291	167,6	169,8
Tikves	180,3	140,7	153,3	161,6	128,3	21,2	99,4	229	149,9	128,8	227,4	74,8	55,1	157,1	326,3	145,5	104,8
Kozjak	0	0	0	0	0	0	0	0	44,3	165,9	179,6	81,7	67,4	128	250,9	137,3	97,8
Sveta Petka	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,2
TOTALLY	1.283,6	1.090,1	955,2	1.231,3	1.047,8	564,9	652,2	1.218,9	1.328,3	1.334,7	1.510,1	910,6	738,0	1.097,6	2.184,8	1.267,9	887,3

HYDROPOWER PLANTS	**2012 GWh**	**2011 GWh**	**12/11 %**	**12 %**	**11 %**
Vrutok	206,0	474,5	-56,59	23,2	37,4
Raven	23,8	54,6	-56,39	2,7	4,3
Vrben	33,2	31,0	7,29	3,7	2,4
Spilje	239,7	257,4	-6,88	27,0	20,3
Globocica	169,8	167,6	1,31	19,1	13,2
Tikves	104,8	145,5	-27,96	11,8	11,5
Kozjak	97,8	137,3	-28,80	11,0	10,8
Sveta Petka	12,2	0,0		1,4	0,0
TOTALLY	**887,3**	**1267,9**	**-30,02**	**100,0**	**100,0**

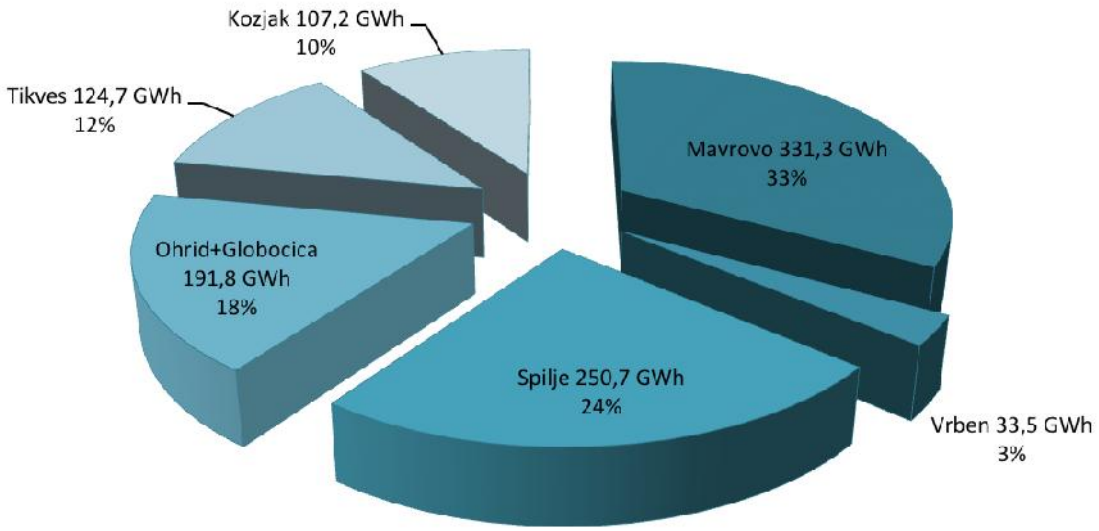


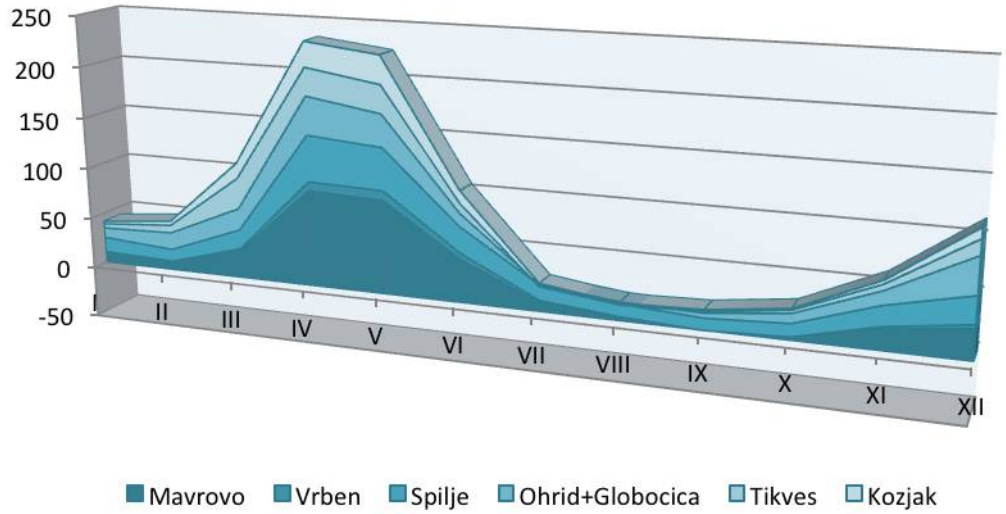
Review of monthly inflow in storages for 2012.

Total annual income in 2012 is 1.039,2 GWh, which is around 13,4% lower inflow from average annual inflow which is around 1.200 GWh.

INFLOW IN STORAGES (GWh)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Totally
Mavrovo	10,6	8,3	26,4	93,1	90	41,2	8,6	2,9	-0,3	2,8	19,5	28,2	**331,3**
Vrben	0	0	2,1	8,5	9,5	5,9	1,8	0,5	0	0	1,7	3,6	**33,5**
Spilje	14,7	12	18,8	44,8	40,9	25	14,8	12,2	11,3	12,2	18,8	25,3	**250,7**
Ohrid+Glo-bocica	9,7	16,9	21,2	37	31,5	12,6	0,1	1,6	4,7	9,1	13	34,5	**191,8**
Tikves	4,3	7,6	29,9	27	27,1	9,4	-1,9	-2,7	1,2	3	5,7	14,2	**124,7**
Kozjak	2,6	4,2	15	24,3	27,4	12,2	3,1	1,6	1,9	1,4	3,6	9,9	**107,2**
TOTALLY	**41,9**	**48,9**	**113,4**	**234,8**	**226,3**	**106,2**	**26,5**	**16**	**18,7**	**28,5**	**62,2**	**115,7**	**1039,2**


Kozjak 107,2 GWh
10%
Tikves 124,7 GWh
12%
Mavrovo 331,3 GWh
33%
Ohrid+Globocica
191,8 GWh
18%
Spilje 250,7 GWh
24%
Vrben 33,5 GWh
3%


250
200
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II
III
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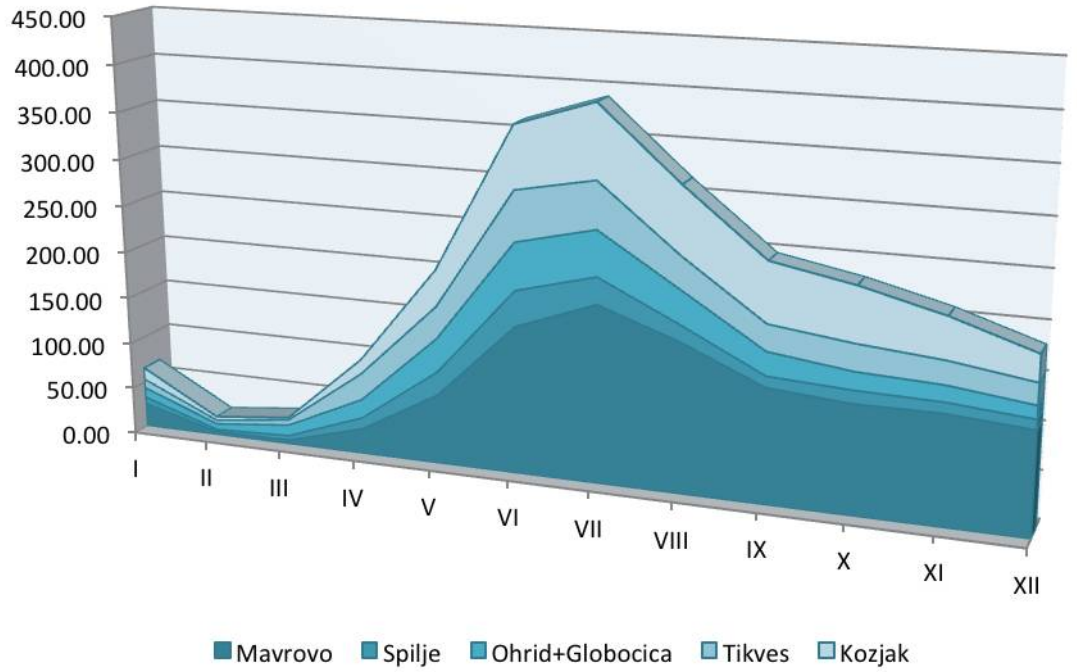
XI
XII
Mavrovo
Vrben
Spilje
Ohrid+Globocica
Tikves
Kozjak

Review of initial monthly condition of storages for 2012.

INITIAL MONTHLY CONDITION OF STORAGES (GWh)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Mavrovo	25,35	3,63	4,57	27,31	74,15	156,03	187,28	157,59	120,62	114,03	114,42	108,22
Spilje	7,58	2,44	4,79	12,00	24,61	37,41	28,28	17,48	11,80	13,60	11,28	10,45
Ohrid+Globocica	10,69	6,37	11,85	19,92	35,72	49,87	47,73	35,28	24,77	18,68	16,86	13,59
Tikves	9,58	4,13	5,79	28,13	33,86	53,08	49,37	34,08	27,64	27,88	24,20	22,11
Kozjak	12,87	3,91	2,52	15,24	38,46	65,90	77,14	70,74	62,61	57,13	43,14	27,76
TOTALLY	66,06	20,48	29,52	102,60	206,80	362,28	389,81	315,18	247,45	231,32	209,91	182,13



9. SUPPLY OF ELECTRICITY FOR NECESSITIES OF TARIFF CONSUMERS

- **Electricity supply**

The total quantity of 338.354 MWh electricity is supplied in 2012:

1. Regarding contracts for purchase and sale of electricity which AD ELEM concluded with suppliers of electricity, supply of 329.854 MWh was accomplished .
2. By operator EPS of Republic of Macedonia – AD MEPSO Skopje based on reserve power, there is supply of electricity in amount of 8.500 MWh.

Companies which execute electricity supplies:

1. *GEN-I DOOEL SKOPJE*
2. *EFT Macedonia DOOEL Skopje*
3. *RUNDAP DOOEL Skopje*
4. *EZPADA DOOEL Skopje*
5. *NERGY SUPPLY – M DOOEL Skopje*
6. *ELEM Trejd DOOEL Skopje*
7. *MEPSO AD Skopje*

Electricity supply per economic operators in 2012

Companies which execute electricity supply	Supplied quantities [MWh]:	Average supplied prices [EUR/MWh]:	Necessary assets [EUR]:
GEN-I DOOEL Skopje	76.560	113,87	8.717.557,20
EFT DOOEL Skopje	100.433	86,25	8.661.905,42

RUNDAP DOOEL Skopje	19.845	96,68	1.918.681,35
EZPDA DOOEL Skopje	16.380	142,79	2.338.908,90
ENERGY SUPPLY – M DOOEL Skopje	3.120	140,38	437.980,80
ELEM Trejd DOOEL Skooje	113.516	62,50	7.094.735,00
MEPSO AD Skopje	8.500	138,00	1.173.019,41
Totally	**338.354**	**89,68**	**30.342.788,08**

Regulatory Commission, after ceasing of reasons due to which was brought Decision for electricity supply for necessities of tariff consumers no. 02-1698/1 from 13.12.2011, according to which AD ELEM was obliged to accomplish electricity supply for necessities of tariff consumers on 23.07.2012 brought Decision no. 02-1250/1 to annul the same.

Namely, along with Decision no. 02-1250/1 from 23.7.2012, Energy Regulatory Commission obligates EVN Macedonia AD Skopje to act upon article 199, paragraph 5 from Energy Law starting from 1 October 2012 and taking into consideration article 199, paragraph 4, indent 1 from Energy Law.

Comparative data on monthly and annual level:

Compared with 2011 electricity supply on free market in 2012 is lower for 34,79 %.

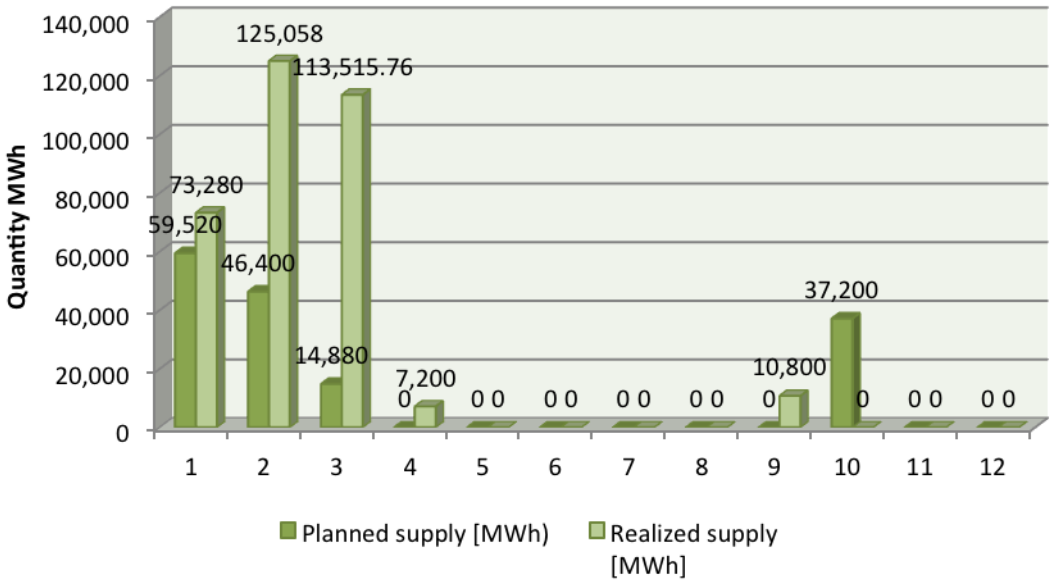
Comparative electricity supply data (2011–2012)

Period	Supplied electricity quantity [MWh]	Cost [EUR]	Averaged supplied price [EUR]
2011	505,906	40.866.649,98	80,78
2012	329,854	29.169.768,67	88,43
Change [%]	▼34,79%	▼28,62%	▲9,47%

Cost for electricity supply in 2012, compared to 2011 is lower for 28,62%, and average supply price is for 9,47% higher compared to average supply price in 2011.

Planned quantity for electricity supply for the period in 2012 is presented on the following chart compared to real supply quantity.

Plan and realization of supplied electricity

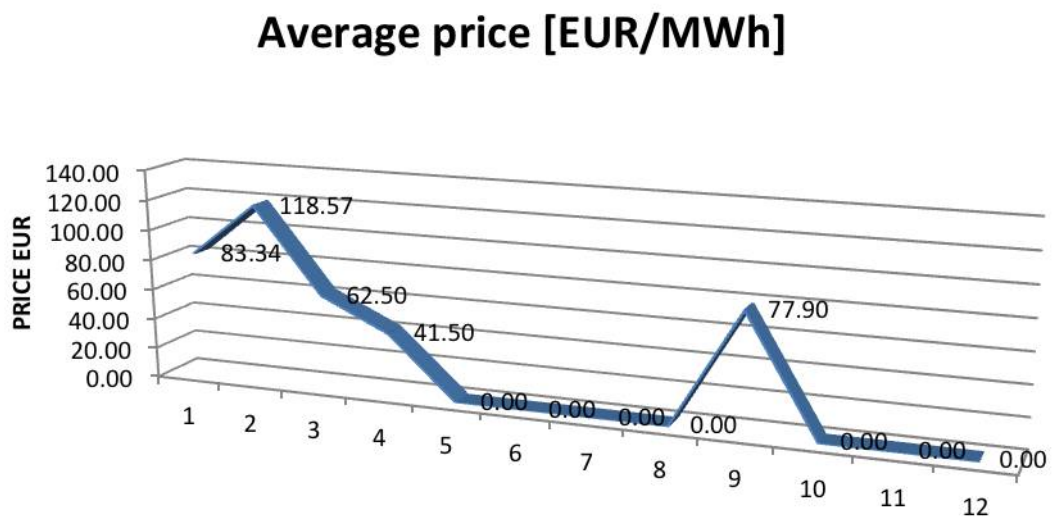


Planned and realized electricity supply on free market – 2012

Month	*jan.12*	*feb.12*	*mar.12*	*apr.12*	*may.12*	*jun.12*	*jul.12*	*aug.12*	*sep.12*	*oct.12*	*nov.12*	*dec.12*	*Totally*
Planned supply [MWh)	59.520	46.400	14.880	0	0	0	0	0	0	37.200	0	0	158.000
Realized supply [MWh]	73.280	125.058	113.515,76	7.200	0	0	0	0	10.800	0	0	0	329.853,76
Average price [EUR/MWh]	83,34	118,57	62,50	41,50	0,00	0,00	0,00	0,00	77,90	0,00	0,00	0,00	88,43
Realized total amount *1000 [EUR]	**6.107,06**	**14.827,85**	**7.094,74**	**298,80**	**0,00**	**0,00**	**0,00**	**0,00**	**841,32**	**0,00**	**0,00**	**0,00**	**29.169,77**

The average price of supplied electricity during 2012 is shown on the following chart.

Average price for supplied electricity on free market



10. SOLD ELECTRICITY SURPLUS

- **Sale of electricity surplus on auctions**

During 2012, AD ELEM accomplished electricity sale in total quantity of 419.163 MWh, including:

- In accordance with Contract for services no. 02-5296/1 from 4.11.2010 concluded between AD ELEM and ELEM Trejd DOOEL Skopje, electricity sale was accomplished in amount of *419.163 MWh*, with total value of 19.008.503,52 EUR.

Sold electricity quantities in 2012

Period	Sold enerrgy [MWh]	Average sold price[EUR/MWh]	**Total value of transactions [MKD/EUR]**
01.01.2013-31.12.2012	419,163	45,35	**19.008.503,52**

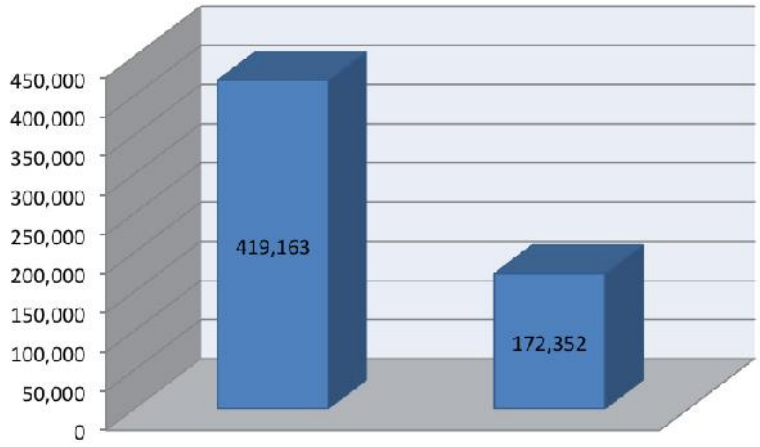
Comparative costs on annual level:

Comparative data of sold electricity surplus 2011 - 2012

PERIOD	Total [MWh]	In the country [MWh]	Abroad [MWh]	Average price [MKD/EUR]	**Total value of transactions [MKD/ EUR]**
2011	172.352	172.352	0	2.457,54 / 39,96	**423.575.131,98 / 6.887.400,27**
2012	419.163	419.163	0	2.789,03 / 45,35	**1.169.022.966,48 / 19.008.503,52**

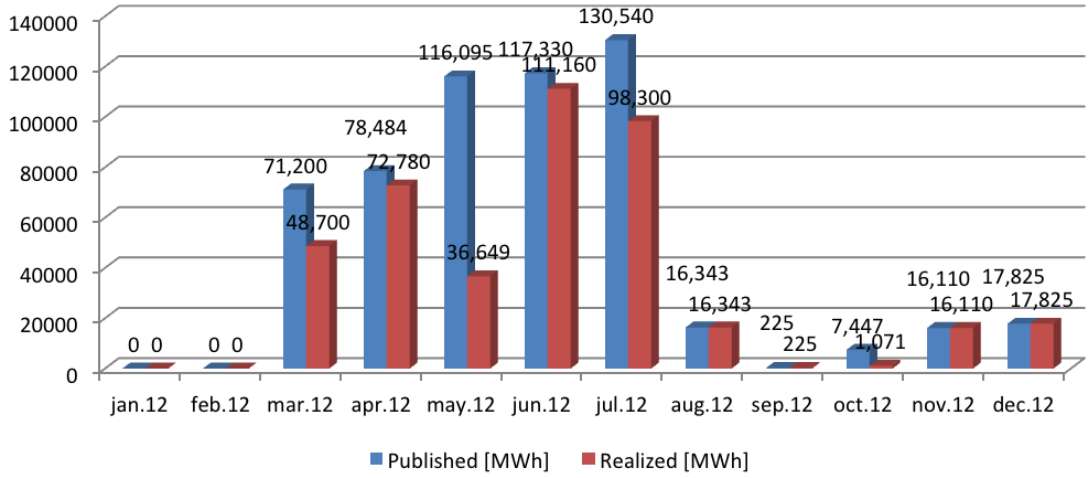
Cumulatively for 2012, AD ELEM accomplished sale of 419.163 MWh above quantity necessary for satisfying of tariff consumers compared to 2011 sold quantities are larger for 143,20%.

Realized surplus sale 2012 and 2011



Comparison of offered electricity quantity for sale with real sold quantity during 2012 is shown on the following chart.

Published and realized electricity sale in 2012



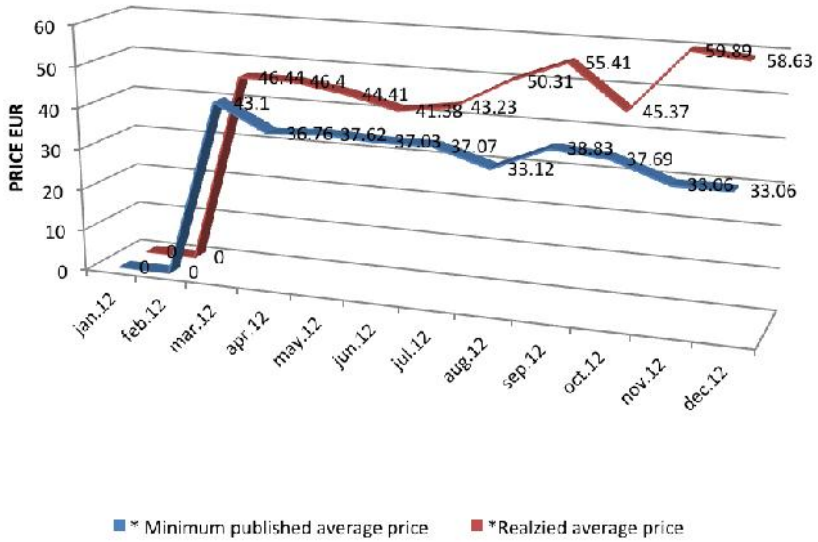
Plan and realization of electricity surplus sale – 2012

Month	*jan.12*	*feb.12*	*mar.12*	*apr.12*	*may.12*	*jun.12*	*jul.12*	*aug.12*	*sep.12*	*oct.12*	*nov.12*	*dec.12*	*Totally*
Published [MWh]	0	0	71.200	78.484	116.095	117.330	130.540	16.343	225	7.447	16.110	17.825	**571.599**
Realized [MWh]	0	0	48.700	72.780	36.649	111.160	98.300	16.343	225	1.071	16.110	17.825	**419.163**
* Minimum published average price	0	0	43,1	36,76	37,62	37,03	37,07	33,12	38,83	37,69	33,06	33,06	**37,54**
*Realzied average price	0	0	46,44	46,4	44,41	41,38	43,23	50,31	55,41	45,37	59,89	58,63	**45,35**
Realized total amount *1000 [EUR]	**0**	**0**	**2.261,53**	**3.376,71**	**1.627,61**	**4.599,66**	**4.249,80**	**822,22**	**12,47**	**48,59**	**964,83**	**1.045,08**	**19.008,50**

***Minimum published/realized average price represents aerage of prices offered/obtained during sale of electricity surplus of ELEM Trejd for the necessities of AD MEPSO, EVN, TE-TO, etc.**

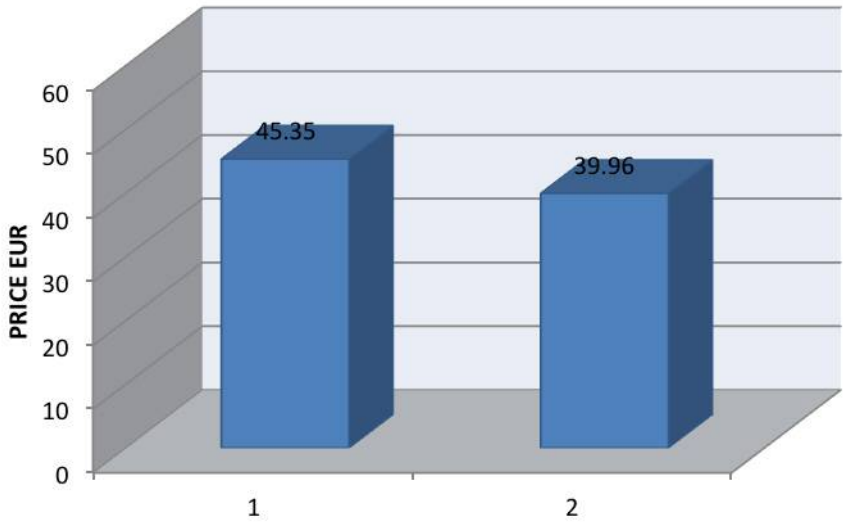
Following chart shows average electricity price which is realized during 2012 compared to minimum average price. In 2012 minimum average price was 37,54 EUR, and achieved sale average price 45,35 EUR which is higher than minimum average offered price for 20,80%.

Minimum offered and realized average electricity price – 2012



Achieved electricity sale average price, realized during 2012, is higher compared t achieved sla average price in 2011 for 13,49%.

Realized average electricity price 2012-2011



Plan and realization of electricity surplus sale ad electricity supply

January (2012-2011) – December (2012-2011)

	Month	Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Okt.	Nov.	Dec.	Totally
Sale of surpluses of electricity [MWh]	Published quantities of electricity for sale [MWh]	2012	0	0	71,2	78,484	116,095	117,33	130,54	16,343	225	7,447	16,11	17,825	**571,599**
		2011	6,571	5,3	25,02	59,64	38,024	840	5,736	6,474	4,488	25,631	5,568	5,568	**188,86**
	Realized [MWh]	2012	0	0	48.700	72.780	36.649	111.160	98.300	16.343	225	1.071	16.110	17.825	**419.163**
		2011	6.695	5.472	25.159	48.840	35.196	840	5.736	5.454	4.488	23.336	5.568	5.568	**172.352**
	*Minimum average price	2012	0	0	43,10	36,76	37,62	37,03	37,07	33,12	38,83	37,69	33,06	33,06	**37,54**
		2011	34,66	34,36	32,89	33,18	33,14	34,36	34,36	34,76	36,06	33,24	34,36	34,36	**33,46**
	* Realized average price	2012	0,00	0,00	46,44	46,40	44,41	41,38	43,23	50,31	55,41	45,37	59,89	58,63	**45,35**
		2011	43,81	44,52	39,93	39,70	37,99	44,52	44,52	43,75	39,80	37,06	44,52	44,52	**39,96**
	Realized total amount [EUR]	2012	0,00	0,00	2.261.528,45	3.376.714,86	1.627.614,40	4.599.658,89	4.249.803,30	822.216,33	12.467,25	48.592,39	964.827,90	1.045.079,75	**19.008.503,52**
		2011	293.283,88	243.613,44	1.004.677,88	1.939.110,00	1.336.054,72	37.396,80	255.366,72	238.619,88	178.601,76	864.900,47	247.887,36	247.887,36	**6.887.400,27**

Procurement of electricity [MWh]	Planned supply [MWh]	2012	59.520	46.400	14.880	0	0	0	0	0	0	37.200	0	0	**158.000**
		2011	61.000	39.000	0	18.000	0	26.000	97.000	64.000	0	0	18.000	54.000	**377.000**
	Realized supply [MWh]	2012	73,28	125,058	113,516	7,2	0	0	0	0	10,8	0	0	0	**329,854**
		2011	30,66	19,728	0	0	0	22,1	42,16	48,96	87,27	20,34	111,84	122,848	**505,906**
	Average price [EUR/ MWh]	2012	83,34	118,57	62,50	41,50	0,00	0,00	0,00	0,00	77,90	0,00	0,00	0,00	**88,43**
		2011	55,81	55,83	0,00	0,00	0,00	68,43	72,07	58,73	79,65	79,20	80,76	106,10	**80,78**
	Realized total amount [EUR]	2012	6.107.060,00	14.827.853,67	7.094.735,00	298.800,00	0,00	0,00	0,00	0,00	841.320,00	0,00	0,00	0,00	**29.169.768,67**
		2011	1.710.987,71	1.101.414,24	0,00	0,00	0,00	1.512.233,64	3.038.471,20	2.875.176,00	6.951.429,60	1.610.894,25	9.031.870,54	13.034.172,80	**40.866.649,98**

Power reserves from JSC MEPSO	Realized supply [MWh]	2012	0	4.500	0	4.000	0	0	0	0	0	0	0	0	**8.500**
		2011	0	0	0	4,8	0	0	4,8	0	14,4	9,6	9,6	4,8	**48**
	Average price [EUR/ MWh]	2012	0	109,04	0,00	170,59	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**138,00**
		2011	0,00	0,00	0,00	0,75	0,00	0,00	0,75	0,00	0,75	0,75	0,75	0,75	**0,75**
	Realized total amount [EUR]	2012	0,00	490.677,42	0,00	682.341,99	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	**1.173.019,41**
		2011	0,00	0,00	0,00	3.600,00	0,00	0,00	3.600,00	0,00	10.800,00	7.200,00	7.200,00	3.600,00	**36.000,00**

11. CONCLUSIONS

- Electricity generation of AD ELEM in 2012 is 5.369,9 GWh, which regarding the planned 5.700,6 GWh with generation plan, is realization of 94,2%.

- Thermal electricity generation for 2012 is 4.475,7GWh.

Thermal generation is realized in conditions of:

- Long-term planned outage of TPP„Bitola 3“ due to necessary modernization and automation;
- Examination of installed equipment from accomplished modernization in 2010 within the guarantee period of TPP „Bitola 1“;
- Unplanned outages of thermal power plants.

TPP „Bitola 3“ did not operated for 113 days due to time necessary for modernization and automation of turbo aggregate and boiler modernization, TPP “Bitola 1” due to examination of installed equipment from realized modernization in 2010 within guarantee deadline did not work for 27 days and TPP „Bitola 2“ did not operated 42 days due to defects with UPS- supply and due to turbine defect.

Regarding last 2011, generation of thermal power plants was decreased for 300,0 GWh (6,3%), and regarding Generation Plan for 2012 it represents realization of 91,7%.

REK “Bitola” realized generation of 3.971,0 GWh (88,72% from total thermal generation), while REK “Oslomej” generated 504,7 GWh (11,28% of total thermal generation).

In order to achieve this result, mines Oslomej“, “Suvodol” and “Brod-Gneotino” with all available human force and mechanization exploited approximately 7,328 milion tons of coal due to necessities of thermal units.

- Hydro generation for this year is 887,3 GWh. Regarding generation plan for 2012, hydro generation Is higher for 75,4 GWh (9,3%).

- Total annual inflow for 2012 is 1.039,2 GWh, and it is approximately 13,4% lower than average annual inflow of around 1.200 GWh.

  Decreased inflow is result of extremely unfavorable hydrological parameters respectively draught in the second half of 2011 and the first two months of 2012 and it contributed for alarming low level of storages at the beginning of this 2012. Unfavorable hydrological parameters continued during the fall of 2012.

- Due to draught, decreased generation potential for generation of hydropower plants, planned and unplanned outages of thermal power plants on one side, and rapid growth of consumption during winter months on other side, due to electricity necessities of tariff consumers, from 1.1.2012 to 30.9.2012 AD ELEM supplied 329,854 GWh, which regarding the planned 158 GWh, is increase of 171,854 GWh or 109%.

  Total amount for electricity supply in 2012 is 29,16 million Euros per average price of supplied electricity in 2012 of 88,43 euros/MWh. Compared with 2011, when this item was 80,78 euros /MWh, electricity supply price on pen market is increased for 9,47%.

- Electricity surplus sale, in accordance with possibilities, AD ELEM continued to accomplish it in transparent and non-discriminatory manner, organizing electricity surplus auctions. During 2012, 419,163 GWh of electricity are sold and it is 246,811 GWh (143,20%) more than sold 172,352 GWh in 2011.

INVESTMENTS

Electricity necessities in Republic of Macedonia are increasing constantly and generation in hydro and thermal power plants is growing continuously. Development strategy of AD ELEM gives priority to extending of generation facilities from renewable energy especially electricity generation of wind and water.

Development plans of JSC "Macedonian Power Plants" are directed towards implementation of the best practices and strategies for attracting investors as well as development and implementation of practices for promotion of renewable development and environmental protection. Construction of new facilities is priority in development plans of the company, and as well as rehabilitation and modernization of existing facilities. AD ELEM accomplishes ambitious program in order to stress and promote economic development of the entire society.

JSC "Macedonian Power Plants" continues the investment activities for improving and modernization of existing facilities and simultaneously, preparations for construction of new generation facilities are ongoing. We started the largest investment cycle from the existing of the company in amount of 37 million Euros in 2009 and during next year it grew in 50 million Euros. The trend continued in 2011 in amount of approximately 61 million Euros and it culminated in 2012 with investments of almost 100 million Euros. In accordance with business and investment plans, our company shall continue with activities for further growth and development of the company and providing stable and renewable development of energy power capacities.

MINES

Surface mine „Deep Underlying Seam“

he area of the deposit DUS is situated in the exploitation field of mine Suvodol and it spreads over approximately 3 km^2 respectively 1/3 of the entire area affected with main coal seam (10 km^2). Deep underlying complex is under the main productive seam of the deposit and there are 1-18 seams of coal. The average thickness of coal seam in Deep Underlying seam is 14,97 m.

Analysis and interpretation of accomplished research works for examination of DUS emphasizes as the most economically interested two underlying seams of coal: I – underlying seam and II-underlying seam respectively main seam of DUS.

During 2004, detailed geological and geotechnical researches were accomplished and technical documentation was prepared where all necessary parameters were obtained for geological construction, engineering – geological and geo-mechanical characteristics. These research works determined geological reserves of 55.000.000 tons of coal where exploitation reserves are 50.000.000 tones with overburden coefficient 1:4,7 (m^3/t).

The exploitation technology of the „Deep Underlying Seam“consists of continuous ETS systems with utilization of newly supplied equipment of Surface Mine “Suvodol” and supply of additional new equipment. Transport of coal excavated from DUS shall be accomplished by current belt conveyor system used in mine Suvodol.

During 2012 construction of drainage wells of SM “Deep Underlying Seam” is realized and its accomplishment shall finish one very important moment from opening process of mine DUS and it enables further operation for excavation and exploitation of coal.

Coal deposit “Mariovo”

JSC “Macedonian Power Plants” – Skopje continuously and systematically takes appropriate measures for activities for additional exploration of potential deposits for coal exploitation within its development policy for timely providing of exploitation coal reserves. Researches in coal deposit “Mariovo” should be mentioned in this determination.

AD ELEM during 2009 and 2010 accomplished additional research and preparation of technical documentation (elaborates) for coal deposit “Mariovo”. Prepared elaborates have characteristics of collective elaborates respectively except latest sublimated results, results from previously accomplished explorations and examinations are taken into consideration. Commissioning of the coal mine with underground exploitation “Mariovo” would be real base and good perspective for saving this area from passiveness and emigration.

During 2012, Main mining design for opening mine with underground exploitation in Mariovo by Premogovnik Velenje, Slovenia was accomplished and also Study for environmental impact assessment was prepared.


ABB

THERMAL POWER PLANTS

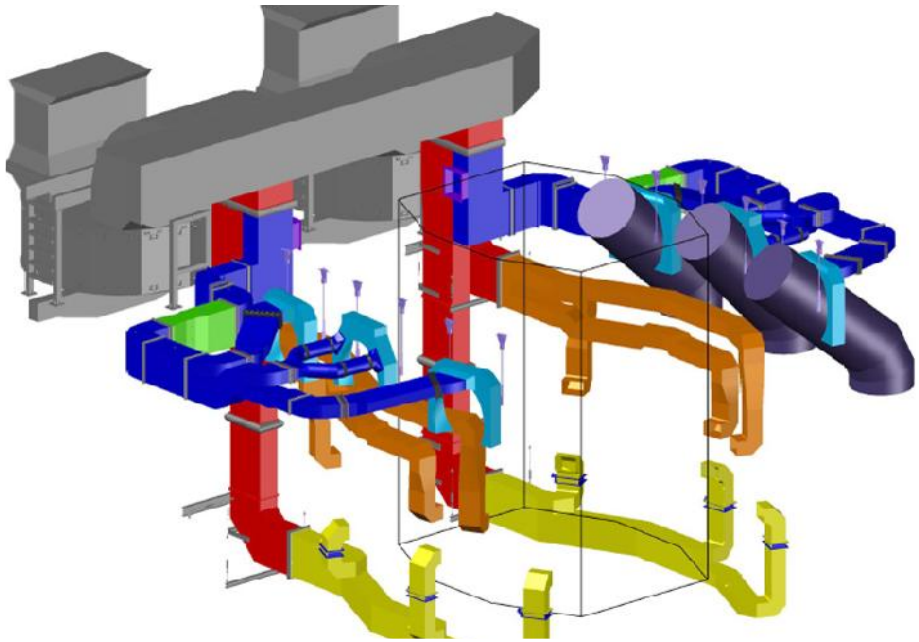
Revitalization and modernization of TPP "Bitola"

The Power Plant has been in operation for 20 years. The three units in TPP Bitola started with operation in 1982, 1984 and 1988 respectively. Each unit has a capacity of 225 MW_{el} and consumes about 2 million tons of coal annually.

The Project includes three phases:

1. Revitalization and modernization of the turbines, generators and automation in TPP Bitola;
2. Revitalization and modernization of the boilers and decreasing of the NOx in TPP "Bitola" and modernization of the cooling towers;
3. Revitalization and modernization of TPP "Bitola" with decreasing of SOx and dust.

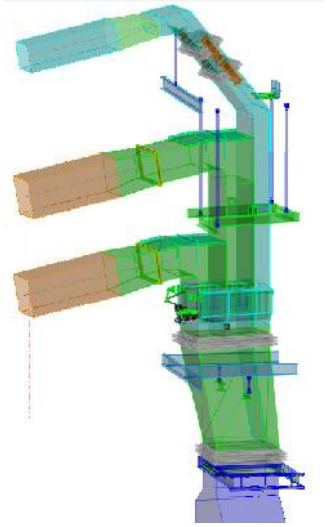
Modernization and revitalization of turbines, generators and automation in TPP "Bitola" shall extend operation lifetime of TPP "Bitola" for 120.000 hours, flowing part of boilers shall be modernized, turbines and protection system shall be regulated and modernized, parts of generator shall be modernized, dynamic diagnostic monitoring of the unit shall be modernized, technological process in TPP shall be automated, coefficient of utilization shall be increased, power shall be increased for additional 8,32 MW per unit or 24,96 MW for TPP.



Modernization and Revitalization of the boilers and reducing of NOx in TPP "Bitola" and modernization of the cooling towers

Revitalization of boilers is expected to:

- Increasing of CU (coefficient of utilization) of boilers, i.e. providing production of 700 t/h superheated steam (545^{0}C, 140bar), with decreased and variable coal quality;
- Examination, determining of existing condition of heating areas, replacing the same in accordance with examination results, and at the same time, extending their lifetime for 120.000 hours;



- Examination and modification of the system for preparation of coal dust, aero mixture, as well as combustion system in order to be provided reduction of NOx during work with coal with variable and worsen quality. After accomplished modernization NOx emission must not be higher than 200mg/Nm^3 (in accordance with Directive 2001/80/EC)

The Contract for modernization of boilers and reducing of NO_x for the three units, which has been signed with Babkok Borsig on 16.12.2011, is ongoing realization phase. Realization of Modernization of boiler and reducing of NO_x of unit 3 has been finished in 2012.

Modernization and Revitalization of TPP Bitola with reducing of SOx and the dust

The last, third phase from the Modernization and revitalization of TP Bitola is in initial stage. Therefore, Feasibility study from Yokogawa Electric Corporation is prepared. Feasibility study was initiated in September 2011, **and the final version of the study will be submitted to JSC ELEM in April 2012.**

Feasibility study has to offer technical and economical description of justification for installing of the equipment, aauxiliary facilities as well as the technology for desulphurization of the exhaust gasses in the boilers in TPP Bitola, according the requested parameters of the exhaust gasses, respectively according to the latest directives of the EU in which sulfur oxides are limited to 200mg/Nm^3. Selection of the technology for the desulphurization will be wet method for desulphurization, respectively lime/gypsum (main substance $CaCO_3$, and by-product will be gypsum).

This project will achieve the allowed limit values for emission of SO_x and dust, according EU Directive for this type of plant.

Heating of Bitola, Novaci and Mogila

Concerning the technical characteristics of the equipment, technological concept, location (close to settled areas), as well the experience from similar TPP, there is a serious base for taking into account the possibilities for providing heating of Bitola, Mogila and Novaci. Rural communities Mogila and Novaci shall be able to use heating energy for greenhouse production.

Reconstruction of turbines of one thermal unit in REK "Bitola" was accomplished in 2012 and it cost 2 million Euros. During modernization of turbine unit 3, entire regulated subtraction of steam is enabled with embedding of protection of new overcurrent pipelines between cylinders for high and low voltage and it shall be realized in TPP "Bitola 2".

After preparation of project documentation, AD ELEM shall begin with construction of heating grid.

Implementation of this project shall considerable substitute electricity used for heating purposes, which will increase reliability of distribution grid. Use of oil and trees for heating shall be decreased and simultaneously emission of greenhouse gases shall be lower.

HYDROPOWER PLANTS

HPP „Boskov Most“

HPP Boskov Most is complex hydro energy system, which provides entire exploitation of the hydro potential of river Mala Reka, respectively its affluents Tresonce, Rosoki, Lazaropolska Reka, Valovnica, Garska, Zvoncica and Belesnica, and its basin is situated in the west part of Republic of Macedonia.

In 2002, Paul Rizzo & Associates Company from Pennsylvania, USA, made Feasibility study, which basic conclusion was that in order to increase the cost-effectiveness of the HPP Boskov Most Project, it is necessary to increase the installed capacity of the Power Plant, from 45 MW, as it is defined in the previous Preliminary and Main Design, to 70 MW; where the increased installed capacity would be achieved by using the same amount of water from the intakes and the storage, i.e. without any changes of intake water quantities in the basin, but with planning of production units with higher capacity.

We announced prequalification notice during 2012, MEPSO prepared Analysis for connection of HPP “Boskov Most” to transmission grid in June, and Draft-study for connection of HPP “Boskov Most” to transmission grid in December. In October 2012 we received decision for ESIA (ESIA-EnvironmentSocialImpactAssesment). We prepared tender documentation for electric-mechanical equipment and afterwards, we announced tender for electrical and mechanical equipment and prequalification for LOT 1and LOT 2 – civil engineering works were finished and report was submitted to bidders.

Revitalization of HPP – second phase

Project “Revitalization of HPP – second phase” includes the following activities:

1. Rehabilitation of generators – HPP “Vrutok”
2. Unit transformers – HPP “Vrutok”
3. Regulation transformers – HPP “Vrutok”
4. 35kV transformer – HPP “Raven”
5. Replacement of hydro-mechanical equipment (gates, aeration valves, system for lubrication of bearings, system for cleaning of entrance trashrack) – “Mavrovo” system
6. Heightening of dam Leunovo
7. Revitalization of Toljane tunnel, Sarski channel and intake of Sarski vodi
8. Revitalization of grouting curtain – HPP “Spilje”
9. New monitoring equipment of dams (Mavrovo, Globocica, Spilje, Tikves)

Along with accomplishment of the planned activities, the entire installed capacity of hydropower plants in the system of JSC ELEM shall be increased for 18,31 MW, as well as additional production of electricity of around 50 GWh.

In 2009, Protocol was signed between the governments (MK / Germany), which is secured by 60 million Euros for the energy sector in the Republic of Macedonia, out of which 27.1 million Euros for the Revitalization Project of Hydro - Phase II.


KONČAR
ECM

The following activities are realized in 2012:

- Tender LOT A for automation of dam auscultation. Generation and delivery of equipment by contractor is accomplished continuously. Civil engineering works for placing of cables at Mavrovo dam are finished.
- Tender LOT B1 for revitalization of Gorna Radika canal. In 2012 contractor Beton finished canal revitalization.
- Tender LOT B2 for revitalization of Sarski Vodi canal. Contract with Beton, Skopje is signed on 23 July 2012.
- Tender LOTB 3 for heightening of dam Leunovo. Evaluation of tenders is finished and contractor is selected.
- Tender LOT B4 for revitalization of Toljane tunnel. Final report for evaluation is approved by KfW bank.
- Tender LOT B5 for grouting curtain in Spilje. Contract with Strabag and GIM – Skopje is signed. Contact grouting is finished in the gallery and other activities are ongoing.
- Tender LOT 1 for generators. Main design is prepared. Production of parts for generators is ongoing.
- Tender LOT 2 for transformers. Main design is prepared and approved by ELEM. Contractor started with equipment generation.
- Tender LOT 3 for valves. Contract is signed in November 2012 with Litostroj from Slovenia. Contractor started preparation of basic design.
- Tender LOT 4 for gates. Contract is signed in November 2012 with "Iskra Impuls" from Slovenia. Contractor started preparation of basic design.
- Tender LOT 5 for trashracks. Contractor is signed in November 2012 with „ErhardMuhr" from Germany. Contractor started preparation of basic design.

Lukovo Pole

The storage "Lukovo Pole" is located in the northwest part of Macedonia at the border with Shar Planina and Korab massif. The main quantities of water, about 45,95 x 10^6 $м^3$, or with average annual discharge of Q = 1,457 $м^3$/sec in the future storage will collect from the r.Crn Kamen where construction of rock filled dam with central clay core is planned . The Dam "Lukovo Pole" is located at r. Crn Kamen in its upper part, namely close to the inflow of the both rivers that are forming the r. Crn Kamen. It is planned to be 71,00 m high and allows storage with total volume of 39 x 10^6 $м^3$ of water and useful volume of 38 x 10^6 $м^3$ of water that will generate 104,24 GWh electricity annually. Within the catchment of the Korab waters, construction of the headrace channel in length of about15 km is planned and it shall catch the Korab waters from the first intake Potok 3 to the inflow in the storage "Lukovo Pole" with total annual flow of about 29,328 x 10^6 $м^3$ or with average annual flow of Q = 0,930 $м^3$/sec.). The intake of the Korab waters is located in the northwest regions of Macedonia and is spread along the entire length of the Korab massif, at altitude above the sea level of about 1620,00 m.

Preparation of technical documentation was accomplished during 2012 and, simultaneously with elaboration of project, Social and Environmental Impact Assessment Study was prepared and it is in final phase. Due to its necessities, many public consultations with NGOs and stakeholders were held including the affected municipalities.

RENEWABLE SOURCES OF ELECTRICITY AND ENERGY EFFICIENCY

Wind Park

Realization of Project Wind Park (WP) "Bogdanci" started in April 2011 with signing of Loan Agreement with KfW Bank, Separate Agreement and Guarantee Agreement and adopting of Guarantee Agreement of Republic of Macedonia by Government and Parliament of Republic of Macedonia. The amount of loan is 32.900.000 Euros. The value of project WP "Bogdanci" was calculated at approximately 55.500.000 Euros.

Consultant for project realization is FICHTNER from Germany. Contract with Consortium TERNA – SIEMENS was signed for **LOT 2 –** construction of access roads, platforms, MV cabling and transmission line from SS "Bogdanci" to SS "Valandovo" in January 2012.

Contract with SIEMENS – Denmark for **LOT 1 –** construction of fundaments for wind turbines as well as supply, transport and assembly of 16 wind turbines with capacity of 2,3 MW together with management system in August 2012.

Contract with DASS Engineering – Macedonia is signed for **LOT 3** – equipment in SS "Valandovo" for connecting of WP "Bogdanci" to EPS of Republic of Macedonia in December 2012.

During 2012 we concluded Contract for Lot 2 - construction of access roads, substation and transmission line for connection of EPS of Republic of Macedonia – January 2012. We provided permits for construction of main access road and substation. In august 2012 we concluded Contract for Lot 1 – supply of equipment, and in December we concluded Contract for LOT 3 – expanding of SS "Valandovo".

Project "Wind Park 'Bogdanci'" is registered in UNFCC and in accordance with clean development mechanism in November 2012.

SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PROTECTION

Development strategy of our company gives priority to expanding of generation capacities for renewable energy especially to generation of electricity from wind and water. Each our activity includes component for environmental impact in the phases for planning and designing. News and information are available on website: www.elem.com.mk, where studies and elaborations for impact assessment of project over the environment are published in order to be available for the public.

JSC "Macedonian Power Plants" has formed team which coordinates environmental programs and it enables controlling of ecological execution of projects. During construction of new power plant, there is necessity for actively involving of the public and local communities in all phases of the project. That involving is part of legal requirements for impact assessment of projects over the environment.

REALIZED ECOLOGICAL PROJECTS IN REK "BITOLA"

Realization of project for modernization of turbines, generators and automations in TPP "Bitola" was finished in 2012 including unit 3. During period August – November 2012 successfully was revitalized and modernized boiler plant of unit 3 with decreasing of emissions of NOx in accordance with Directive 2001/80/EC.

Contract for supply and assembly of equipment for measuring of emission of dangerous gases in the air was signed with FARMAHEM – SKOPJE.

Contract for supply of one year acacia seedlings for recultivation of areas from waste dump for waste and ash was signed.

REALIZED ECOLOGICAL PROJECT IN REK „OSLOMEJ"

Construction of belt conveyor system for wet ash removal of ash and waste produced in TPP "Oslomej" was finished during 2012. Construction of the system started in May 2011, while trial commissioning was on 22.08.2012. Construction of the system is finished on 31.12.2012 when it is considered to be commissioned in ordinary use. The total value of investment is 4.000.000 EUR, out of which 3.230.000 EUR were realized in 2012. Financing of system construction is with own assets of AD ELEM.

Construction of this system is strictly ecological and it permanently resolves transport and dumping of produced ash and waste from Thermal Power plant in arranged waste dump located in depression of mine "Oslomej-Istok" at spots where excavation of coal is finished. Technology for transport and dumping of ash and waste as thick hydro mixture (with proportion 1:1) eliminated flying process of ash particles in the atmosphere caused by circulations of wind and air.

This project is capital for REK "Oslomej" because permanently resolving dumping of ash and waste in ecologically acceptable manner.

Measures for arranging of old waste dump are being accomplished and part of it is sealed (covered with layer of clay and soil); the second phase of reconstruction and modernization of electrical filter in TPP "Oslomej" is finished and it includes replacing of electrodes at both chambers of electrical filter (the first two are changed in 2011 when automatic regulation of operating of all four chambers is embedded) and it provides larger efficiency in the operation.

REALIZED ECOLOGICAL PROJECTS IN HPP "TRESKA"

Acacia and pine seedlings were planted upstream and downstream nearby dam "Kozjak" and "Sv. Petka" for stabilizing of slopes and horticultural arranging.

IMPLEMENTATION OF STANDARD ISO 14001:2004

AD ELEM concluded contract for engaging and using of consultant services with company "Makkontrol" from Skopje for implementation of system for environmental management according to the requirements of ISO 14001:2004 at the beginning of 2012.

The aim of Contract was providing of consultant services for implementation of system for environmental management in accordance with requirements of ISO 14001:2004 and certification of the same by international independent accredited certified authority.

Therefore, operation teams were formed and they coordinated activities as organization parts. Establishing of system for environmental management consisted of preparation and application of procedures and tables which determined impact aspects over environment and there was plan for mitigation measures, and manner for treatment of waste waters and dangerous materials was determined. Certification examination was accomplished by certification company SGS "Beograd" and it resulted in issuing of certificate ISO 14001:2004 in July 2012.

SGS

Сертификат CH12/1138.00

Системот за управување на

АД Електрани на Македонија, во државна сопственост, Скопје АД ЕЛЕМ - Скопје

Ул. 11. Октомври бр. 9, 1000 Скопје, Македонија

е оценет и сертифициран дека ги исполнува барањата на

ISO 14001:2004

За следните активности

Производство на електрична и топлинска енергија и дистрибуција и снабдување со електрична и топлинска енергија.

Сертификатот е валиден од 3. јули 2012. до 2. јули 2015. доколку надзорните проверки се задоволителни.
Ресертификациската проверка треба да се изврши пред 20. јуни 2015.
Издание 1. Сертифицирано од јули 2012.

Овој сертификат е за повеќе локации
Информации за дополнителни локации се наоѓаат на следната страна

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SGS Société Générale de Surveillance SA Systems & Services Certification
Technoparkstrasse 1 8005 Zurich Switzerland
t +41 (0)44 445-16-80 f +41 (0)44 445-16-88 www.sgs.com

Страна 1 од 2

SYSTEM CERTIFICATION ISO 14001 SGS

SWISS CERTIFICATION

Accreditation No. SCESm 017

ELEM MACEDONIAN POWER PLANTS

FEASIBILITY STUDY FOR PROJECT "SOLAR POWER PLANT - BITOLA"

AD ELEM engaged reputable designing-consultant company "Artelia/Carbonium" from France, supported by Government of Republic of France, for project "Solar Power Plant in Bitola", the first of this kind in Republic of Macedonia and it was realized in 2012.

Project was divided in three phases: preparation of preliminary study, designing of CSP (Concentrated solar power) plant (plant which uses solar concentrators for generation of heat and which shall be integrated in the existing power plant) and announcing of tender as last third phase.

Taking into consideration the latest environmental conditions, aero contamination and global warming as consequence of high emissions of greenhouse gasses from large combustion plants, it is more than certain that this kind of project which would partially reduce those emissions due to replacement of fossil fuels (in our case, lignite from mines Suvodol and Brod-Gneotino) and also their saving to certain percentage, is rather acceptable and ecologically suitable. Study would demonstrate the large capacity of CSP (Concentrated solar power) technology for enabling clean, flexible and reliable energy in future.

Elaborated Studies in 2012 :

- JICA-„ *On Fact Finding Mission on The Flue Gas Desulphurization Construction Project For Bitola Thermal Power Plant between Japan International Cooperation Agency and Elektrani na Makedonija*" –May 2012;
- ARTELIA/Carbonium - feasibility study for „ *Solar concentrated thermal power plant TPP Bitola*" - September 2012;
- Ecological monitoring in the phase before construction of HPP "Boskov Most" started to be realized in 2012.

AIR EMISSIONS

Total air emissions in 2012 are registered in accordance with methodology for following of emission of contamination substances in air applied by "Tehnolab" DOO Skopje and it is accomplished in accordance with the following standards: МКС ISO 9096: 2008, МКС ISO10780: 2008, МКС EN 14790: 2007, МКС ISO 7935: 2008, МКС ISO 12039: 2008 и МКС ISO 10849: 200

	REK Bitola		REK Oslomej	Energetika	
				Heavy oil	Natural gas
SO_2	t	66.891,81	15.740,80	-	-
CO	t	892,5	2.288,29	-	2,9
NO_x	t	16.643,33	2.089,12	-	15,9
CO_2	t	10.448.476,97	1.025.123,35	-	-
Dust	t	9.256,92	1.880,87	-	-
Ash	t	1.547.492,00	265.000	-	-
Slag	t			-	-

WASTE WATERS

Treated waste waters		REK Bitola	REK Oslomej	Energetika
Quantity of waste waters from chemical-technological Office	m^3	32.819	670.000	

Average monthly inflows in storage (m^3/s)

2012	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annual average (m^3/sec)
HPP Tikves	9,11	18,33	59,53	52,81	46,69	19,53	4,91	-0,61	3,32	5,81	11,24	26,24	**21,41**
HPP Mavrovo	1.867	1.722	7.819	27.309	26.241	12.831	2.282	0.955	0.664	1.249	5.391	7.648	**7.946**
HPP Globocica	21,88	23,07	20,11	35,10	26,17	24,67	18,80	18,84	16,55	16,45	27,45	25,16	**22,85**
HPP Spilje	31,08	28,32	39,89	92,9	74,86	47,11	28,60	24,85	23,90	25,00	40,55	51,40	**42,37**
HPP Kozjak	6,38	8,76	24,75	37,49	37,14	16,32	5,37	3,53	3,75	4,36	8,36	17,64	**14,49**
HPP Sv. Petka	20,09	11,25	4,18	1,98	0,0	1,42	13,58	14,09	11,24	23,4	31,35	26,42	**13,32**

Average monthly outflows from storage in 2012 (m^3/s)

2012	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annual average (m^3/sec)
HPP Tikves	20,81	14,44	15,39	40,48	13.46	22,15	23,00	6,71	1,72	12,38	15,31	13,80	**16,64**
HPP Tikves for irrigation	0,00	0,00	0,00	1,67	0,53	3,69	8,10	4,19	1,24	0,25	0,00	0,00	**1,64**
HPP Mavrovo	9,374	2,343	1,085	13,145	2,317	2,948	10,700	11,282	1,850	0,716	7,564	3,298	**5,551**
HPP Globocica	22,18	19,19	20, 49	34,88	27,39	24,08	18,93	18,46	17,13	16,73	25,89	25,26	**22,55**
HPP Spilje	42,35	22,66	24,67	66,83	51,13	64,38	49,67	36,43	20,08	29,77	42,33	38,02	**40,69**
HPP Kozjak	20,09	11,25	4,18	1,98	0,0	1,42	13,58	14,09	11,24	23,4	31,35	26,42	**13,32**
HPP Sv. Petka	20,09	11,25	4,18	1,98	0,0	1,42	13,58	14,09	11,24	23,4	31,35	26,42	**13,32**

Storage level in meters, altitude of the first in month

2012	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annual average
HPP Tikves	240,85	236,65	238,00	251,64	254,28	261,80	260,48	254,38	251,43	251,52	249,68	248,58	250,09
HPP Mavrovo	1208,57	1207,26	1207,86	1211,29	1216,68	1221,40	1221,39	1219,09	1217,21	1217,00	1216,68	1217,16	**1215,13**
HPP Globocica	683,43	683,07	687,06	686,68	686,89	685,64	686,24	686,11	686,50	685,92	685,62	687,16	**685,86**
HPP Spilje	565,18	561,84	563,62	567,66	574,06	578,96	575,16	570,34	567,60	568,50	567,30	567,16	**568,94**
HPP Kozjak	441,76	437,19	436,50	443,00	452,06	460,33	463,20	461,55	459,37	457,82	453,56	448,15	**451,20**
HPP Sv. Petka	324,50	324,50	324,50	324,50	324,50	324,50	356,00	356,00	356,00	356,00	356,00	356,00	**340,25**

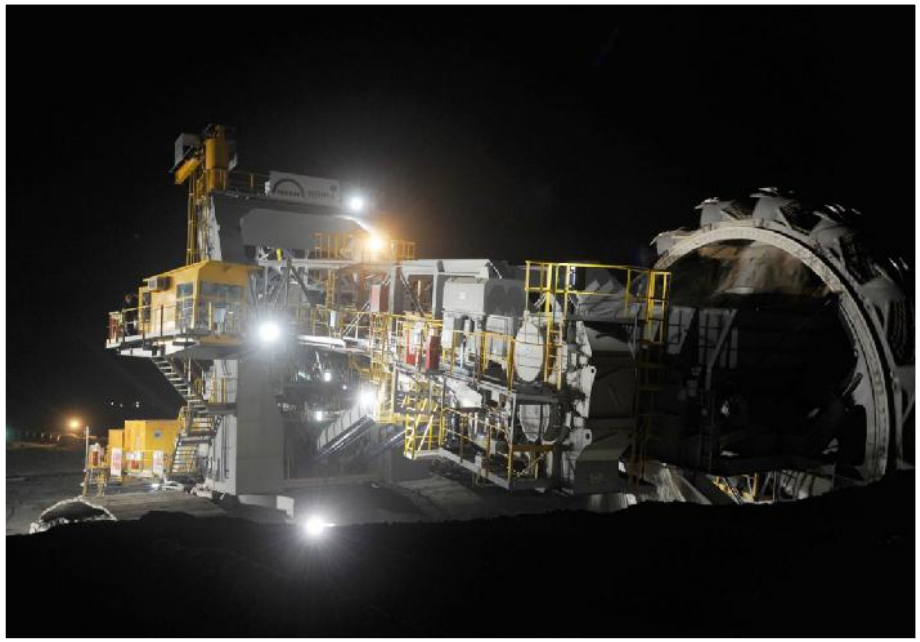
COMISSIONING OF HPP "SVETA PETKA"

The beginning of operation of the new hydropower plant "Sveta Petka", which entirely uses hydro potential from the river Treska, was officially denoted this year. For the construction of the hydropower plant high quality materials and the most modern technique and technology were used in order to provide high technological level of equipment, minimum costs for maintenance, safety system and high rate of utilization. The entire investment for this project is approximately worth 75 million Euros and it represents one of the most valuable investments in the regard of utilization of energy potential of the country.

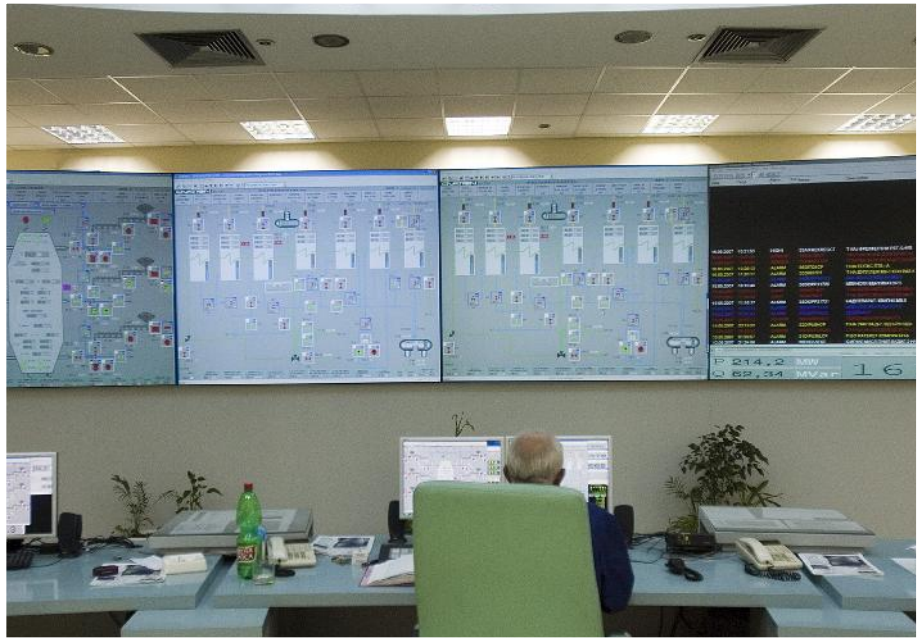
- After great effort and engagements by all included companies and state institutions and hard work during many years, the large infrastructure project "Construction of hydro system Sveta Petka" came to an end point, - announced the prime minister Gruevski. Besides the management and employees in AD ELEM, the main contractor – Slovenian company "Riko" and subcontractors "Beton" and "Granit" were also involved in this project.
- The missing link for optimal use of hydro potential of the Treska river was already set today. The installed power of hydropower plant is 36,4 megawatts and its annual generation is approximately 66 gigawatt hours of electricity. Construction of HPP "Sveta Petka" entirely connects the multi-functioning hydro system "Skopsko Pole" where besides this hydropower plant, HPP "Kozjak" and HPP "Matka" are included , - emphasized Gruevski at the ceremony. Construction of this hydropower plant established new standards in the field for construction of hydro energy capacities for Macedonia and the wider region. Hydropower plant "Sveta Petka" being part of the multi-functioning hydro system "Skopsko Pole" together with systems "Kozjak" and "Matka" has the basic task to use the hydro potential of discharge waters from hydropower plant "Kozjak" and local waters from the Treska river catchment. This storage should enable constant regulation of daily discharge waters from the hydropower plant "Kozjak". Hydropower plant "Sveta Petka" is functioning as a run-of-river hydropower plant among hydropower plants "Kozjak" and "Matka". Difficult access and severity of terrain, as well as the limits of the operating area, require application of extremely complicated and extraordinary organization and construction techniques. Commissioning of this facility contributes for us as a country to become wealthier from a technical, energy and economic point of view. This plant is entirely automated and by using the embedded modern telecommunication and process equipment, its operation may be monitored and controlled remotely from any point including the Dispatch center in AD ELEM in Skopje as well as NDC in AD MEPSO. This dam with a height of 64 meters and volume of almost 30 thousand cubic meters of concrete along with its double curvature arch dam is the first and unique dam of this type constructed in Macedonia. Special materials were used for its construction. Construction works on the new hydro energy capacity, were realized by the main contractor, Slovenian company "RIKO" – Ljubljana and 500 people were included in its construction.

COMMISSIONING OF THE MAIN CONVEYOR BELT COAL SYSTEM FROM SURFACE MINE "BROD-GNEOTINO" TO MINE "SUVODOL"

Commissioning of the main conveyor belt coal system intended for continuous, fast and efficient coal transport from its surface excavation at mine "Brod- Gneotino" to its dumping post of coal system in the mine "Suvodol" closed the circle of the excavation process, exploitation and delivery of at least two million tons of coal on annual level from the surface mine "Brod-Gneotino". These coal quantities, together with quantities from the existing mine "Suvodol" and deep underlying seam "Suvodol", is expected to fulfill a required minimum of 6 million tons of coal annually necessary for continuous electricity generation of TPP "Bitola". The Conveyor belt coal system is 10 km long and its capacity is 3.800 tons of coal per hour. This Main conveyor belt coal system which stretches from the surface mine "Brod-Gneotino " to the mine of "Suvodol" is a project of AD "ELEM" with a value of 18,6 million Euros. The Construction of this conveyor belt system completes one large investment, closing a production process in the surface excavation mine "Brod-Gneotino", adequately connecting two mining capacities and tracks which connect mines regarding the abovementioned, thermal power plant "Bitola".. The realization of this significant project of AD ELEM was accomplished with the main contractors FAKOM – Skopje and main designer of track and necessary infrastructure, GEING – Skopje. This project shall provide stability for the future and continuous operations of the thermal power plant "Bitola" in the following 25 to 30 years.



SECOND PHASE OF PROJECT "REHABILITATION AND MODERNIZATION OF REK 'BITOLA' " SHALL EXTEND THE LIFETIME OF BOILERS FOR AT LEAST 20 YEARS



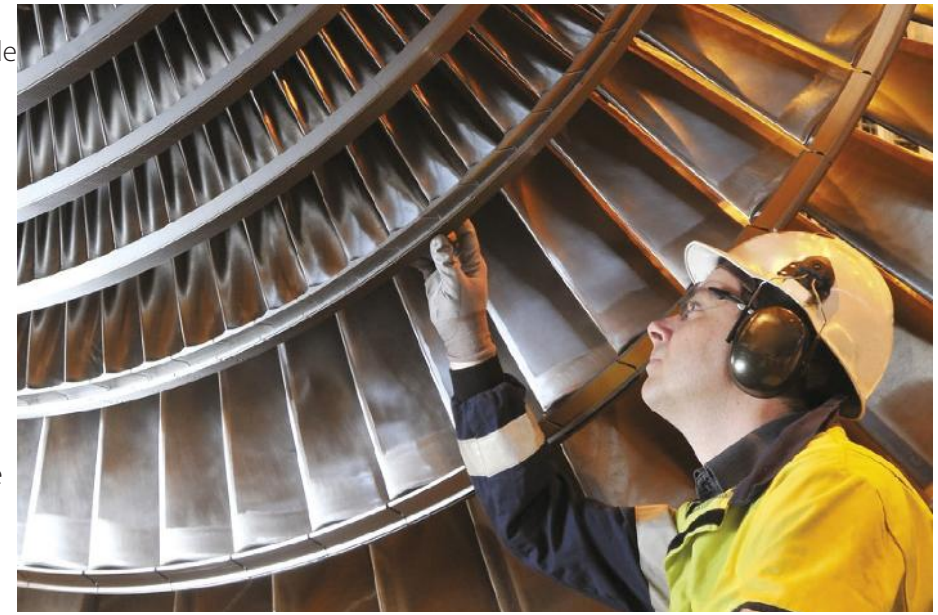
ΓThis year in REK "Bitola" began rehabilitation of another mega project for rehabilitation and modernization of boiler plants in thermal power plants "Bitola". Total value of the project "Rehabilitation and modernization of 'TPP Bitola' " with decreasing of nitrogen oxide amounts 88,5 million Euros for all three units. Contractor of investment is reputable German company "Babcock Borsig" together with subcontractor "Elektro- Sistemi" – Skopje, "FAKOM" – Skopje, "EL-TE Inzenering" – Skopje, "Meteorit" – Bitola and Serbian companies "Termoelektro" and "Vija Ocel". Works on boiler plants began at the beginning of August together with modernization and automation of third turbo aggregate of thermal power plants "Bitola". Project "Rehabilitation and modernization of 'TPP Bitola' " includes three realization phases as follows:

1. Modernization of turbines, generators and automation in TPP "Bitola";
2. Rehabilitation and modernization of TPP "Bitola" with decreasing of nitrogen oxide and modernization of cooling towers;
3. Rehabilitation of TPP "Bitola" for decreasing of nitrogen oxide and dust.

It is the second phase of project for rehabilitation and modernization of the largest generation capacity TPP "BItola". In accordance with investment activities, this year was finished the first phase for modernization of turbines, generators and automation and it increases installed power for approximately 24 megawatts, each unit per 8 megawatt. Realization of this project shall provide reduction of the emission of nitrogen oxides especially during operating with coal of variable quality where TPP "Bitola" shall be in accordance with EU-directives.

Similar to the project for modernization and automation of energy units, this project shall be realized in phases within three years, respectively 2014. Each year shall be modernized the boiler from one of the energy units. Preparation works which include supply of necessary materials for preheating part are completely finished and the process for elaboration of parts has begun. At the same time, all necessary assumptions for continuous realization of the project are provided and they include: supplying of necessary installation and infrastructure, storage area, operating plateau and working settlement for contractors. Main contributions which are expected from rehabilitation and modernization of boilers in thermal power plants "Bitola" are increasing of useful coefficient, larger energy efficiency, and replacement of heating

areas and extending of exploitation lifetime for at least 120.000 hours or approximately 20 years of normal exploitation. At the same time, it is expected rehabilitation to provide decreased consumption of heat at the entrance of the boiler which shall result in increasing of efficiency of thermal units.



Realization of this project, which includes change of system for preparation of coal dust, air composition and combustion system, shall provide reduction of emission of dangerous gases and nitrogen oxides to less than 200 kg/m3, especially during operation with coal of variable to worsen quality, which is in accordance with EU directive, referring to environmental protection and greenhouse emission. For all job positions where modernization and rehabilitation shall implement new technological solutions, contractor shall be obliged to accomplish training of employees in REK "BItola", who shall work with the modernized boiler plant in future.

The first phase of the mega project for modernization of thermal power plants of REK "Bitola" was successfully finished with modernization of boiler of unit 3 and it should be realized in 2014.

This project with value of 88,5 million Euros, executed by German company "Babcock Borsig", entirely changes coal tract, coal and air supply, and it decreases the level of dangerous emissions from generation process. Therefore, REK "Bitola" shall become compatible in the area of emission of nitrogen oxides and it shall fulfill strict European directives for environmental protection and greenhouse emission. Realization of the project for modernization of boilers in thermal power plants in REK "Bitola" shall enable appropriate percentage of increasing of coal utilization in the combustion process and larger flexibility in steam generation. Replacement of heating areas of thermal units shall extend their lifetime for at least 120.000 operating hours or approximately 20 years of normal exploitation.

MODERNIZATION OF TURBO AGGREGATE FROM THIRD ENERGY UNIT OF TPP "BITOLA" WAS FINISHED

Modernization of turbo aggregate and boiler of unit 3 from thermal power plants in REK "Bitola" officially finished with automatic synchronization of EPS. Realization of the Project for modernization of turbo aggregates and generators of three energy units in REK "Bitola" was practically finished and the Russian company "Silovie Mashini", according to the contract with value of 55,9 million Euros, should have done it during the period 2010 – 2012. It means that during the last three years was accomplished replacement of rotors, modernization of vital parts from generators and system for vibro-diagnostic monitoring system of turbo aggregates as well as system for managing of units and automation of process.

Modernization of each aggregate shall increase the installed power for additional 8,32 MW per unit with improving of efficiency of aggregates without increasing of specific coal consumption as well as reduction of dynamics and operative costs for overhaul and maintenance of the power plant. This shall additionally enable increased confidentiality of the system and creating of necessary preconditions for quality regulation and managing of system. Realization of projects for modernization of turbo aggregates and boilers in thermal power plants of REK "Bitola" represents entire rehabilitation of all those parts which are vital for electricity generation which on the other hand shall directly influence the increased confidentiality and larger energy efficiency of the largest energy capacity in the country.

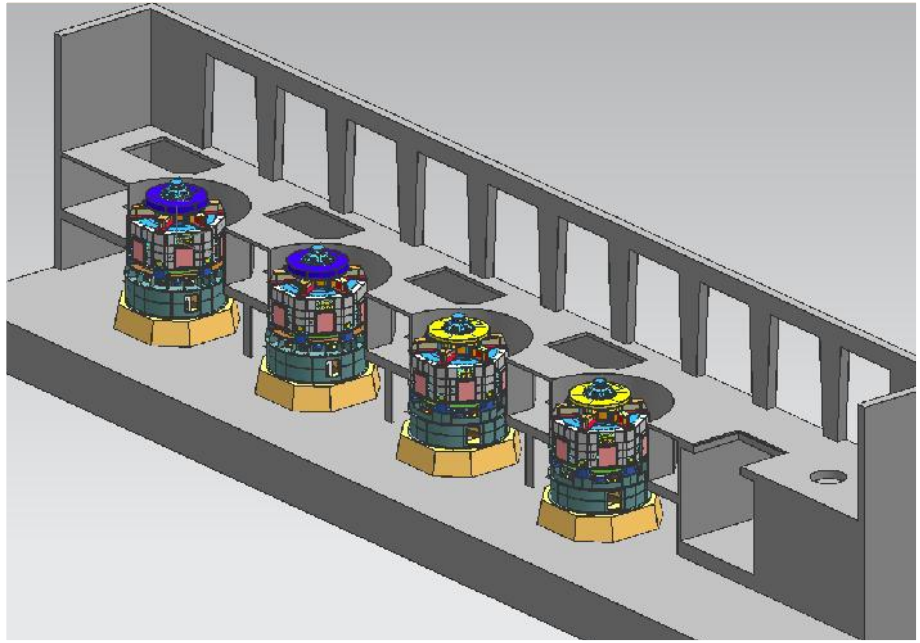
COMISSIONING OF NEW BELT CONVEYOUR ECOSYSTEM FOR ASH REMOVAL IN REK "OSLOMEJ"

The new system for ash removal in REK "Oslomej" is one of the most valuable investments in JSC "Macedonian Power Plants" from the field of ecology, in amount of 4,7 million Eros, own investment of the Company. It is the first time, since the commissioning of the thermal power plant "Oslomej" in 1980 that the problem with ash as side effect during the electricity generation from thermal power plant "Oslomej" shall be permanently solved with the new ecosystem and it shall be provided clean environment for all villages nearby REK "Oslomej". Realization of new belt conveyor system for ash removal is one of the most valuable investments in JSC "Macedonian Power Plants" from the field of ecology, and it is investment which shall considerably improve environmental quality, solve the problem with air contamination and agriculture areas in the region which gravitate around thermal capacity. Until nowadays dumping of ash was made with dry ash removal technology which is situated on the hill above thermal power plant. New ecosystem shall enable for transport to the depot in mine "Oslomej-Istok" at distance of 4 km to be accomplished with wet ash removal respectively hydraulic system shall transfer it through closed pipe system. Commissioning of this new modern ecosystem for ash removal entirely avoids flying and spreading of ash in the air during transport and dumping. Project is being realized by reputable company "Energoinvest" from Sarajevo, Bosnia and Herzegovina which was selected by transparent international procedure. "Energoinvest" is regional leader in the field of contemporary ecological projects regarding treatment of waste materials in large energy systems.
- This project shall replace ash removal from "Oslomej" with new contemporary system that shall entirely follow strict ecological norms which refer to ash dumping and environmental protection. During the last five years, we realized few similar projects in TPP "Kosovo B" and TPP "Nikola Tesla B" and we believe that we have finished this project successfully in all construction phases, - stated Mr. Enes Cengikj, manager of "Energoinvest". Thermal power plant of REK "Oslomej" operates since 1980 and its generation of ash and slag at annual level amounts 300.000 tons or 1.000 tons daily. Until nowadays dumping of ash was made with dry ash removal technology which is situated one kilometer from thermal power plant.

PROJECT „REHABILITATION OF SIX HYDROPOWER PLANTS - SECOND PHASE“

AD ELEM during the project “Rehabilitation of six hydropower plants – second phase” signed contracts with two companies for rehabilitation and modernization of Mavrovo power plants “Vrutok” and “Raven”. Austrian company “ANDRITZ Hydro” shall replace and increase power of the four generators in HPP “Vrutok” and afterwards, it shall replace high voltage cables and lubrication systems in HPP “Raven”. Slovenian “ETRA Kolektor” shall replace six energy transformers in HPP “Vrutok” and three energy transformers in HPP “Raven”. Contributions from these grips, which shall significantly improve generation performances of hydropower plants, are: increasing of available energy generation capacity of HPP “Vrutok” from 168 MVA to 184 MVA (mega volts – amperes), possibility for additional generation of ecologically acceptable electricity up to 50 GWh annually, afterwards improving of efficiency and decreasing of losses which become larger potential for electricity generation as well as savings from maintenance costs.

Realization of both contracts shall provide entirely modernized hydropower plant with four new unit-transformers and four new generators. Project and its realization which shall extend lifetime of hydropower plant “Vrutok” is expected to end in May 2014. Managers of both companies, Slovenian “ETRA Kolektor”, Mr. Petar Novak and Mr. Evald Hese, manager of “ANDRITZ Hydro” emphasized that they are honored to cooperate with company as AD ELEM and they are certain that works shall be done with planned dynamics and that this Macedonian company shall be another good reference in their portfolios. According to contract dynamics, meetings were held for introducing the work of “ANDRTIZ Hydro” and “ETRA Kolektor” and until the end of March was approached to detailed designing of equipment. At the same time, the implementation team for LOT 1 of AD ELEM and consultant Kolenko” were in charge for revision of project documentation. Initial coordination meetings for presentation of projects and their revision, as well as presentation of production lines of “ANDRITZ” and “ETRA”, were held from 28 May to 1 June 2012 in Vienna and Weiz (ANDRITZ) and Ljubljana (ETRA). Until the beginning of June, the main designs for generators, transformers and for additional equipment were finished and revised by AD ELEM and consultant and generation of equipment started. The most critical elements, which need more time for elaboration, for example, shaft, are already included in generation cycle.



During the following period, implementation team for the project continues with activities for intense following of generation process with obligatory tests and quality control of equipment in factories, and further, in the thermal power plants. Beginning of the assembly of first generator (machine C in Vrutok) is expected to be accomplished in accordance with planned dynamics respectively to start in April 2013 and to be finished at least until July during the same year. The value of contract for generators amounts 18,68 million Euros and for transformers 2,77 million Euros. Financing of these activities is by loan of KfW Bank for which there is already signed contract with Ministry of finance until the end of 2010. Detailed and authentic calculations are made for potential of additional energy available through improving of efficiency and decreasing of losses in generators and transformers for 7 GWh annually and at the same time avoiding emissions of 6.000 tons of carbon dioxide annually. This investment by AD ELEM represents extending of tradition and efforts by the company for environmental protection and decreasing of greenhouse gases emission, avoiding of electricity import dependence of Macedonia as well as providing large safety in electricity supply.

INTRODUCTION OF ISO 14001:2004 – INTERNATIONAL CERTIFICATE FOR ENVIRONMENTAL PROTECTION

JSC "Macedonian Power Plants" obtained certificate ISO 14001:2004 after entirely implementation of environmental protection system in its operation. After accomplished expert examination of the process, International accredited certified company "SGS Belgrade" gave recommendation for issuing of certificate and its manager, Mr. Marinko Ukropina, handed this affirmation to the general manager of AD ELEM. Certificate has great importance, not only for our company, but also for Republic of Macedonia. Introducing of International standard for environmental protection and waste management is another confirmation that company operates in accordance with latest cooperative world standards and during its ordinary functioning pays attention to environmental protection. Implementation of this system is a step forward in the development of our company for its employees respectively for all who during the past period worked on project with dedication. Introduced latest works in operation shall lead to saving of raw materials, increased energy efficiency, better and easier management of costs. Among the benefits are entire reorganization and treatment of resources and waste which directly influence the environment. Procedure for introduction of environmental management system in JSC "Macedonian Power Plants" began in 2011 in coordination with consulting company "MAKKONTROL". During the last year, numerous activities were realized and in accordance with standards, Board of Directors of AD ELEM brought Policy for environmental protection with regulations according to which all employees in the company work.

- Awarding of the Certificate is confirmation for decision of management team of AD ELEM, and also of all employees entirely to modernize the company and to adjust its operation in accordance with strict international standards. AD ELEM showed determination and preparedness entirely to adjust to new works in operation and to become modern company which shall appropriately follow and apply strict criteria and regulations in its ordinary functioning, - stated manager of International accredited certified company "SGS Belgarde", Mr. Marinko Ukropia. AD ELEM is company of strategic significance for Republic of Macedonia and therefore, entirely accomplishes environmental policy as part of the determination for successful operation. It is where the obligations of the company arise in order to be profiled as socially responsible company with great effort for implementing of ISO – standards in operation. The company, two years ago, implemented the standard for quality 9001:2008 which nowadays is successfully applied in the operation.


SGS

Сертификат CH12/1138.00

Системот за управување на

АД Електрани на Македонија, во државна сопственост, Скопје
АД ЕЛЕМ - Скопје

Ул. 11. Октомври бр. 9, 1000 Скопје, Македонија

е оценет и сертифициран дека ги исполнува барањата на

ISO 14001:2004

За следните активности

Производство на електрична и топлинска енергија и дистрибуција и снабдување со електрична и топлинска енергија

Сертификатот е валиден од 3. јули 2012. до 2. јули 2015.
доколку надворешните проверки се задоволителни.
Ресертификациската проверка треба да се изврши пред 20. јуни 2015.
Издадено 1. Сертификувано од јуни 2012

Овој сертификат е за повеќе локации
Информации за дополнителни локации се наоѓаат на следната страна

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SGS Société Générale de Surveillance SA, Systems & Services Certification
Technoparkstrasse 1, 8005 Zurich, Switzerland
t +41 (0)44 445-16-80, f +41 (0)44 445-16-88, www.sgs.com

Страна 1 од 2

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FIRST WIND PARK IN MACEDONIA WITH TOTAL POWER OF 36,8 MW

JSC "Macedonian Power Plants" and "Siemens Wind" from Denmark in consortium with "Siemens - AC" – Greece signed a contract for delivery, transport, assembly, commissioning and maintenance of six wind turbines for the Wind Park "Bogdanci". This activity completes the international tender procedure for construction and commissioning of the first power plant of this kind in The Republic of Macedonia. The Turbines are among the best in their class. The Installed power of each is 2,3 MW, the length of the pillar is 84 meters, and diameter of the propellers is 93 meters. Assembly of this wind plants shall provide total installed power of PVE "Bogdanci" of about 36,8 MW which ends the first phase in construction of this visionary energy facility. The Contract for turbine supply includes the obligation of the producer for their maintenance during the duration of ten years since commissioning. In accordance with determined dynamics, the first kilowatt hours of the wind park "Bogdanci" shall be produced in 2014. Construction of the Wind Park is realized through a contract with consortium "Terna Siemens" for construction of road infrastructures, connected transmission line and 20/110KV substation. This contract was concluded in January this year and the realization of its operations is ongoing. The Assets for the realization of project WP "Bogdanci" are provided by loan from the German KfW Bank, signed in April during the last year. Regarding the project, which has a value of 55,5 million Euros, KfW Bank provided 47,9 million Euros, and the remaining 7,6 million Euros are own assets from AD ELEM.

NEW MOBILE ANALIZERS FOR COAL QUALITY IN OPERATION

The Commissioning of Main conveyor Belt coal system from SM "Brod-Gneotino" to SM "Suvodol" provides continuous transport of coal from the mines in Brod-Gneotino to the drop off point in the system and transportation trucks. . During this coal transport, determining of coal quality has great significance for the operations of the thermal power plant and it is determined within a period of 24 hours with classical laboratory analysis. Due to current striving for quality results of coal, which is transported by trains or trucks, in some countries in the world extremely expensive plants are installed which cost few million dollars, and in many countries this problem is not appropriately solved even besides installing of contemporary automatic devices for taking samples of coal. In order to solve this exceptionally important problem in REK "Bitola", a plant for analyses and testing of coal quality is being constructed and it presents a technical solution from the expert team from the Combine and DOOEL FOD "Novaci".

Quality examination of crushed coal with this original technical solution is accomplished with the help of two mobile analyzers which represent manual transmission devices, produced by technology of "BRET BY GAMMATECH" from England which for a very short time interval gives precise results for ash percent in coal. Mobile analyzers which according to this technical solution are used in REK "Bitola" do not contain radioactive sources, operate based on detection of natural γ–

radiation and have possibility for memorizing of nine calibrations for various percentage of humidity which enables coal analysis of a wide range of quality parameters. These analyzers operate with an accuracy of 0,25 – 1%. On the plant, besides the system where probes from mobile analyzers are embedded, there is a system for taking samples of coal from trucks, which operates on principle pipe-tests (Auger sampler) dimensioned in accordance with standard ISO 13 909. This System for taking samples of coal contains device which selects samples taken in accordance with operating site of contractor, and coal samples are brought in the chemical laboratory due to classic control in order to obtain arbitration results. Trucks which are treated with mobile analyzers are selected according to random selection helped by specially designed software and it prevents any kind of subjective factor during testing. Initial results for coal quality tested from mobile analyzer are obtained for time interval of around 70 seconds and it enables fast decision for directing of further coal transport. Application software helps at anytime for obtaining precise review of quality results from analyzed the coal which is transported discontinuously from excavation in Brod-Gneotino to the drop off point of Main conveyor belt system.

DAM "LUKOVO POLE" SHALL INCREASE INSTALLED HYDRO CAPACITY OF AD ELEM

In order to update design studies for project "Lukovo Pole" and in accordance with latest technologies for construction of high dams, AD ELEM and consulting company "Aciona Ingineria" from Spain in consortium with "ABC Consulting" from Macedonia signed contract for designing and monitoring in amount of 774.400 Euros for phase A-designing and 1.120.875 Euros for phase B – supervision. These assets shall be covered with loan for preparation works signed during the last year between AD ELEM and World Bank. Engaging of consultant for designing and supervision is the last step before beginning of phase for construction works at project "Lukovo Pole". After successful finishing of the phase for updating of projects and preparation of appropriate technical documentation for international tender for construction works due to construction of project "Lukovo Pole", a beginning is planned of main construction works and construction which should finish until the end of 2016. Total investment for construction of "Lukovo Pole" in the moment is estimated approximately 62 million Euros, where approximately 52 million Euros shall be provided from Loan of World Bank. Benefits from construction of this system are numerous. First of all, electricity import dependence

of Republic of Macedonia shall be decreased respectively AD ELEM shall annually produce and sell to consumers additional 159 GWh of electricity from constructed three hydropower plants and new SHPP "Crn Kamen".
The others but not least important benefits are: increasing of installed hydro capacity of AD ELEM, regulation and management of waters, potential for development of tourism as well as accomplishing of strategic determinations for decreasing of CO2 emissions and achieving of strategic goals of Republic of Macedonia for electricity generation from renewable sources.
AD ELEM and World Bank pay special attention to plan for management of environment due to location of project in ecologically sensitive area and due to requirements of designer to be operated according to highest standards of that area. This new investment from AD ELEM represents extending of tradition and efforts of AD ELEM for environmental protection, decreasing greenhouse gases emission, decreasing of electricity import dependence of Macedonia, and thereby, safety in electricity supplying.

INCREASING OF ACTIVITIES FROM MINE AREA

In surface mine "Brod-Gneotino" of subsidiary REK "Bitola", simultaneously with assembly activities of Main belt conveyor coal system and publishing of tender for construction of road from village Novaci to village Brod, there were intensive works on enabling of mine area which should finish the physiognomy of new mine. Regarding the construction works, reservoir for technological water is finished together with necessary infrastructure, works for enabling of sheds for employees, and assembly of storage for electrical materials is ongoing. Placing of electrical installation, lightning conductor protection, telecommunication grid and sanitary installation are finished in mine area. Location of temporary sanitary pit is already determined and there are intensive works on it and afterwards, there shall be connection of sanitary installation facilities. After all these civil engineering works for construction of mine area SM "Brod" shall finish, placing of fence and planting of greenery at free areas around it shall begin. After finishing of project, all necessary conditions for normal operating of employees in this surface mine included in REK "Bitola" shall be provided.

NEW SOFTWARE FOR DEFINING OD DEPOT CONDITION

Initial effects of application functioning in ordinary process of electricity generation in thermal units are registered and they provide expected results and the fact itself that this software solution is result of employees in REK "Bitola", guarantees its complementing and improving in future. Application for following of dumped coal condition in REK "Bitola" provides visual picture for quantities and quality of each of mine beams. Following of condition enables excluding of coal dumping with lower quality at one spot, and its arranging on mine beam where there is coal with better quality. Hereby, it is achieved optimization and controlled homogenization of coal on all mine beams at depot, which, on the other hand, contributes for better, more efficient and more economic work of energy units from thermal power plant.

This original software solution was elaborated by expert team of Office for business-technical applications from REK "Bitola". The team was working intensively few months on creating and preparation of this original software solution, which after necessary test period started to function and immediately offered the required results. Application of this solution may anytime and from every net connected unit in REK "Bitola" follow and control complete coal condition in the depot and reports of shift engineers may be followed in electronic form. Basically, it is about complex program which is accomplished in several phases on variously located computer units. Data are taken from program which is placed on coal dispatcher. Following of depot condition for coal enables complete and detailed shift report, which can be followed at the end of every shift, on various computers and on different locations in Combine.

IMPLEMENTATION OF INFORMATION BUSINESS – SYSTEM

AD ELEM from May 2011 started with implementation of ERP-system in order to successfully follow dynamics of changes on word level, to achieve larger control and efficiency in operating of the company and in order to maintain competition and cost-effectiveness in operating. During latest flow of preparation activities for implementation of new information business system, the following activities were completed:

- Defining and description of business – process in AD ELEM;
- Adjusting of systems SAP, HeRMeS and DMS of defined processes;
- Module and integration testing of system;
- Training of key and end users ;
- Migration of master-data and opened items.

All these preparations created conditions for beginning with work of new **BIS** – system. Decision for beginning with work was officially brought on meeting of Board of Directors on 26.04.2012.

At this moment, **SAP** – system is implemented and operates entirely with modules for:

- Financial operating (FI);
- Supply of materials and services (MM);
- warehouse operation (BM);
- assets and sundry(AM);
- investment management (IM);
- management with company operation (CO).

Module for sale and distribution (SD) is in phase of final tests.

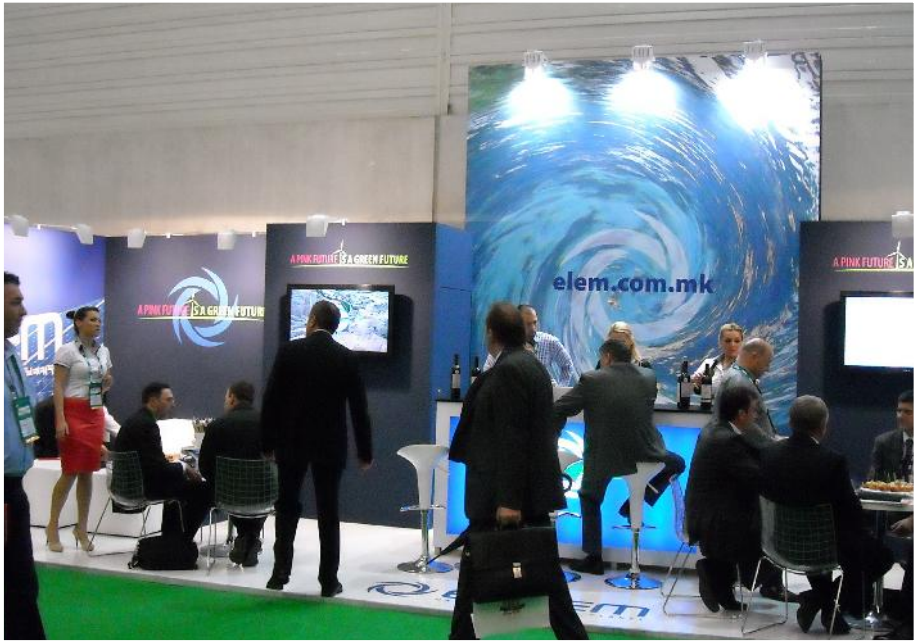
SAP system operates retroactively or offline and inserting of data and entries from 01.01.2012 has begun. The goal is to insert all data in the new system and to examine of results in the old system.

HeRMeS – system entirely operates with two modules:

- human resources module – started to operate in real time 1.6.2012;
- salary calculation module – due to inconsistency in manner for inserting of data and manner of salary calculation in the old system, from June 2012 started with salary calculation in HeRMeS system

DMS - system (electronic archive) is commissioned on 18.5.2012. Requirements from the first phase of project are entirely implemented.

Second implementation phase of project from **SAP**-system remains and it represents larger integration of modules and automation of operating processes. The complete implementation of BIS as integrated system in AD ELEM shall enable larger connection, coordination and communication among departments and subsidiaries. Finishing of second implementation phase from project shall change the profile of AD ELEM – company which do not use paper and has entirely automated operation of business processes.



AD ELEM WINNER OF REWARD FOR SUCCESSFUL OPERATING OF CHAMBER OF COMMERCE OF REPUBLIC OF MACEDONIA

JSC "Macedonian Power Plants" is winner of reward from Chamber of Commerce of Macedonia in the category Companies which successfully operate from founding of the Company until today. Chamber of Commerce of Macedonia celebrated great jubilee – nine decades from its existence with celebration in hotel "Aleksandar Palas" and attendance of 1.200 reputable guests. Besides members from the largest business-community in the country, there were representatives of state authorities, diplomatic body, representatives from international institutions, associations and partners, guests, friends and supporters of Chamber of Commerce of Macedonia and chamber operation in the country and abroad. Alesandro Berberis, President of Association of European chambers as well as Deputies – Presidents of Government of Republic of Macedonia, Mr. Vladimir Pesevski and Mr. Zoran Stavreski attended the celebration of this considerable jubilee.

IMPRESSIVE APPEARANCE OF AD ELEM AT "POWER-GEN" IN COLOGNE

JSC "Macedonian Power Plants" appears continuously for the second time at "Power-Gen", the most significant energy exhibition in Europe where there is presentation of companies which work with electricity generation and companies which produce equipment for energy facilities. This year we appeared with few novelties, first of all in our development project and we have justified our presence – many of our partners are interested for our company and for Macedonia as business-destination. We offered part of the projects of our development program to visitors of AD ELEM and participants at "Power Gen Europe". Same as last year in Milano, we presented the projects which are being realized: hydropower plant "Boskov Most" and Wind park "Bogdanci" as well as preparation activities for storage "Lukovo Pole". This time and for the first time we offered visual presentation of two considerable projects for Republic of Macedonia from energy field – complex power plants at Crna River, "Cebren" and "Galiste", and we visually presented project "Vardarska Valley". We prepared three dimensional visualization of these facilities with data and significance which they shall have in energy department of Macedonia. Last year for the first time we promoted project "Boskov Most " and as result of our presentation to

Exhibition "Power Gen Europe" in Milano, 40 companies bought tender documents for "Boskov Most". Each year we have larger interest by visitors and companies which attended the Exhibition. We are already recognizable as part of the family of Power Gen which is very important for our company, and for the development of energy in Macedonia. Potential future partners often visit our booth and they could cooperate in construction, delivery and assembly of future projects of AD ELEM. At Energy Exhibition "Power Gen 2012", 630 exhibitors were presented.

SCHOLARSHIPS FROM AD ELEM, MEPSO AND EVN FOR STUDENTS AT FEEIT

The three energy companies AD ELEM, EVN Macedonia and AD MEPSO gave scholarships to 14 students enrolled at the first cycle of studies during the academic 2011/2012 year at the Faculty of Electrical Engineering and Information Technologies. Awarding of scholarships by the three companies contributes to and supports the education and nurture of expert and quality personnel from the field of energy. The Dean of FEEIT, Mile Stankovski, said that two years ago, when the Faculty contracted cooperation for scholarship possibilities , the number of enrolled students at energy departments has considerably increased whereas the interest was very limited previously. In order to motivate graduation students to enroll into energy studies, a contract with the three companies was concluded and it resulted in 75 enrolled students in 2011/2012 contrary to 25 during the previous study year.

FEIIT has seven study programs, out of which three are from the field of energy. "This provides the companies with quality personnel in the future and they may directly influence their profiling through selection of optional subjects and performing practice, student projects, diplomas, thus future engineers shall have the possibility for professional careers in these companies", stated Dean of FEIIT, Mile Stankovski.

Regarding this project, AD ELEM, as a company with high socially responsible practices as part of its cooperative portfolio, participated with providing scholarships to four students.

SOCIAL RESPONSIBILITY

Social responsibility is part of our corporative policy. We live here, we work here and therefore, we take care of this society trying to make it better.
We participate in numerous social activities which are closely connected to our business operation and community to which we serve. We are included in society through humanitarian projects, projects in the field of culture, health care, sport, sport, education and technology. We nurture the nature and take care of human environment.
Social responsibility is more than our corporative goal; it became tradition where we invest maximally in order to repay the citizens for their confidence. What we have done in the past, we continue to do it in the future with intensive speed and entire dedication.

AD ELEM WINNER OF THREE AWARDS FOR SOCIALLY RESPONSIBLE PRACTICES

Consistently with the adopted declaration, JSC "Macedonian Power Plants", within its capabilities, generously supports the development of the social activities as an essential condition for growth and development of the country, and also as improvement of the quality of life for all citizens and developing the environment. This year, AD ELEM won national award for social responsibility in the category "Relations with suppliers", the highest recognition awarded by Coordinating authority for socially responsible practices. National award in the category "Relations with suppliers" is about the project "Influence through suppliers grid in promotion of health and social protection". Besides the first award "Relations with suppliers", AD ELEM had two more recognitions, two second places in the categories "Interactions with employees" and "Investment in community" for project submitted for invitation by Ministry of Economy through project "Social responsibility of companies in Republic of Macedonia" co-financed by European Union. Being socially responsible company with the project "Preventive-health leaves for our employees", we achieved the second award in the category "Interactions with employees". As a part of social responsibility, AD ELEM leads continuous care for health and safety of their employees. Second place was won in the category "Investment in community" for projects which include integration of marginalized groups in all fields of society.

Support of AD ELEM contributes for realization of activities for persons with disabilities. Our company within Social Responsibility Declaration continuously supports and cooperates with institutions and civil department due to promoting of fields of public interest, including sport, culture and art, education and science, environment and social protection. AD ELEM shall further continue to invest in community within its possibilities. Being socially responsible company, we are aware that leading business does not mean only accomplishing profit but much more – investing in community, employees and other projects which are aimed at social responsibility.

HUMANITARIAN AUCTION OF PICTURES FROM "SMALL MONTMARTRE OF BITOLA"

AD ELEM, as supporter of art and culture and having great enthusiasm and respect for young artists, organized humanitarian auction where all art supporters had possibility to help continuing long year tradition of "Small Montmartre of Bitola". Regarding held humanitarian auction of works of art from art manifestation "Small Montmartre of Bitola", all offered 44 works of art were sold and they all had motives from Macedonia painted by young painters from over 20 countries. Art admirers became owners of unique works of art from young art ambassadors which during the last three decades were part of the oldest children art colony at Balkan Peninsula. Support of art and cultural events enriches the life of everyone in the community. AD ELEM traditionally and with great pride of this patronage supports "Small Montmartre of Bitola" because this manifestation successfully builds bridges toward the world demonstrating that care of art values is very significant for our country. 581.000 denars were collected with the auction and they helped in maintaining of this reputable art manifestation which is held in Bitola each spring. Regarding the support from Ministry of Culture, realization of this human and cultural project continued with exhibition of artistic works from "Small Montmartre of Bitola" in the lobby of Macedonian Opera and Ballet (MOB). The exhibition was opened and visitors had possibility to see the works of young art ambassadors and donate money for support of this art manifestation.

MACEDONIAN SKIER DEHARI WON THIRD PLACE ON GIANT SLALOM OF SAR PLANINA CUP

Slovenian skier Gregor Brajovok won at 39th event of "Sar Planina Cup". Brajovik won both categories, giant slalom and slalom. Besides monetary award, he took with him in Slovenia dog of dog breed Sarplaninac. The path "Orlova", where giant slalom race took place, he rode it for 2 minutes 3 seconds and 91 hundreds. Second place was won by skier from Albania, Erjon Tola, and the third by representative from Macedonia, Dardan Dehari. Since the independence of the country, this is the greatest success for Macedonian skiers on the Cup. Dehari was late behind the first Brajovik only for one second and 38 hundreds. "I simply could not believe that I succeeded to step on winner platform. This is the first time for a Macedonian to be on winner stage of Popova Sapka. I would like to thank the audience. After the first ride, I was fifth, however, I had luck and ended as third", said Dehari. Around thirteen competitors from 12 countries took participation on the oldest winter sport manifestation in Macedonia. This year, organization of this sport manifestation received excellent appreciations from participants and from expert workers as well.

"We have done everything in order to provide the best conditions for quality competition among skiers. Therefore, we took into consideration the indications of experts from the previous year and we made modifications on the path. The path has been extended on separate parts and satisfies FIS – criteria for competition of this kind. Competition was, as expected, good and exciting and enabled entertainment to lovers of this sport as well as to competitors and audience", stated President of Organization board, Mr. Dimitar Tanurkov.

The credits for continuing of this valuable sport manifestation are going to Government of Republic of Macedonia as patron and JSC "Macedonian Power Plants" as general sponsor. Sar Planina Cup was opened by Minster of Internal Affairs, Gordana Jankulovska, who emphasized that the Cup is Macedonian national treasure and pride where friendship, competition spirit and desire for wining are being united.

ELEM AND ELEMENTS

Mobile play titled "ELEM and the elements", which was organized by JSC "Macedonian Power Plants" (AD ELEM), is education and moral play for participants having six to eight years. The aim of the play was rising of the awareness of the youngest audience for the necessity of saving electricity, introducing the children with the manners of electricity generation as well as helping them comprehend the priceless significance of energy resources which are used during electricity production. The action in the play starts with boy named Elem, who after realizing that there is no electricity on the entire planet, starts long trip in order to get back the light in homes, and to make people happy again since they cannot imagine their life without electricity. The play "Elem and the elements" was held in primary schools in Skopje. Children learned about electricity saving, its significance as necessary condition for the live of entire humankind, for making aware relation toward resources for electricity generation which are lacking more and more.

NEW ILLUMINATION IN SKOPJE ZOO

New lightening and video monitoring system are installed in the Zoo in Skopje and the visitors will have the opportunity to watch the animals during the night. Regarding the realization of the project worth 10 million denars, 32 video cameras are installed to all paths in the Zoo and 102 lights which enable entire lightening of habitats. New LCD monitor is installed in the monitoring room for control monitoring of recordings from the cameras. Completely new connection for larger power is made for equal arranging of the electricity. The new lightening and video monitoring is donation from socially responsible energy companies ELEM, MEPSO and EVN. AD ELEM as socially responsible company recognized the meaning of this project and with its assets was included in the realization. The Zoo during the last years became excellent place for spending free time of children as well as of adults. Regarding the introduction of innovations, AD ELEM as socially responsible company contributed for the Zoo in Skopje to extend its working hours during the night and to become more interesting place for visitors. Within the limits of its possibilities, AD ELEM during the last years is trying to assist the community and contribute in improvement of social possibilities. This illumination provides to citizens of Skopje as well as tourists during the summer period to enjoy in the beauties of Zoological garden. Completely new monitoring shall help for easier supervising of animals and visitors.

YOUNG SCIENTISTS NIKOLA AND BRANKA WENT TO OLIMPIC GAMES IN NEW YORK

High school students from Ohrid, Nikola Tastanoski and Branka Buntaseska went to International high school Olympic Games GENIUS 2012 which was held in New York, USA from 24th until 29th June and they presented their project for environmental protection and use of renewable energy sources. ELEM financed airplane transport to New York and helped Nikola and Branka to make their dream come true and to compete with the best students from the world. Besides the project of Branka and Nikola, there were another 247 projects on this international competition. "It were international Olympic Games from the field of ecology which includes subjects connected to planet earth and protection from contamination", explained Buntaseska. Her project partner Nikola told us that they put huge effort to complete this project and they spent more than 4 months for preparations. "Possibility for applying to this competition was great challenge for us and we seriously took our task and we literally worked on this project every night, and sometimes even until 4 o'clock after midnight, aside from all school activities", said Tastanoski. Otherwise, Tastanoski and Buntaseska which currently are scholarship students in private high school "Jahja Kemal" from Struga, in primary school made scientific project for trout and it became part of international scientific paper.

PROJECT "POWER OF ART UNION"

Association for help of persons with intellectual disability "Poraka" from Negotino, with support by AD ELEM, prepared inclusive theater play where the actors were persons with special needs from "Poraka", students and high school students. Project was called "Power of art union" and the theater play was made according to the text "The woman and broom" of Senka Kolozova. The first performance was played in Skopje, and citizens from Negotino, Kavadarci, Veles, Kumanovo and Struga shall have the opportunity to watch the play. This is second inclusive play organized by "Poraka". Previously persons with special needs together with high school students from Negotino were part of the comedy "Itar Pejo and Nastradin Odza". Persons with special needs are part of our life and there should not be any barriers which shall divide these people from us, stated the message sent in the play. Persons with special needs proved that they own talent but it only should be discovered.

ELEM FINACIALLY SUPPORTED STUDENTS FROM JAHJA KEMAL

JSC "Macedonian Power Plants" (AD ELEM) in their Social Responsibility Declaration have financially supported students from high school "Jahja Kemal" from Struga, who participated in Olympic Games for young physicians held in USA, where they shared their project ideas, experiences and knowledge, innovatively promoting global sustainable development. They participated with competition of 720 students from 72 countries of the entire world. According to the official list of awarded students, Branislav Stojkov won golden medal in category for Environment for project made with his fellow student regarding purifying of water, and both their fellow students, Stefan Busevski and Zafir Angeleski, won silver medal for project about finding way for heating of greenhouses. Students sincerely thanked for the support and understanding of our company: "We were honored and it was our pleasure that You were sponsor of the competition and we believe that ELEM shall support us during our studies, which would probably be in the field of energy, and in the efforts to achieve even more better results", stated Branisav, Zafir and Stefan in the letter of gratitude sent to AD ELEM.

CELEBRATED BIRTHDAY OF ASSOSIATION OF JOURNALISTS

Association of Journalists of Macedonia on its 66th birthday thanked AD ELEM as socially responsible company for providing the fund of awards. Project "Strengthening of confidence among members of Association of Journalists of Macedonia" is supported by AD ELEM within public notice for awarding assets for social responsibility in 2011. ELEM, conducting the adopted Social Responsibility Declaration consistently, within its possibilities, selflessly helps the development of social activities as necessary precondition for growth and development of the country.

RENEWED "PELISTER GIANT SLALOM" WAS HELD UNDER PATRONAGE OF ELEM

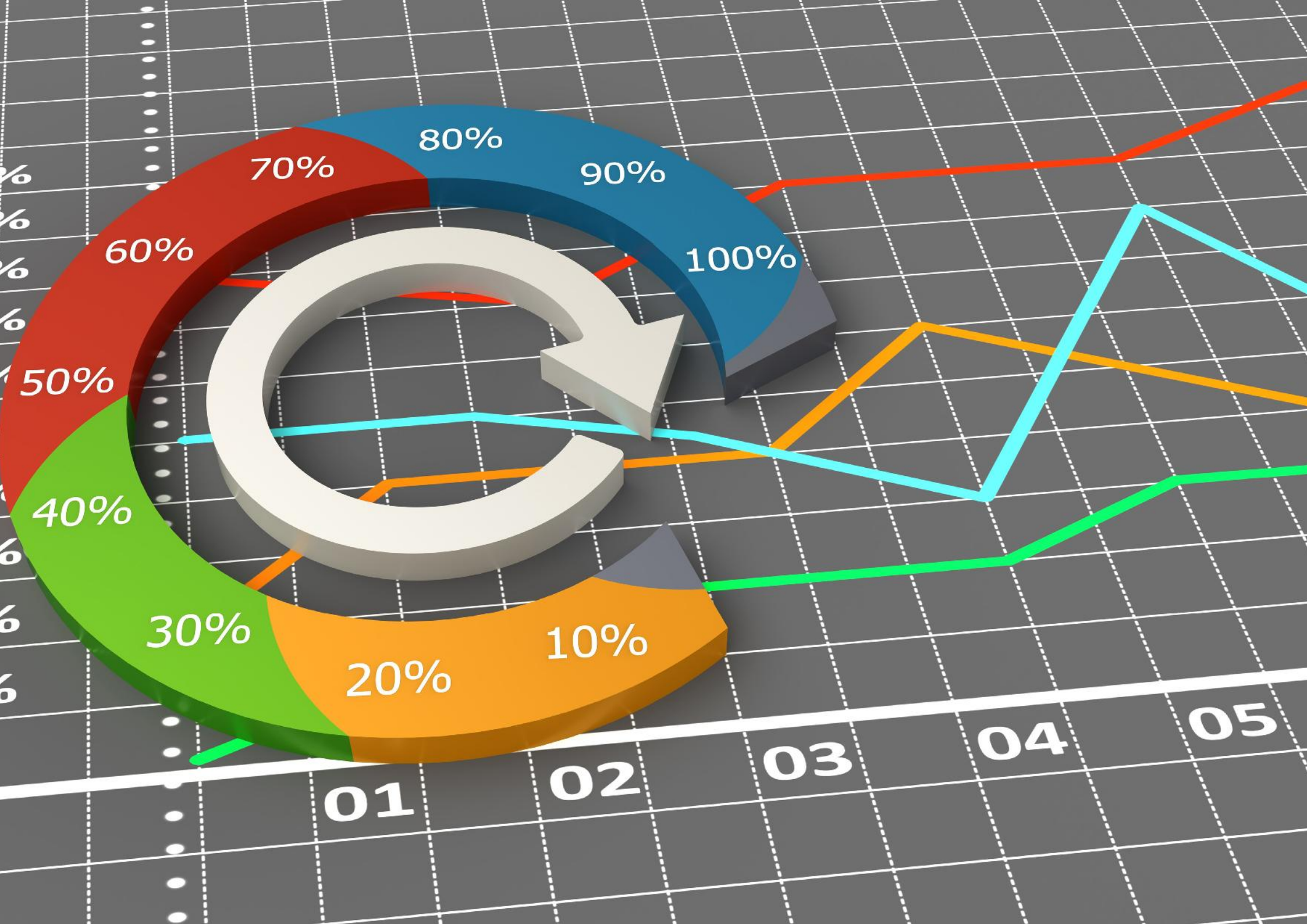
Under patronage of AD ELEM, respectively REK "Bitola", DOOEL FOD "Novaci" and PSD "Pelister" from Bitola, on the path "Kopanki", for the first time after 2005 was held renewed, traditional "Pelister giant slalom". A lot of competitors from Bitola and entire Macedonia took participation on the manifestation and they competed in more categories, from juniors – which for the first time felt the competing fever, up to veterans - which during the last decades wrote the history of this ski path. "This ski path gave a lot of great names which were symbol of ski sport in our country and I am convinced that here, among you, there are successors of those people. We, as general sponsor, did everything for the organization of this manifestation to look marvelously and I am proud that record 200 competitors enriched this year competition and return of "Pelister Giant Slalom".

We believe that this manifestation shall grow each year and it shall be inseparable part of winter ski program in the country", stated the first man of PSD "Pelister, Dimce Popov. "If during last year the snow was missing on Pelister and lovers of winter sports searched for alternative solutions, this winter we had plenty of snow, beautiful view and cableway, which thanks to ELEM is operating again, and certainly, a large number of skiers. "This is only beginning which I hope same as before shall denote that each year the end of ski season on Pelister in future", stated Popov. "Pelister Giant Slalom" and path "Kopanki" on Pelister are places where a lot of famous names in the "white sport" made their first ski moves. The sister and brother Kostelic, the three representatives who defended the colors of our country on three Olympic Games, Vesna Dunimaglovska, Aleksandar Stojanovski and Gorgi Markovski learned to ski on this path on Pelitser. This renewed manifestation shall be motive for many other lovers of white sport to follow their paths.

NGO NORA WITH SUPPORT BY AD ELEM INSTALLED THE FIRST INFORMATION – EDUCATION BENCH BOARDS

Non-governmental organization for rheumatism and arthritis NORA, in cooperation with AD ELEM, installed the first information-education bench boards in Clinical Center in Skopje at Clinic for rheumatism and in Clinical Hospital in Bitola. NGO Nora expressed their gratitude to ELEM for their support necessary for realization of the project. ELEM is the first company which supports this project and it initiated accomplishing of many other bench boards supported by other donors. There are manuals (guides) on the bench boards for 10 most common rheumatic and muscle-skeleton diseases whose content is educational and informative. This literature is first of this kind published in Macedonian language intended for education of patients. Each manual on 12 pages includes useful subjects with advices, support, treatment and other subject for which patients are always interested for easier dealing with rheumatic-muscle diseases and as well a for education of larger public. Three bench boards were installed u to now and it is planned for bench boards to be installed in in general hospitals in Stip, Strumica, Tetovo and Kumanovo.

ELEM
MACEDONIAN POWER PLANTS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SUMMARY

More important indicators achieved for 2012, which are a measure of the success of the company, are as follows:

- **Total revenue** in the amount of MKD **16.309.774.525**
- **Total expenses** in amount of **16.166.980.341**
- **Profit before tax** in the amount of MKD **142.794.184**
- **Profit after tax** in the amount of MKD **47.761.521**
- **Due repayment of long-term loans** in the amount of MKD **1.220.272.662**

STATEMENT OF COMPREHENSIVE INCOME

(000 МКД)

	Notes	Year which ends on 31 December 2012	2011
Revenues from sold electricity	23	13,859,090	14,719,661
Other operation revenues	24	918,663	558,809
		14,777,753	**15,278,470**
Lignite manufacturing costs	25, 26, 27,28, 29	(5,814,234)	(4,400,758)
Amortization and depreciation	25	(1,514,952)	(1,495,584)
Staff costs	26	(1,577,716)	(1,934,335)
Maintenance and insurance costs	27	(467,811)	(2,021,668)
Raw materials and consumables	28	(3,720,123)	(3,678,002)
Other operating costs	29	(791,096)	(904,450)
Cost from write-off of investments	7	-	(8,135)
Correction of value and write-off of unplayable receivables	30	(578,340)	(601,853)
Operating profit		**313,481**	**233,685**
Finance income	31	79,900	153,560
Finance costs	31	(250,586)	(222,984)
		(170,686)	(69,424)
Profit before taxation		**142,795**	**164,261**
Tax costs	32	(95,033)	(117,445)
Financial year income		**47,762**	**46,816**
Total comprehensive income for the year		-	-
Total comprehensive income for the year		**47,762**	**46,816**

STATEMENT OF FINANCIAL CONDITION

	Notes	(000 МКД) On 31 December 2012	2011
Non-current assets			
Property, plant and equipment	6	36,170,775	32,160,795
Intangible assets	6	470,814	361,973
Investments in subsidiaries	7	609,939	440,159
Financial assets available-for-sale	8	9,357	9,389
Long- term receivables	9	2,291,217	2,948,107
Long-term deposits	10	960	-
Other financial assets	11	13,454	13,446
		39,566,516	**35,933,869**
Current assets			
Inventories	12	2,738,717	2,591,902
Trade and other receivables	13	4,622,932	4,895,552
Prepaid expenses	14	1,434,473	897,700
Short-term bank deposits	15	3,000	107,950
Financial assets which are kept until maturity	16	-	504,768
Cash and cash equivalents	17	654,176	1,300,032
		9,453,298	**10,297,904**
Total assets		**49,019,814**	**46,231,773**
Capital and reserves			
Share capital		31,738,878	31,738,878
Reserves		1,145,378	1,138,356
Other capital		1,429,662	1,429,654
Retained earnings		271,921	268,634
Total capital and reserves	18	**34,585,839**	**34,575,522**

Non-current liabilities			
Interest loans	19	7,605,732	5,874,996
Reserves	20	589,151	408,756
Deferred grants	21	33,426	14,129
		8,228,309	**6,297,881**
Current liabilities			
Interest loans	19	1,467,918	1,198,738
Trade payables and other liabilities	22	4,737,748	4,159,632
		6,205,666	**5,358,370**
Total liabilities		**14,433,975**	**11,656,251**
Total capital and reserves and liabilities		**49,019,814**	**46,231,773**

STATEMENT OF CASH FLOWS

	Note	Year which ends on 31December	
		2012	2011
		000 MKD	000 MKD
Operating activities			
Income before tax		142,795	164,261
Adjustment for:			
Depreciation		2,031,023	1,952,789
Impairment of investments in subsidiaries to objective value		-	8,135
Correction of value and write-off of unpayable receivables		578,340	601,853
Foreign exchange,net		3,128	(24,000)
Interest expenses		227,398	192,595
Shortages		943	9,963
Provisions for reclamation of degraded land		93,047	93,055
Provisions for employee benefits		20,000	301,395
Provisions from potential losses based on court disputes		83,611	-
Non write-off value of alienated and expended property, plants and equipment		5,260	-
Income form transfer of assets from liquidated subsidiary ROIS dooel, Novaci		(229)	-
Income from write-off of liabilities		(15,835)	(4,568)
(Revenue) from amortization of deferred grants		(4,631)	(2,746)
Income from estimation of property, plants and equipment, net		(105,521)	-
Incomes from participation in profit from subsidiary		(26,423)	-
Surplus		-	(1,782)
Operating profit before working capital changes		*3,032,906*	*3,290,950*

Changes in working capital		
Inventories	(110,221)	(287,898)
Trade and other receivables and long- term receivables	(185,078)	(904,807)
Suppliers liabilities and other liabilities	580,344	1,244,113
	3,317,951	3,342,358
Interest paid	(206,970)	(327,093)
Income tax paid	(135,142)	(428,424)
	2,975,839	**2,586,841**
Investment activities		
Purchase of tangible and intangible assets, net of inflows	(6,225,741)	(4,296,571)
Inflow/(Investments)in short term deposits in banks	103,540	(99,082)
Loans to domestic entities	(8)	(119,056)
Investment in subsidiaries	(7,037)	(16,161)
Flows from participation in subsidiary income	26,423	-
	(6,102,823)	**(4,530,870)**

	Note	Year which ends on 31 December 2012 000 МКД	2011 000 МКД
Financial activities			
Dividends paid		-	(197,863)
Inflow of loans, net		1,976,360	1,048,131
		1,976,360	**850,268**
Net-change of cash		**(1,150,624)**	**(1,093,761)**
Cash at the beginning		1,804,800	2,898,561
Cash at the end		**654,176**	**1,804,800**
Cash and cash equivalents include:			
State entries	16	-	504,768
Cash and cash equivalents	17	654,176	1,300,032
		654,176	**1,804,800**

REPORT FOR CHANGES IN CAPITAL

(000 МКД)

	Share capital	Reserves	Other capital	Unallocated income	Total capital
On 1st January 2012	**31,738,878**	**1,138,356**	**1,429,654**	**268,634**	**34,575,522**
Separation for legal reserve	-	7,022	-	(7,022)	-
Dividends	-	-	-	(37,453)	(37,453)
Other	-	-	8	-	8
Owners transactions	-	*7,022*	*8*	*(44,475)*	*(37,445)*
Annual income	-	-	-	47,762	47,762
Other comprehensive income	-	-	-	-	-
Other comprehensive income	-	-	-	*47,762*	*47,762*
On 31 December 2012	**31,738,878**	**1,145,378**	**1,429,662**	**271,921**	**34,585,839**
On 1st January 2011	**31,738,878**	**1,101,257**	**1,429,611**	**265,423**	**34,535,169**
Separation for legal reserve	-	37,099	-	(37,099)	-
Dividends	-	-	-	(197,863)	(197,863)
Correction of errors from previous years	-	-	-	191,357	191,357
Other	-	-	43	-	43
Owners transactions	-	*37,099*	*43*	*(43,605)*	*(6,463)*
Annual income	-	-	-	46,816	46,816
Other comprehensive income	-	-	-	-	-
Total comprehensive income	-	-	-	*46,816*	*46,816*
On 31 December 2011	**31,738,878**	**1,138,356**	**1,429,654**	**268,634**	**34,575,522**

NOTES TO THE FINANCIAL STATEMENTS

ELECTRICITY REVENUE

	2012	2011
Revenue from sale of electricity to EVN Makedonija AD, Skopje	11,692,292	12,867,803
Revenue from sale of night surpluses	1,169,991	607,540
Revenue from sale of electricity to MEPSO AD Skopje	898,495	994,066
Revenue from sale of electricity, steam and hot water to qualified and end users	98,312	250,252
	13,859,090	**14,719,661**

OTHER INCOME

	2012	2011
Sale of other products and services	468,464	424,706
Damage compensation of insurance	116,059	49,886
Unpaid penalties	106,716	541
Income from estimation of property, plants and equipment (Note 6)	105,624	-
Participation incomes in subsidiary profit	26,423	-
Write-off of short-term liabilities	15,835	4,568
Revenue from amortization of differed grants	4,631	2,746
Rent incomes	1,418	997
Income from transfer of assets of liquidated subsidiary ROIS dooel, Novaci	229	
Discounts	23	233
Surpluses of materials, spare parts and small inventory	-	1,782
Donations	-	3,096
Other	73,241	70,254
	918,663	**558,809**

DEPRECIATION

	2012	2011
Depreciation	1,914,499	1,847,508
Amortization	116,524	105,281
Annual cost	**2,031,023**	**1,952,789**
Less: costs for lignite production	(516,071)	(457,205)
	1,514,952	**1,495,584**

STAFF COSTS

	2012	2011
Net salaries, salary tax and salary contributions	2,898,158	2,812,625
Other obligatory contributions for employees	168,095	211,103
Provisions for employee benefits	20,000	301,395
	3,086,253	3,325,123
Less: costs for lignite production	(1,508,537)	(1,390,788)
	1,577,716	**1,934,335**

MAINTENANCE AND INSURANCE COSTS

	2012	2011
Maintenance costs	2,666,037	3,137,558
Insurance costs	208,304	210,948
	2,874,341	**3,348,506**
Less: costs for lignite production	(2,406,530)	(1,326,838)
	467,811	**2,021,668**

RAW MATERIALS AND CONSUMABLES

	2012	2011
Cost of electricity sold	1,908,931	2,541,291
Spare parts	901,105	903,943
Oil	878,187	578,648
Natural gas	285,071	173,009
Liquid fuel	133,116	140,478
Water	111,873	115,942
Raw materials	246,750	125,649
Small inventory costs	30,367	18,105
Steam heating costs	14,969	3,682
Consumed electricity	12,153	10,231
Lubricants and oil	20,900	111
	4,543,422	**4,611,089**
Less: costs for lignite production	(823,299)	(933,087)
	3,720,123	**3,678,002**

OTHER OPERATING COSTS

	2012	2011
Electricity transmission costs	230,517	259,889
Mandatory health check	185,087	185,237
Other production services	117,437	40,176
Services for arrangement of electricity surplus sale	102,850	-
Provisions for reclamation of land	93,047	93,055
Provisions for court disputes	83,611	-
Sponsorships and donations	76,699	62,616
Contribution for water	72,897	71,733
Transport services	38,109	28,187

Utilities	31,311	29,820
Bank charges	25,196	23,106
Incorrectly notified value added tax in previous years	16,850	-
Costs for electricity transmission	14,258	13,638
Telecommunication and postal charges	13,044	14,354
Representation	12,692	8,990
Current protection at work costs	10,179	15,137
Memberships	9,998	9,101
Marketing	8,754	28,978
Court fees	8,015	6,636
Non-write-off value of alienated and expended property, plants and equipment	5,260	-
Professional training	1,550	4,874
Shortages	943	9,963
Taxes and contribution not depending on result	324	245
Loses from estimation of property, plants and equipment (Note 6)	103	-
Fees for road construction	-	58,211
Compensation for electricity production from fossil fuels		40,006
Other	192,162	193,338
	1,350,893	**1,197,290**
Less: costs for lignite production	(559,797)	(292,840)
	791,096	**904,450**

FINANCE INCOME AND COSTS

	2012	2011
Finance incomes		
Interest incomes	59,840	99,171
Exchange rate incomes	20,060	54,389
	79,900	**153,560**
Financing costs		
Interest costs	(213,961)	(191,425)
Penalties costs	(13,437)	(1,170)
Exchange rate costs	(23,188)	(30,389)
	(250,586)	**(222,984)**
Financial results, net	**(170,686)**	**(69,424)**

CASH AND CASH EQUIVALENTS

	2012	2011
Denar accounts in banks	267,701	565,260
Foreign currencies in banks	186,510	33,534
Special purpose current account	199,846	701,069
Cash office	119	169
	654,176	**1,300,032**

CAPITAL AND RESERVES

a. Shareholder capital

The shareholders capital of the Entity amounts to Denar 31,738,878 thousand and it is divided on 31,738,878 ordinary shares, with the nominal value of Denar 1,000 per share.

The structure of the shareholder's capital during 2012 и 2011 is as follows:

	Legal reserves	Revaluation resreves	Totally
01. Jaunary 2012	115,964	1,022,392	1,138,356
Separation of reserves during year	7,022	-	7,022
31. December 2012	**122,986**	**1,022,392**	**1,145,378**
01.January 2011	78,865	1,022,392	1,101,257
Separation of reserves during year	37,099	-	37,099
31. December 2011	**115,964**	**1,022,392**	**1,138,356**

b. Obligatory reserve

The Entity maintains obligatory reserves, as a common fund, which is established in accordance with Company law. The allocation is required until the balance of the reserve reaches 1/5 of the Entity's share capital. Up to this minimum, the obligatory reserve can be used only for covering losses, and if there is any excess over this minimum can be used for dividend distribution, if the Shareholders' Assembly issues such decision.

c. Revaluation reserves

According to the accounting regulations previously effective in the Republic of Macedonia, property, plant and equipment have been revalued by applying the officially published revaluation coefficients based on the general price index for industrial products. The carrying amount of property, plant and equipment had increased by applying these revaluation coefficients and the effect of the revaluation had an influence in creating the revaluation reserves.

d. Other capital

The Entity maintains special reserves, which can be used for covering loses and other purposes, such as: employees insurance, retirement benefits over the statutory limits, charities in case of death of an employee or member of his family; natural disasters, extended sick-leaves, disability or incurable diseases; funeral expenses, professional trainings and sponsorship. The manner of creating, investment, organization and utilization, the amount of funds and the plan and program for utilization of the special reserves is determined by the Shareholders' Assembly special acts.

TRADE AND OTHER RECEIVABLES

	2012	2011
Trade receivables		
Domestic trade receivables	3,350,428	3,594,146
Foreign trade receivable	432,609	338,444
	3,783,037	3,932,590
Less: reserves due to damage	(130,968)	(109,159)
	3,652,069	**3,823,431**
Receivables from subsidiaries	256,707	177,942
Less: reserves due to damage	-	(24,595)
	256,707	**153,347**
Interests receivables	1,046,811	1,051,078
Less: reserves due to damage	(557,521)	(557,521)
	489,290	**493,557**
Other current receivables		
Receivables from the loan of IBRD	137,187	164,760
Receivables from other domestic entities based on loans	8,797	119,056
Receivables from employees	7,767	6,008
Receivables for overpaid Income tax	29,999	135,393
Receivables from value added tax	24,827	-
Receivables from insurance companies	24,845	-
	233,422	425,217
Less: reserves due to damage	(8,556)	-
	224,866	**425,217**
	4,622,932	**4,895,552**

TRADE PAYABLES AND OTHER LIABILITIES

	2012	2011
Liabilities to suppliers		
- Domestic	3,117,902	2,748,990
- Foreign	436,329	190,598
	3,554,231	**2,939,588**
Other liabilities		
Liabilities to subsidiaries	357,883	11,450
Liabilities for salaries	163,480	140,115
Liabilities for VAT	100,076	8,021
Liabilities for taxes and contributions on salaries	90,683	81,962
Other liabilities for employees	42,479	28,683
Interest liabilities	38,826	38,947
Liabilities for dividends	37,453	-
Advances from Customers	3,528	5,451
Liabilities for leasing contracts	1,276	2,358
Liabilities for collective agreement	178	2,230
Other liabilities	62,399	33,191
	898,261	**352,408**
Accrued expenses:		
Accrued annuities on loans from IBRD	6,610	-
Costs for purchased electricity which have not been invoices	14,021	805,170
Advanced calculated costs for opened accredits for equipment supply	181,701	-
Other accrued expenses	82,924	62,466
	285,256	**867,636**
	4,737,748	**4,159,632**


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