



PAVLODARENERGO

JOINT-STOCK COMPANY



Increasing
energy through
the generations

ANNUAL REPORT
2016

ABOUT THE REPORT

PAVLODARENERGO JSC has been releasing annual reports since 2013. The previous annual report for 2015 was published in August 2016.

This Report contains information on activities of **PAVLODARENERGO JSC** and its subsidiaries. The document includes a Sustainable Development Report prepared in accordance with GRI G4 Guidelines. The main information disclosure principles and GRI guidelines for the electric power industry were used during the preparation. Section “Table of Report’s Compliance with the GRI G4 Guidelines” contains a table explaining where to find standard reporting elements and performance data.

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LETTER OF CHAIRMAN OF THE BOARD OF DIRECTORS

Dear shareholders and partners!

PAVLODARENERGO JSC is a company, which includes all stages of energy supply within the region, continues implementation of one of large-scale industrial programs on reconstruction and upgrading the main equipment at combined heat and power plants. In the anniversary year of 25 years of the independence of the Republic of Kazakhstan, actual volume of the Company investments under the agreement with the RK Ministry of Energy amounted to 11,760 KZT mln. All undertaken commitments were fulfilled in full.

In 2009-2015, PAVLODARENERGO JSC actively participated in the implementation of the state program on electricity ceiling tariffs, which promoted investing 48 KZT bln in creation of new assets, expansion, as well as renovation, maintenance, reconstruction and technical upgrading of existing assets. Since 2009, five turbine units and six boiler units were upgraded and modernized, and two new cooling towers were constructed at three plants of the Company - Pavlodar CHP-3, CHP-2 and Ekibastuz CHP. In general, since 2009 at PAVLODARENERGO JSC the upgrading of generating equipment at the plants was 59.2% or 392 MW, including Pavlodar CHP-3 where upgrading was more than 70% (380 MW). Implementation of the facilities modernization projects is in progress: in 2016 PAVLODARENERGO JSC started modernization of turbine unit No. 6 at Pavlodar CHP-3. In the reporting year, the first stage of works was completed.

Great attention is paid to the reconstruction of heat supply system, which was operating in retrenchment conditions for many years. Currently, there is a need to sharply escalate the amount of finance for reconstruction and modernization of heat energy production and transportation. In 2014, the Law On Natural Monopolies and Regulated Markets was amended regarding the transition of monopolies to ceiling tariffs for heat energy with duration of five years and more. The transition started from 2015, and PAVLODARENERGO JSC takes part in this program as well.

In October 2016, a trilateral agreement on implementation of the Pavlodar and Ekibastuz heat supply system modernization projects was signed between the European Bank for Reconstruction and Development (EBRD), the Ministry of National Economy of the Republic of Kazakhstan and subsidiaries of Central Asian Electric Power Corporation JSC as part of Nurdy Zhol state program of infrastructural development. In general, 13.94 KZT bln will be invested in modernization of heat supply systems of Pavlodar and Ekibastuz from 2016 to 2018.

In 2017, we are going to proceed with the implementation of the program of modernization and reconstruction of PAVLODARENERGO's production facilities and heat supply systems. We believe in the development of Pavlodar region economy and try to be one step ahead to meet the current as well as the future needs of consumers in heat and electricity.

Yerkyn Amirkhanov,

The Chairman of the Board of Directors
of PAVLODARENERGO JSC



LETTER OF THE GENERAL DIRECTOR

Dear colleagues and partners!

In 2016, PAVLODARENERGO JSC generated 3,829 mln kWh of electricity. Heat supply by CHP manifolds achieved 4,568 thous Gcal, which is more by 3% in average than in 2015. Number of electricity consumers increased compared with 2015 and amounted to 221 thousand. Number of heat today is 166 thousand – more by 7% compared to 2015.

Starting from 2016, Pavlodar CHP-3 has been implementing a new project - modernization of turbine unit No. 6 planned to be completed in 2018. Upon commissioning of this turbine, the plant electrical capacity will increase by 15 MW and amount to 555 MW. In 2016 CHP-3 also reconstructed the boiler unit No.5. As the previous three boilers, this one is equipped with automated process control system. In future, this system will be installed at other two boilers of the plant. In 2016, relevant works were performed to design the 2nd section of ash dumps at Pavlodar CHP-3 and Pavlodar CHP-2, and construction of the 2nd section of ash dump was continued at Ekibastuz CHP.

In the reporting year, Pavlodar Heat Networks LLP started implementation of the Pavlodar and Ekibastuz heat supply system modernization projects in accordance with the trilateral agreement signed in 2016 between the European Bank for Reconstruction and Development, the Ministry of National Economy of the Republic of Kazakhstan and subsidiaries of CAEPCO JSC as part of Nurlı Zhol state program. From 2016 to 2018 the Company plans reconstruction of the main

heating networks using pre-insulated pipe, restoration of insulation using PU foam insulation shell, construction of 12 block-type heat points in Ekibastuz.

In 2016, PAVLODARENERGO JSC hold three big events: 45 years of Pavlodar Heat Networks LLP, 55 years since the date of commissioning of the first CHP-2 in Pavlodar and 60 year anniversary of the oldest plant in Irtysh area, first in the region - Ekibastuz CHP. Professionals, who implement the principle of continuity and transfer knowledge to young staff, are the backbone of any team.

Focus on the well-being of the region residents has always been the main objective of PAVLODARENERGO. We try to do our best to achieve it. My blog at the PAVLODARENERGO's website serves for improving consumer feedback. I am sure, direct questions and answers help us to better understand each other.

The Company consistently follows its mission of ensuring good quality heat and electricity supply to all consumers. PAVLODARENERGO JSC firmly ties up its 2017 plans with continuing implementation of the fixed assets renovation program. We will proceed with introducing the modern technologies and equipment to facilitate the increase of reliability and efficiency of our work and energy stability of Pavlodar region.

Oleg Perfilov,

General Director of PAVLODARENERGO JSC

KEY INFORMATION

More than **5 000** employees



Pavlodar CHP-3



Pavlodar CHP-2



Ekibastuz CHP



Regional Electricity Distribution Companies in Pavlodar region, Pavlodar and Aksu.



Heat Supply Company in Pavlodar and Ekibastuz



Distribution company in Pavlodar

Main production characteristics

CHP	Installed capacity, MW	Equipment renewal since 2009, %	Year of foundation
Pavlodar CHP-3	540	70,4	1972
Pavlodar CHP-2	110	0	1961
Ekibastuz CHP	12	100	1956

Power lines, km

Power line types	Length, km
220 kV	14,3
110 kV	2 785,7
35 kV	2 401,2
6-10 kV	6 061,5
0,4 kV	4 611,4
Total	15 874,1

Substations

Substation types	Q-ty of units
220 kV	4
110 kV	73
35 kV	102
6-10/0,4 kV	3 613
Total	3 792

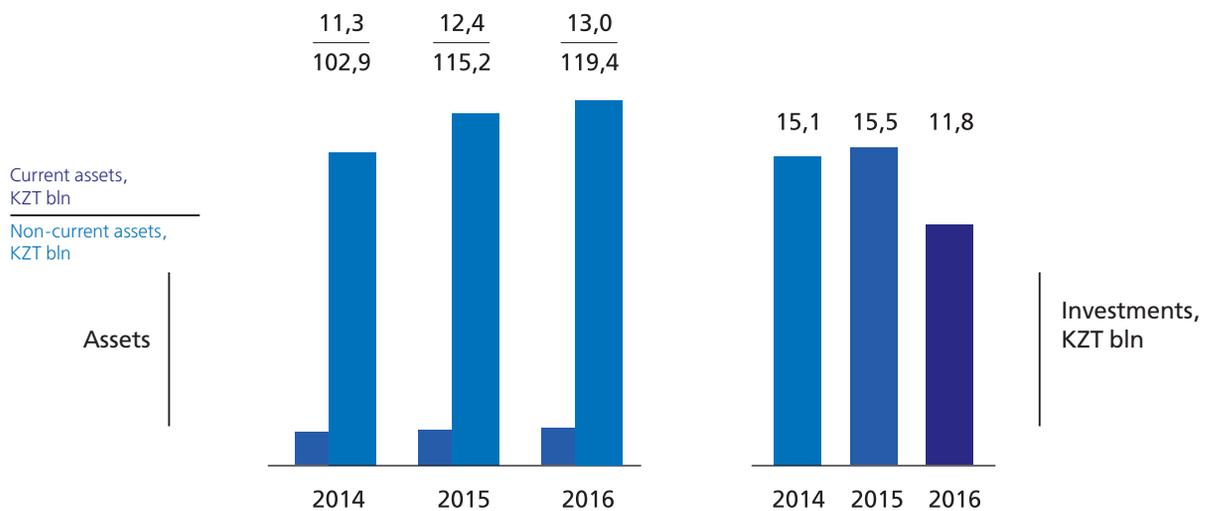
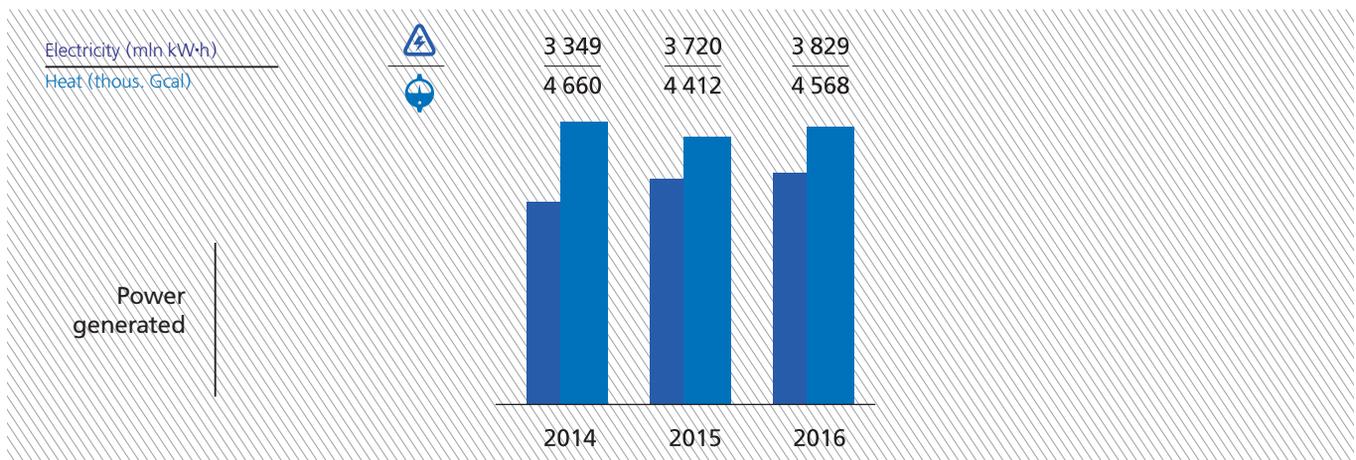
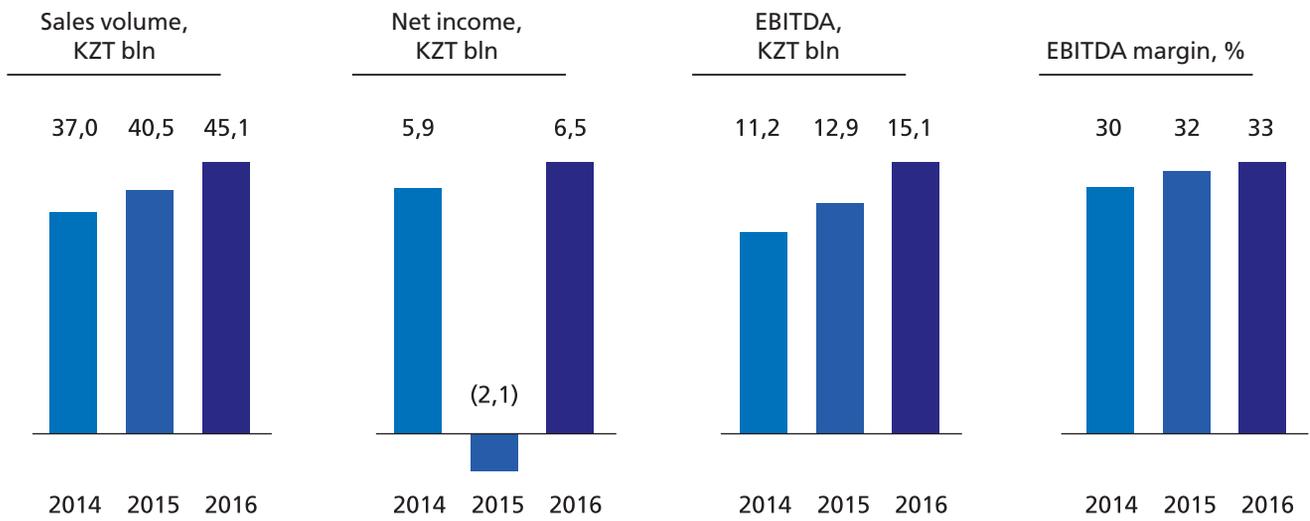
Total heat network length, km

Pavlodar	418,6
Ekibastuz	342,3
Total	760,9

Number of consumers

Electric power	Heat power
220 997	166 041

KEY PERFORMANCE INDICATORS FOR 2014-2016



OUTCOMES OF IMPLEMENTATION OF PRIORITY OBJECTIVES

Priority tasks of PAVLODARENERGO JSC include the actions aimed at modernization and reconstruction of electricity and heat generating and transmitting facilities; that is a key for sustainable development of the Company. According to the 2016-2020 Development Strategy, the Company continued implementing the Investment Program in the following three areas: increase in generation; energy saving, including reduction of electric and heat energy losses during transmission; improvement of environmental performance during the production. In 2016, the actual figure of implementing the Investment Program by PAVLODARENERGO group amounted to 11,760 KZT mln.

RECONSTRUCTION OF EQUIPMENT

In 2016, Pavlodar CHP-3 of PAVLODARENERGO JSC started implementing the project of turbine unit No. 6 modernization. In the reporting year, the first stage of works was completed. Upon commissioning of this turbine in 2018, the CHP-3 installed electrical capacity will increase by 15 MW and amount to 555 MW.

In 2016, boiler unit No.5 at Pavlodar CHP-3 was upgraded. The boiler was equipped with an automated process control system (APCS), so the number of boilers with the APCS increased up to 4 out of 6.

CONSTRUCTION OF ASH DUMPS

In 2016, relevant works were performed to design the 2nd section of ash dumps at Pavlodar CHP-2 and Pavlodar CHP-3. The works included construction and finishing of drainage water pumping stations, beginning of construction of drain pavilions and other activities.

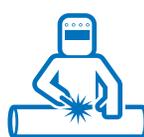
Also, in 2016, construction of the 2-nd section of ash dump was continued at Ekibastuz CHP in the bed of Lake Tuz.

RECONSTRUCTION OF ELECTRIC POWER FACILITIES

In accordance with the Reconstruction, Modernization and Re-equipment Investment Program, 2.2 KZT bln was spent for implementation of projects during 2016. From 2009 to 2016 inclusive, reconstruction of overhead power lines and underground cables of with a length of 557.3 km was completed, including replacement of 371 km bare wire with self-supporting insulated wire. 30 module transformer substations, which contain power transformers with dry insulation and vacuum breakers, were installed in the territory of Pavlodar city. The substations are equipped with modern security and fire alarm systems.

RECONSTRUCTION OF HEAT NETWORKS

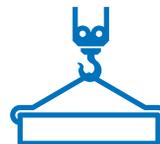
In 2016, a trilateral agreement was signed between the Ministry of National Economy of the Republic of Kazakhstan, Pavlodar Heat Networks LLP and the European Bank for Reconstruction and Development concerning implementation of investment projects on heat networks reconstruction in Pavlodar and Ekibastuz for 2016-2018. In 2016, in Pavlodar the reconstruction of heat main No.22 was completed with the replacement of 4,210 m of mineral wool thermal insulation with PU foam insulation shell. Construction of 851 m of heat main No.6 and 748 m of heat main No.14 was completed in Ekibastuz.



Reconstruction of heat main No.22

Pavlodar

4 210 m



Construction of heat main No. 6

Ekibastuz

851 m



Construction of heat main No. 14

Ekibastuz

748 m

PAVLODARENERGOSBYT LLP PROJECTS IMPLEMENTATION

In 2016, Pavlodarenergosbyt LLP implemented the project on introducing new software Ensoft-Energo, the module "Electricity metering". Modern billing program implemented via web-technologies is capable to solve the problems of accounting the electricity consumed by legal and physical entities. The program provides the energy transmitting and supplying companies with the information required for prompt communication with customers, and managers of these companies - with full and operating control over the current situation.

Structure of electricity transmission services by groups of end consumers

Item	Spec. ratio, %	mIn kW-h
Population	44%	579,4
Industry	20%	266,7
Commercial sector	19%	246,3
Public sector	14%	182,1
Agriculture	3%	40,4
Total	100%	1 314,9



THE COMPANY RATING

In July 2016, Fitch Ratings international rating agency assigned PAVLODARENERGO JSC «B+» long-term default rating in the national and foreign currencies and the national long-term rating at "BBBkaz" level with a stable outlook.

FULL LIST OF RATING ACTIVITIES

- Long-term issuer default rating (IDR) in the national and foreign currencies at "B+" level; outlook is stable;
- National long-term rating at "BBB(kaz)" level; outlook is stable;
- Senior unsecured rating in the national currency at "B+" level/recovery rating «RR4».



KEY EVENTS AND ACHIEVEMENTS FOR THE REPORTING PERIOD

FEBRUARY

On February 1, Pavlodar CHP-2 of PAVLODARENERGO JSC - one of the first power plants in Kazakhstan having high-pressure equipment - celebrated its 55th anniversary.

JUNE

The VIII Republican Forum of Energy Veterans was held in Pavlodar, which was attended by more than a hundred well-known industry professionals from Kazakhstan, Russia and Kyrgyzstan. The Forum was organized by the Kazakhstan Electricity Association (KEA) with the support of PAVLODARENERGO JSC.

JULY

In July 2016, Fitch Ratings international rating agency assigned PAVLODARENERGO JSC «B+» long-term default rating in the national and foreign currencies and the national long-term rating at “BBBkaz” level with a stable outlook.

AUGUST-SEPTEMBER

Press tours to facilities of Pavlodar REDC JSC and CHPs of PAVLODARENERGO JSC were held in Pavlodar. Representatives of state authorities and mass media inspected the progress of the Investment Program, including modernization of facilities, as well as construction, reconstruction, modernization and technical upgrading of 35 kV and higher capacity networks aimed at improving power supply reliability in the region.



OCTOBER

In October 2016, Pavlodar Heat Networks LLP accomplished 45 years.

In October, a trilateral agreement was signed for implementation of the Pavlodar and Ekibastuz heat supply system modernization projects. The agreement was concluded between the European Bank for Reconstruction and Development (EBRD), the Ministry of National Economy of the Republic of Kazakhstan and subsidiaries of Central Asian Electric Power Corporation JSC (CAEPCO JSC) within the framework of Nurlı Zhol state program for infrastructure development. The total investments in the infrastructure of two above mentioned cities in the period of 2016-2018 will amount to 13.94 KZT bln. 4.65 KZT bln was borrowed by EBRD, plus 4.65 KZT bln was funded within Nurlı Zhol state program. And 4.64 KZT bln was funded by Pavlodar Heat Networks LLP.

NOVEMBER

Short-term bonds were issued with the participation of PAVLODARENERGO JSC. The instrument became the first in the «Commercial Bonds» sector intended for short-term bonds of companies that had already been listed at Kazakhstan Stock Exchange.

DECEMBER

On December 4, 2016, the 60th anniversary was celebrated by Ekibastuz CHP - the only heat source for the city with a population of more than 159 thousand people.



THE COMPANY OVERVIEW

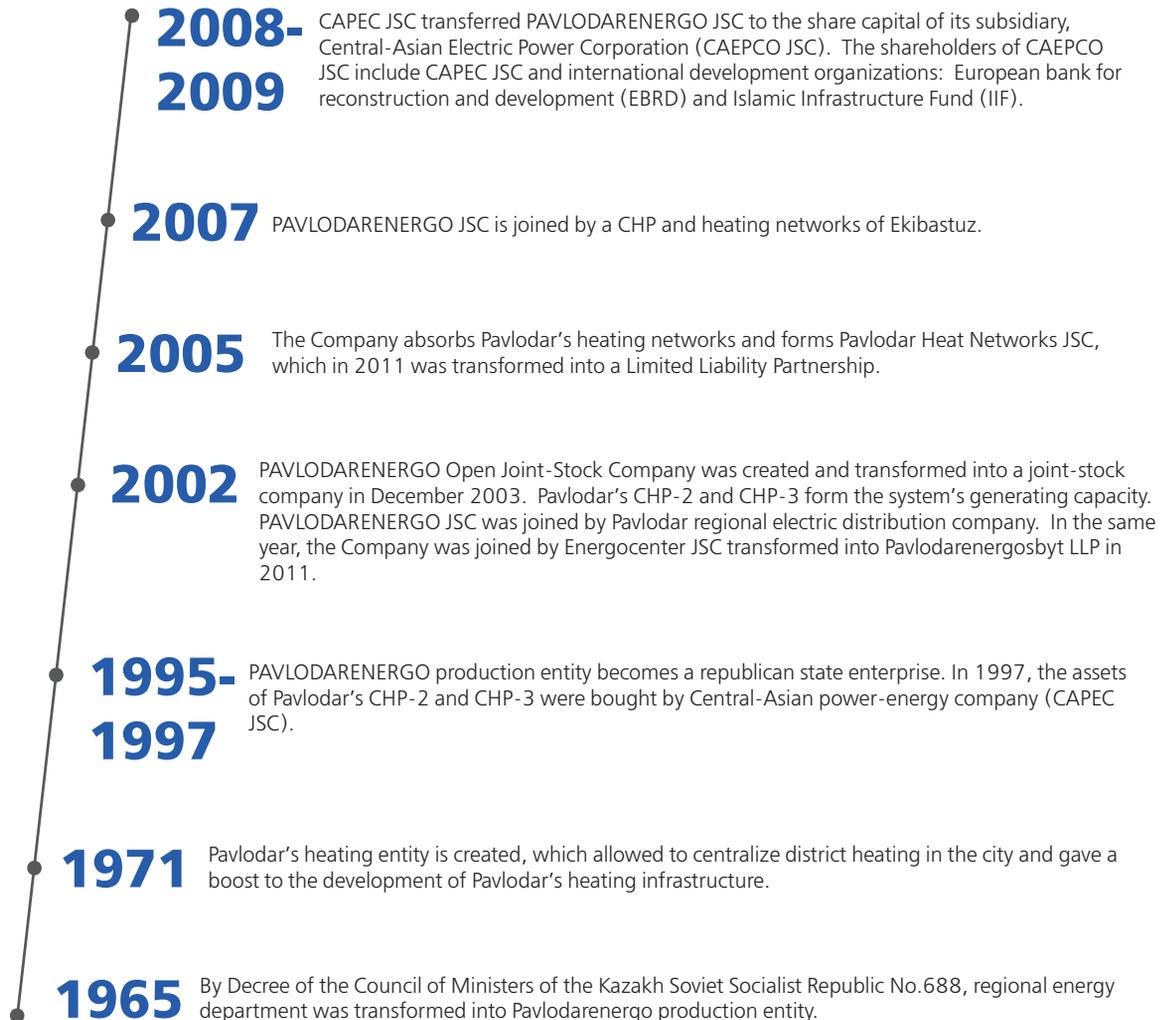
BUSINESS PROFILE

PAVLODARENERGO JSC - vertically integrated company, which includes all stages of energy supply of Pavlodar region (generation, transmission and distribution, and sales of energy resources). The Company supplies electric and heat energy to the consumers in Pavlodar, electric energy in Pavlodar region and Aksu, heat energy in Ekibastuz. The enterprise is involved into the Group of companies of Central-Asian Electric Power Corporation JSC (CAEPCO JSC).

PAVLODARENERGO JSC has implemented corporate governance standards; it is improving its business processes and practices in accordance with international standards in the field of production, environment, occupational health and safety, and social sphere.



HISTORY



MISSION

The Company's mission is to improve the quality of life of its consumers and create favourable conditions for economic development in the regions of its operations by providing first-class energy supply services for households, facilities and organizations.

The Company is implementing this mission by organizing its activities in accordance with international production, environmental, occupational health and social responsibility standards.

The Company's effectiveness is based on its employees, whose value consists in their professionalism and the ability to work as a team focusing on achieving the results.

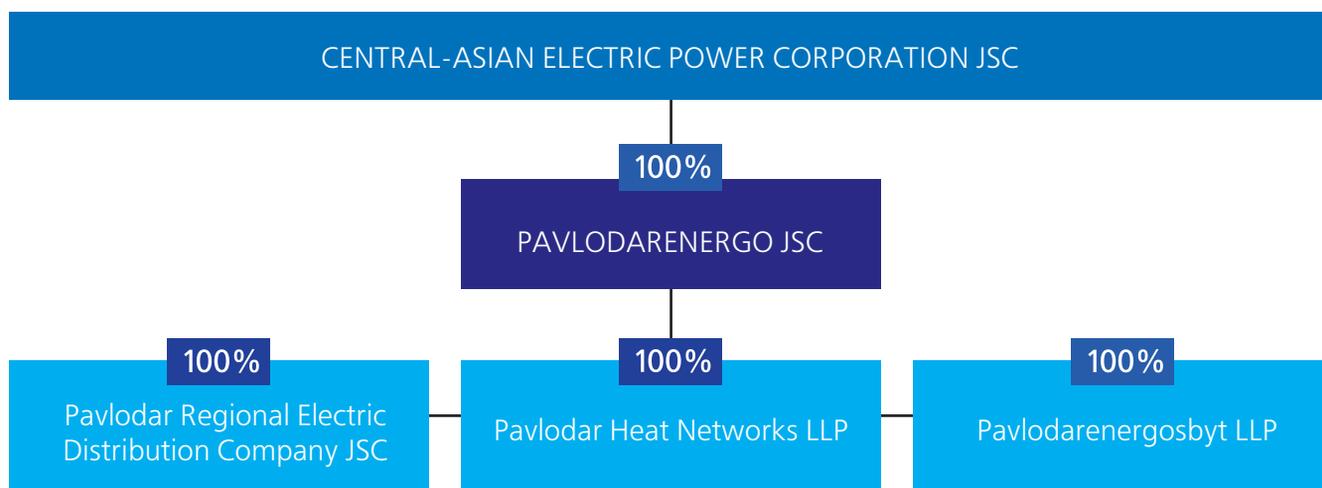
VISION

PAVLODARENERGO JSC is one of the largest enterprises in north-eastern Kazakhstan in the field of production, transmission and distribution of electricity and heat. PAVLODARENERGO supplies electricity and heat to Pavlodar, Ekibastuz, Aksu and districts of the Pavlodar region. A portion of the electricity produced by the Company is supplied to other regions of Kazakhstan.

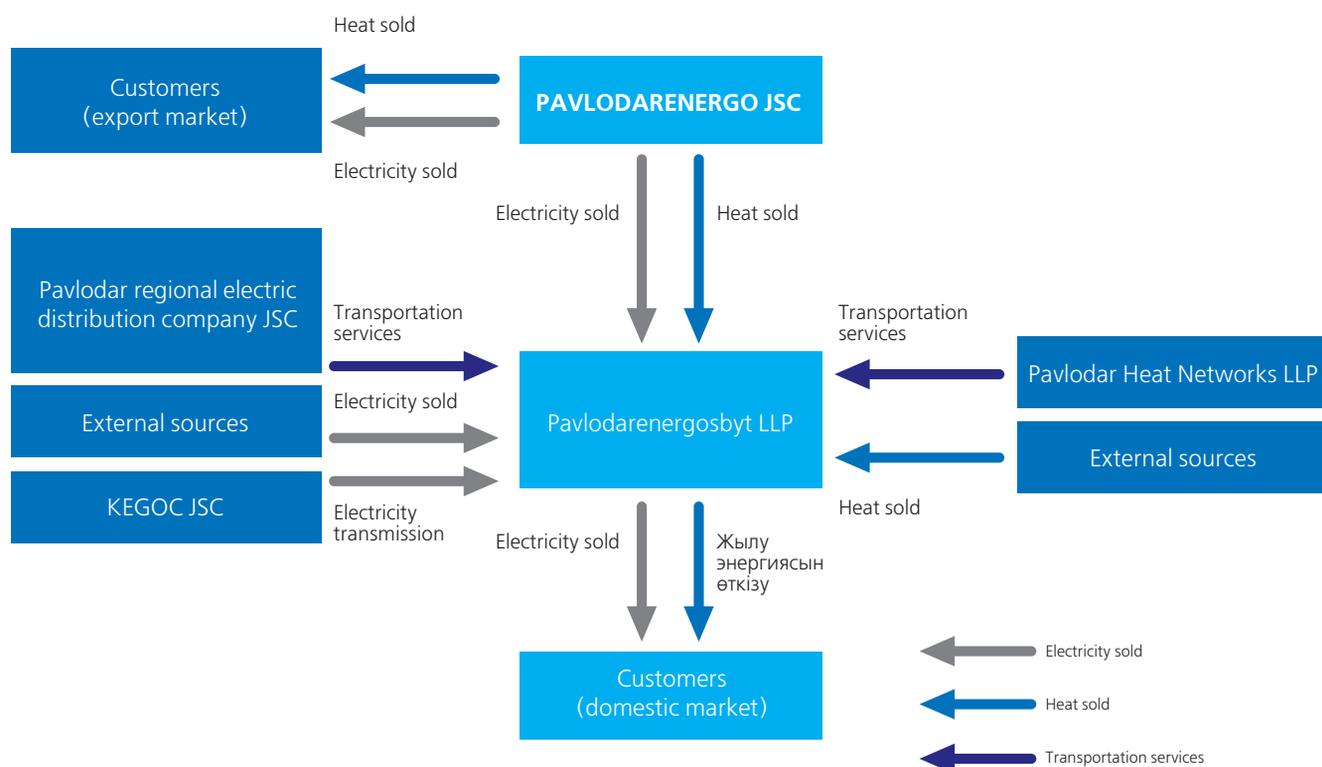
The Company successfully uses advantages of the holding structure, combining dynamism and flexibility of its business units (companies within the Group) with stable and reliable centralized management.

The Company's staff is a team of professionals who are striving to reach ambitious goals. The Corporation's relations with customers and suppliers are based on the principles of respect and mutual responsibility.

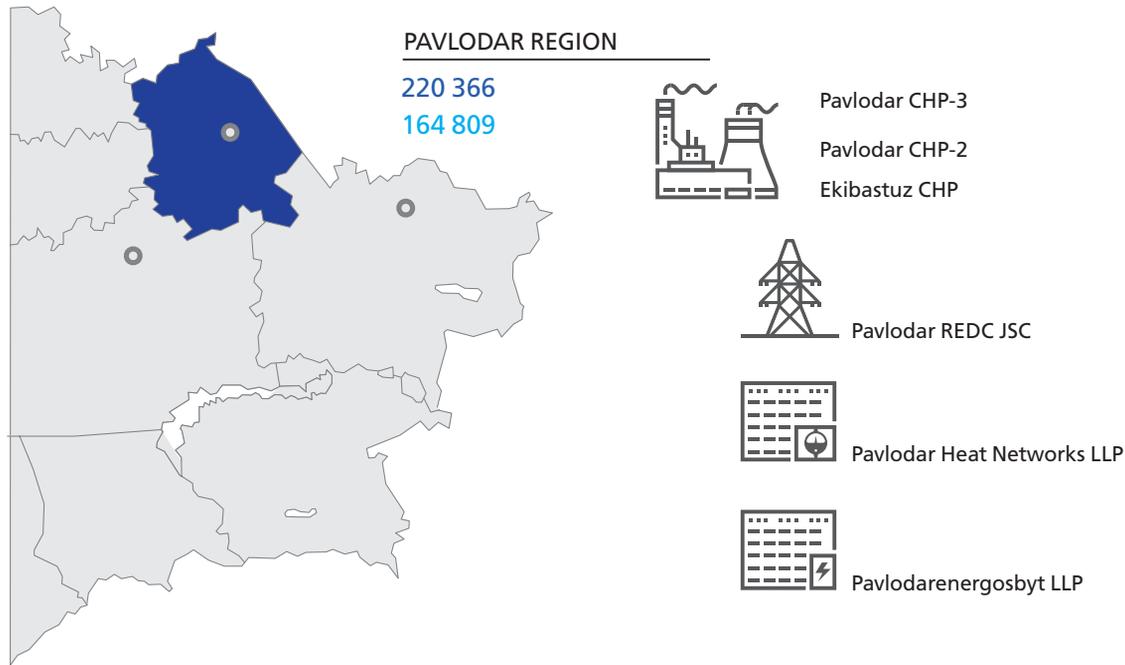
THE COMPANY STRUCTURE



BUSINESS MODEL



GEOGRAPHY OF OPERATIONS



DEVELOPMENT STRATEGY

PAVLODARENERGO's strategic goal is to build the advanced energy company ensuring a balanced and sustainable development of the energy system of North Kazakhstan region, promoting economic growth. The Company actively introduces global best practices and operates in accordance with international standards in the field of production, environment protection, occupational health and social responsibility. Through improving efficiency, PAVLODARENERGO JSC strives to increase the market value of the Company's assets and its investment attractiveness.

MAJOR TARGETS AS PART OF ACHIEVING THE STRATEGIC GOAL OF PAVLODARENERGO:

- targeted market expansion with guaranteed sales and low risks;
- enhancement of production efficiency through raising a technical level of production and upgrading main production facilities and infrastructure;
- introduction of best management standards through continuous employee training in the field of new efficient technologies in the production and enterprise management.
- introduction of promising projects through deliberate innovative development;

TO ACHIEVE THIS STRATEGIC GOAL, THE COMPANY IS IMPLEMENTING THE FOLLOWING PROJECTS:

- reconstruction and modernization of equipment at power generation facilities through implementing investment programs, reducing accident risks and eliminating downtime;
- reducing excessive losses during heat transmission, and normative losses - during electricity transmission;
- minimizing per-unit production costs for heat and electricity;
- introduction of energy-saving and energy-efficient technologies in energy production and transmission;
- updating certificates for compliance with the requirements of international standards in the field of ecology, personnel health and industrial safety;
- continuous training aimed to enhance employee professionalism;
- introduction of an automated enterprise management system.

SUBSIDIARIES

PAVLODARENERGO JSC consists of:

- Pavlodar CHP-2;
- Pavlodar CHP-3;
- Ekibastuz CHP;

- Pavlodar Regional Electricity Distribution Company JSC;
- Pavlodar Heat Networks LLP (heat networks of Pavlodar and Ekibastuz);
- Pavlodarenergosbyt LLP.

PAVLODAR CHP-3 OF PAVLODARENERGO JSC

The largest energy generating facility of the Company. Installed electricity generation capacity is 540 MW. CHP-3 provides electric energy to industrial enterprises, local service facilities and households of the city. The station is one of the most modern in Kazakhstan: Since 2009, the plant facilities have been upgraded by 70.4%. Modernization of the plant will continue until 2020.

PREDC JSC is connected with the unified electric power system of Kazakhstan and Russian networks, enabling PREDC JSC to transmit electrical energy generated by Pavlodar's CHPs No.1, No.2 and No.3. CHP No.1 belongs to Aluminium of Kazakhstan JSC, CHP No.2 and No.3 to PAVLODARENERGO JSC.

Power grid of PREDC JSC connects most of facilities in Pavlodar region – the industrial area of Kazakhstan with about 5 thous enterprises of different types of incorporation and population amounts to 747.1 thous.

PAVLODAR CHP-2 OF PAVLODARENERGO JSC

Installed electricity generation capacity is 110 MW. CHP-2 provides electric energy to industrial enterprises, local service facilities and households of the city. The plant is one of the best in Kazakhstan in terms of using the installed electric capacity during the heating season - 93%.

PREDC JSC includes the enterprises performing maintenance and repair of 0.4-10 kV distribution power grids and 35-220 kV substations:

- Western power grid enterprise: Aktogay, Bayan-Aul, Irtysh, Maysk power grid areas (PGA) and Aksu power grids (Left shore);
- Eastern power grid enterprise: Zhelezinsk, Kachirsk, Lebyazhensk, Pavlodar, Uspensk, Scherbaktinsk PGAs (Right shore);
- Municipal power grid enterprise (MPGE) operates and carries out technical maintenance of 0.4-10 kV distribution grids of Pavlodar;
- Production and repair enterprise (PRE) operates and performs maintenance of 35-220 kV high-voltage transmission line in the Pavlodar region;
- Municipal intra-household power grid enterprise (MIHPGE), not related to regulated kinds of services, works under an agreement for maintenance of 0.4 kV power grids of multi-storey buildings condominium in Pavlodar and Aksu cities;
- Production departments and services.

EKIBASTUZ CHP OF PAVLODARENERGO JSC

Installed electricity generation capacity is 12 MW. Ekibastuz CHP is the only heat supply source in Ekibastuz. In 2016, the plant celebrated its 60th anniversary and is the oldest enterprise of the Company.

PAVLODAR REGIONAL ELECTRICITY DISTRIBUTION COMPANY JSC

Main activity of Pavlodar Regional Electric Distribution Company JSC (PREDC JSC) is transmission and distribution of electrical energy in eleven districts of the Pavlodar region and in Pavlodar and Aksu cities. Production facilities are located in Pavlodar city and in the Pavlodar region. Its serviced area is 105.9 thous km².

The length of networks of PREDC JSC is 15,874 km, including overhead power lines – 15,119 km and cable lines – 755 km.

Through power grid of Kazakhstan electricity grid operating company JSC (KEGOC JSC) the power grid of

PAVLODAR HEAT NETWORKS LLP

Pavlodar Heat Networks LLP transmits and distributes heat for consumers in Pavlodar and Ekibastuz cities. Activity of the enterprise covers improving of operational reliability of heating network, coordination of processes of generation, transmission and consumption of heat energy.

Length of heat networks of Pavlodar is 705 km, including consumer's networks:

- main heating networks – 115 km;
- district heating networks – 280.6 km;
- hot water networks – 23 km;
- consumer's networks - 286.4 km;
- pump stations – 11 stations;
- central heat distribution stations – 22 stations.

Length of heat networks of Ekibastuz is 418 km, including consumer's networks:

- main heating networks – 37.6 km;
- district heating networks – 304.7 km;
- consumer's networks - 75.7 km;
- central heat distribution station (CHDS) – 1 station;
- discharge pump stations – 4 stations;

PAVLODARENERGOSBYT LLP

Pavlodarenergosbyt LLP is an energy supplying company, providing electrical and heat energy to customers in the Pavlodar region, and in the cities of Pavlodar, Ekibastuz and Aksu.

The company supplies:

- electrical and heat energy to Pavlodar city;
- electrical energy to districts of the Pavlodar region and Aksu city;
- heat energy to Ekibastuz city.

The total number of customers of Pavlodarenergosbyt LLP as of December 31, 2016 was:

220,997 – electricity consumers;

166,041 – heat consumers;

Pavlodarenergosbyt LLP performs a policy of customer service quality improvement using modern technologies. For customer comfort there is a system of payment via second-tier banks, internet, ATMs, terminals. To provide payment collection services there are 2 service centers, 3 pay stations in Ekibastuz city – 2 pay stations in Aksu city – 2 pay offices and 9 pay offices at regional sale sites.

Agreements for payments collection were signed with 13 second-tier banks, Kazpost JSC's branch, Astana-Plat LLP and Contact 24h LLP.

Rates for heat supply services for 2014-2016 (KZT incl. VAT/Gcal)

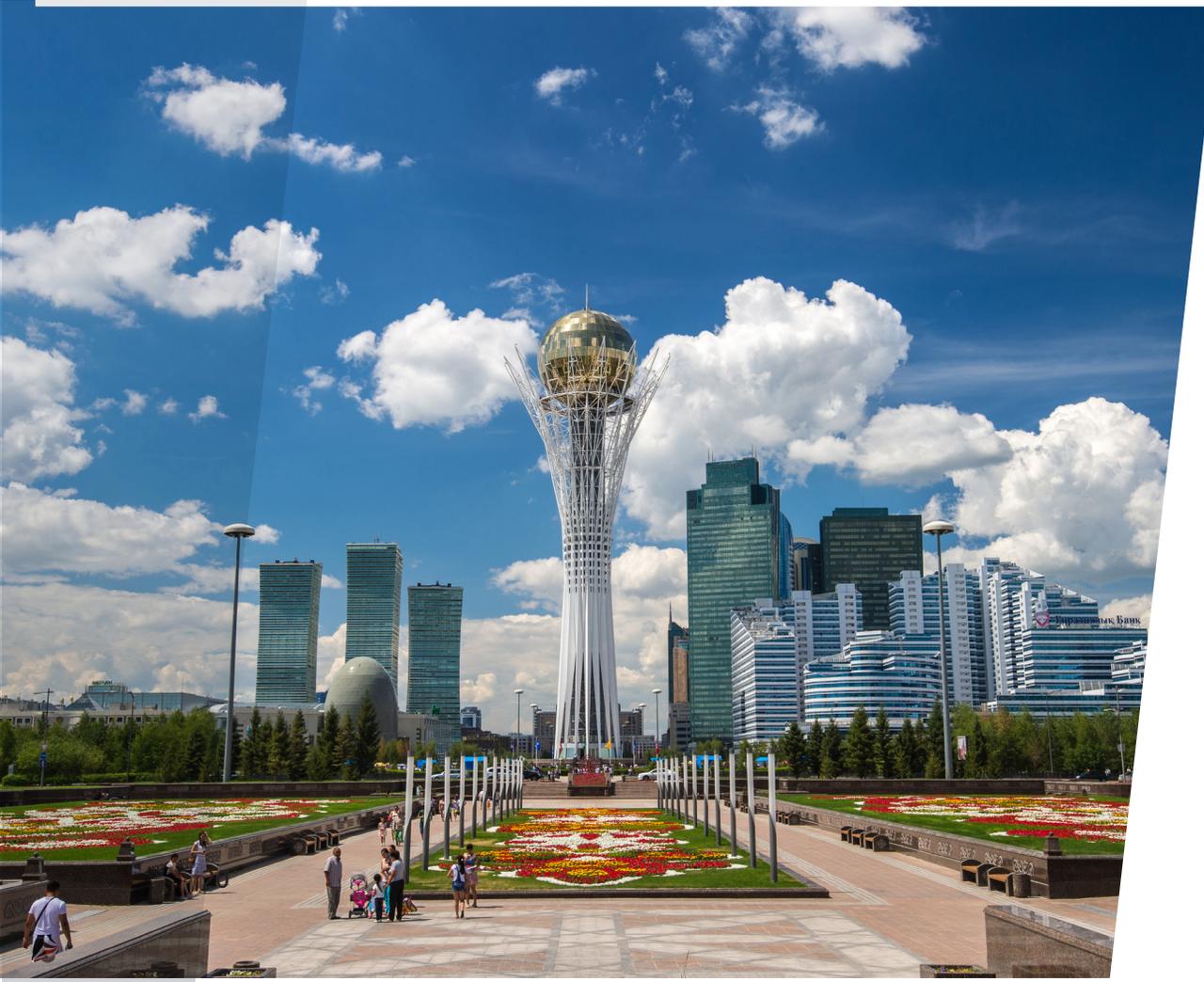
	01.01.2014	01.07.2015	01.01.2016	01.07.2016
For the consumers of Pavlodar city joined to centralized heat supply networks				
Individual heat points	2 471,76	2 511,25	2 857,95	2 881,19
Central heat points	2 502,20	2 541,69	2 862,29	2 885,53
For the consumers of Pavlodar city not joined to centralized heat supply networks				
steam 16 from CHP-2	4 754,64	4 864,92	6 770,76	6 856,29
steam 16 from CHP-3	3 119,76	3 246,33	4 084,70	4 285,53
Hot water supply from CHP-3	1 143,77	1 164,96	1 265,61	1 265,61
Ekibastuz	3 272,64	3 317,91	3 884,98	3 924,73

Average selling price of electrical energy for consumers of Pavlodarenergosbyt LLP, KZT/kW h, incl. VAT (12%), 2013-2016

January 1, 2013	10,76
January 1, 2014	12,20
January 1, 2015	12,64
January 1, 2016	13,78

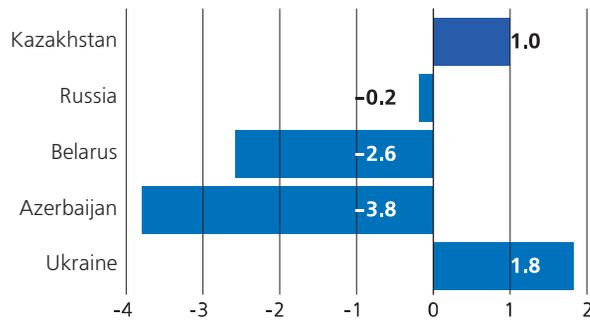
MARKET ENVIRONMENT ANALYSIS

At the end of 2016, economy of Kazakhstan demonstrated growth at the rate of 1.0% against 1.9% of the previous year, which is currently one of the best indicators in the post-Soviet territory over the reporting period. The GDP slowdown resulted from decrease in the physical volume of crude oil production (from 79.5 mln tons to 78.0 million tons or 1.8%) as well as a negative multiplier effect of low oil prices on the economy at the beginning of the year: according to the U.S. EIA, in January 2016, a barrel of Brent crude oil was traded at an average price of 30.70 US dollars, while by December the oil price increased to 53.29 US dollars (+73.6%).



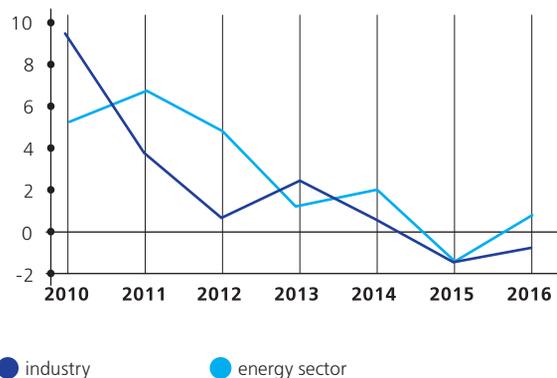
GDP dynamics in Kazakhstan and certain post-Soviet countries in 2016, %

Source: data of statistical agencies of the countries



Production dynamics in the overall industry and in the energy sector, %

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



● industry ● energy sector

The most marked growth in the GDP structure by 1.3% was demonstrated by the real sector. Outperformance of the real sector ensured a slight increase in its ratio in the GDP structure - from 35.5% to 36.0%. The service sector ratio decreased from 59.4% to 57.9%.

The construction and agriculture sectors demonstrated the most successful indicators among the real sectors of economy - 7.9% and 5.5%, respectively. At the end of the year, the production figures of Kazakhstan industry reduced by 1.1%. The mining industry experienced a 2.7% decline caused by decrease in production of oil, as well as coal - by 4.6% and iron ore - by 12.9%. The manufacturing industry demonstrated growth in indicators by 0.7% due to increase in metallurgy by 6.6% (including 8.5% in non-ferrous metallurgy, 3.3% in ferrous metallurgy), oil refining by 0.6%, food industry by 3.9% and pharmaceuticals by 2.5%. Other energy-consuming sectors of the manufacturing industry - chemical and construction - demonstrated a decline of 2.2% and 4.7%, respectively.

After the last year decline, the energy sector (electricity, gas, steam supply and air conditioning) demonstrated a minimum growth of 0.4%. The positive year end for the sector was affected by favorable dynamics in the electric power industry with an increase in production by 0.7%. Gaseous fuel production and distribution increased by 0.3%, while steam supply and conditioning decreased by 0.1%.

The production output of the water supply industry has been declining for several years. This year, a negative value reached 4.6%.

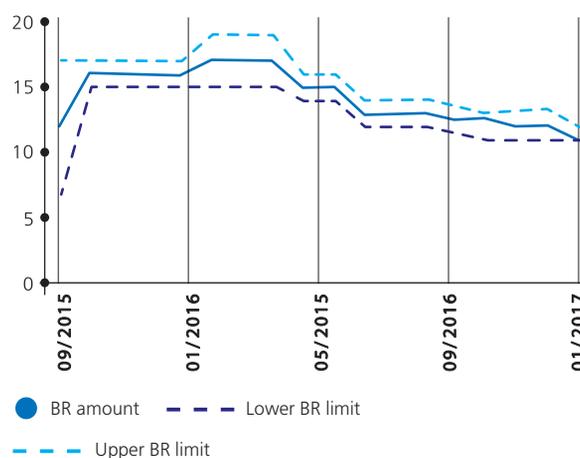
Investment activity in Kazakhstan's economy continued growing last year. The growth in fixed asset investments amounted to 5.1% (in 2015 - 3.7%). The main source of investments is still the companies' own funds - 60.7% of all capital investments. Over one third of investments (35.7%) are accounted for the mining sector. The volume of investments in the energy sector amounted to 6.0%.

MONETARY POLICY

The monetary policy of the National Bank of the Republic of Kazakhstan (NB RoK) is aimed at ensuring price stability. To realize this goal, since August 20, 2015, the NB RoK has changed its policy from currency to inflation targeting depending on a floating exchange rate. Against the background of weakening prices for crude oil, which is the main export commodity of the country, the national currency - tenge - devaluated by 79.7% from August 2015 to January 2016, while the value of the US dollar increased from 203.62 tenge/US dollar to 365.83 tenge/US dollar. During 2016, tenge was strengthening as oil prices recovered. The growth over the period of 12 months amounted to 8.8%: in December, the NB RoK fixed an average exchange rate at the level of 333.73 tenge/US dollar.

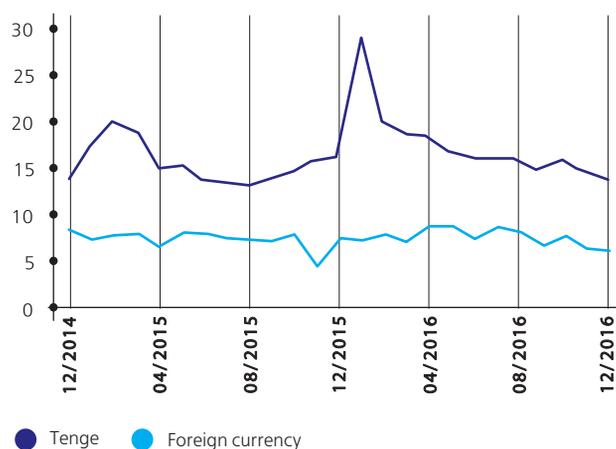
Amount and limits of a base rate (BR) if the National Bank of the Republic of Kazakhstan, %

Source: National Bank of the Republic of Kazakhstan



Average interest rate on loans granted to non-banking legal entities, %

Source: National Bank of the Republic of Kazakhstan



One of the most important elements of inflation targeting was the resumption of using monetary instruments to influence the credit activity of banks, including open market transactions involving provision and withdrawal of liquidity for the purpose of forming interbank interest rates close to the base rate.

During 2016, the NB RoK revised the base rate 5 times: 1 time - upward (from 16% to 17% in February), and 4 times - downward (in May, July, October and December). In January 2016, the base rate was fixed at the level of 16.0% with a lower limit of 15.0% and upper limit of 17.0%; in December - at the level of 12.0% with a lower and upper limit of 11.0% and 13.0%, respectively.

The overall credit activity of second-tier banks (STB) in 2016 was low. The loan portfolio of STBs for the year decreased by 1.6% from 15,553 KZT bln as of January 1, 2016 to 15,303 KZT bln as of January 1, 2017, while a share of foreign currency loans in the structure of liabilities did not practically change (33.7% vs. 32.6%). At the same time, interest rates on tenge-denominated loans granted to non-bank corporate entities decreased for the year from 16.0% to 14.4%. Interest rates on foreign-currency denominated loans granted to economy sectors also decreased from 7.4% to 6.5%.

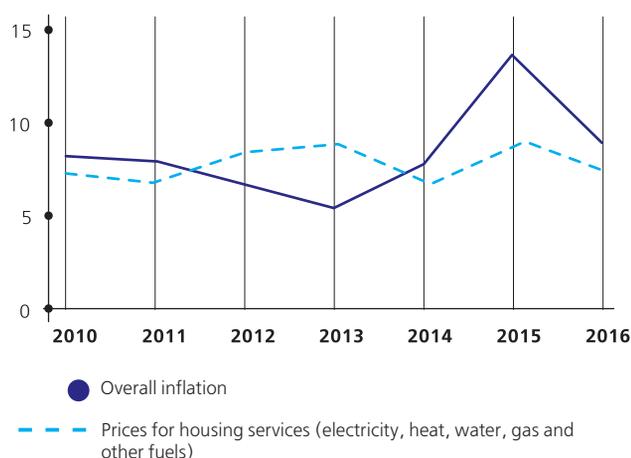
CONSUMER MARKET

During the reporting year consumer markets met some difficulties. The physical volume of wholesale and retail trade decreased by 1.4%. Retail trade turnover increased by 0.9% against a 0.4% decline in 2015.

In December 2016, the inflation rate amounted to 8.5%, while food prices rose by 9.7%, prices for non-food goods - by 9.5%, and paid services rose in prices by 6.1%. Prices

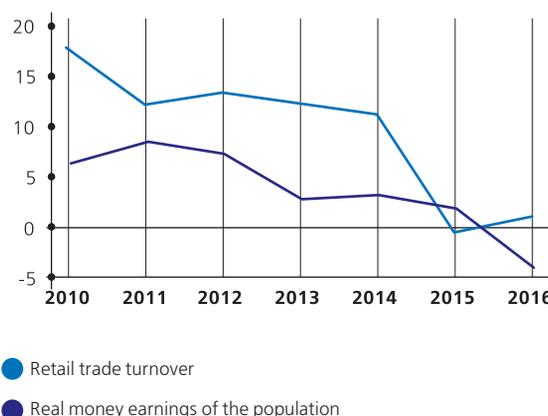
Inflation dynamics in the Republic of Kazakhstan, %

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



Dynamics of retail sales and real earnings of the population, %.

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



for housing services, water, electricity, gas and other fuels increased by 6.9%. (The target of the NB RoK for 2016-2017 is the annual inflation band of 6-8%. The regulator will strive to achieve a level of 3-4% by 2020).

As a result, real earnings of the population continued declining throughout the year. The annual decline value was equal to 4.5% (in 2015 the indicator grew by 1.4%). The influence of the decline in real earnings on consumer markets will continue during 2017. Due to rise in prices for inelastic goods and services (food, utilities), consumers will refuse to purchase durable goods.

FORECAST FOR 2017

Analysts believe that 2017 will be the first year of post-crisis recovery of economy of the Republic of Kazakhstan.

According to the data predicted by the International Monetary Fund (IMF) in February 2017, by the end of the year GDP of Kazakhstan will grow by 2.5%. The IMF believes that acceleration of economic growth rates resulted from structural reforms and vigorous measures implemented as part of «100 specific steps» program.

In November 2016, the European Bank for Reconstruction and Development (EBRD) predicted GDP growth in Kazakhstan at the level of 2.4% in 2017. EBRD experts believe that the growth will be affected by the restoration of confidence on the part of foreign investors, stabilization of the exchange rate, as well as favorable commodity prices.

The Ministry of National Economy of the Republic of Kazakhstan provided the most cautious forecast for 2017. GDP growth by 2.0% will be ensured by positive dynamics in the mining sector (3.6%) as well as in manufacturing segments such as food production (3.2%) and machine engineering (13.0%); the agricultural sector will grow by 2.5%, the construction sector - by 2.6%, transport sector - by 4.0%.

ENERGY SECTOR OVERVIEW

A distinctive feature of economy of Kazakhstan is high energy intensity. This is associated with a high weight of the real sector of economy, namely, energy-intensive industries such as oil and gas production, coal mining, metal ore mining, metallurgy and oil refining. About two thirds of the generated electricity is consumed by large industrial enterprises.

Kazakhstan is located in the moderate climate zone, and a long winter with an average temperature from -0.7°C (Shymkent) to -18.6°C (Petropavlovsk) is typical for the most regions of the country. Most of the cities of the country are provided with heat through the district heating system (DHS). All above-listed characteristics make the energy sector of Kazakhstan a strategic branch of the country's economy.

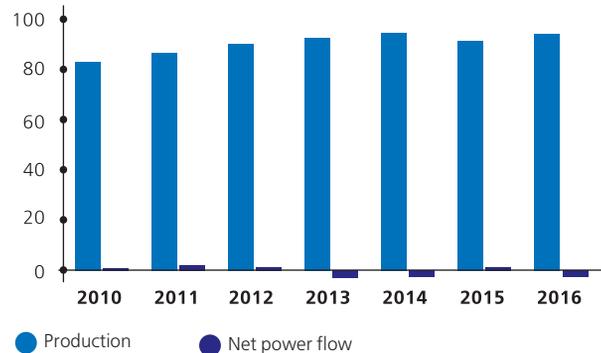
ELECTRIC POWER GENERATION

According to the data of the system operator of the Unified Energy System (UES) of the Republic of Kazakhstan - the National Company KEGOC, electricity is generated in the country by 118 electric power stations of various forms of ownership. As of 01.01.2017, the total installed electric capacity of power stations in Kazakhstan amounted to 22,055 MW, the available capacity - 18,789 MW.

The basis of the generation segment is thermal power stations (TPS, using both coal and gas turbine), which generate about 88-90% of electricity in recent years, including about 8% of electricity produced by gas turbine stations. Hydroelectric power plants (HEPP) of medium and high capacity produce about 10-12% of energy. Currently, renewable energy sources are actively developing in Kazakhstan in the form of small HEPPs, wind power plants (WPP), solar power plants (SPP) and bio-electric power plants.

Electric energy production in Kazakhstan and net power flow, bln kWh

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, Kazakhstan Electric Market Operator (KEMO)



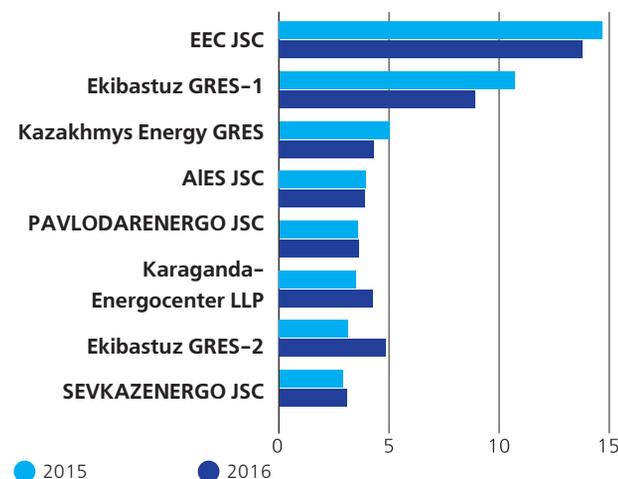
So far, a share of this kind of energy in the country's energy balance does not exceed 1% (0.98% at the end of 2016, according to the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan).

The peak production and consumption of electricity falls on the autumn and winter period. The lowest average monthly generation output is observed in June and July, the highest figure - in December and January. About 70% of electricity is generated in four regions - East Kazakhstan, Pavlodar, Karaganda and Almaty while other 10 regions produce 30%.

According to KEGOC JSC, in 2016, Kazakhstan power plants produced 94.08 bln kWh of electricity, which was 3.6% more as compared to the level of 2015. In monthly terms, the year started with a recession; a positive dynamics was observed from April to December: in January generation decreased by 3.1% compared to the same month of 2015, in April the indicator increased by 2.3%, in October - by 9.9%. At the same time, in 2016, the generating segment of the national electric power industry could not restore its peak values recorded in 2014.

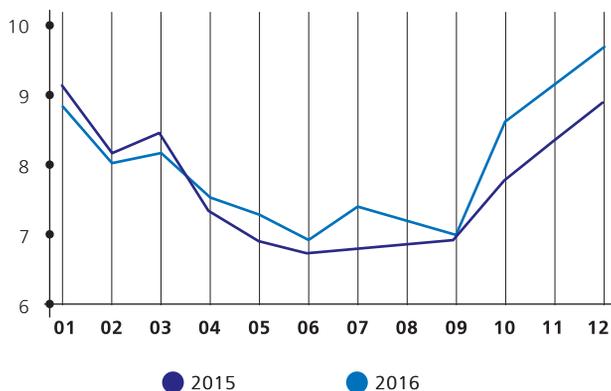
Electric energy generation at the largest energy-producing enterprises of the country, bln kWh

Source: Kazakhstan Electric Energy and Market Operator



Production of electric energy in RK by months, bln kWh

Source: Kazakhstan Electric Energy and Market Operator



Despite the overall increase in production, the year was very difficult for the largest energy producing enterprises of the country. Three leading organizations of the generation segment – EEC (part of ERG), Ekibastuz GRES-1 (a subsidiary of Samruk-Energo holding) and Kazakhmys Energy GRES - have reduced energy production compared to 2015. A noticeable growth in output was observed in PAVLODARENERGO JSC, SEVKAZENERGO JSC, Karaganda-Energocenter LLP and Ekibastuz GRES-2.

ELECTRICITY TRANSMISSION, DISTRIBUTION AND SUPPLY

Electric energy is transmitted through electrical networks, which represent a set of substations, distribution stations and power transmission lines with a voltage of 0.4-1150 kV.

The function of the backbone network in the UES RoK is performed by the National Power Grid connecting the Unified Energy System with the systems of border countries as well as ensuring interregional transit and release of electricity to wholesale consumers within the country. Electric networks that release electricity with a voltage of 220 kV and more are part of the National Power Grid and are included in the balance sheet of KEGOC JSC. In total, KEGOC JSC has more than 25 thous. km of electric grids, which transmit an average of 40% of electric energy generated at the country's power plants.

At the regional level, there are regional electricity distribution companies (REDCs) that provide electrical connections within the regions and electricity transmission to retail customers.

Energy-supplying organizations (energy retail companies) purchase electricity from energy-producing enterprises and sell it to retail customers at fixed tariffs.

ELECTRICITY CONSUMPTION STRUCTURE

According to KEGOC JSC, in 2016, electricity consumption in Kazakhstan increased by 1.6% - up to 92.31 bln kWh. The main electricity consumers in Kazakhstan are large mining and metallurgical, oil refining and chemical enterprises, as well as the national railway carrier - Kazakhstan Temir Zholy JSC, Aksu Ferroalloy Plant, ArcelorMittal Temirtau JSC, Kazakhstan Electrolysis Plant JSC, Kazzinc LLP, Kazphosphate LLP and other enterprises. In total, 16 largest enterprises, as stated in the reporting of Kazakhstan Electric Energy and Power Market Operator, consume an average of 35 to 40% of electricity.

Since most of large metallurgical companies are located in the northern, central and eastern parts of the country, the Northern zone of the UES of Kazakhstan takes a 2/3 share in the consumption structure (at the end of 2016 - 67.0%). The Southern and Western zones account for 20.5% and 12.5%, respectively. It should be noted that a seasonal factor has a significant influence on the electricity consumption dynamics. During three winter months, 28.0% of the annual volume is consumed, in three summer months - 22.7% (data of 2016).

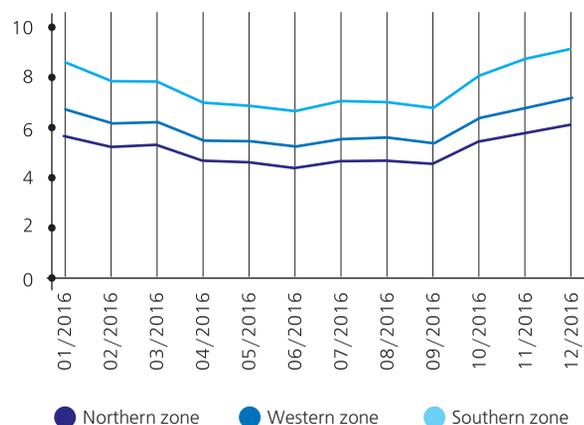
In 2016, Kazakhstan regained its position as a net electricity exporter; the net power flow has formed in the negative values zone for the third time over the last 7 years: in 2013, net electricity exports amounted to 2.33 bln kWh, in 2014 - 2.27 bln kWh, in 2016 - 1.76 bln kWh.

Structure of energy consumption by regions, %

Source: Kazakhstan Electric Energy and Power Market Operator

Региональная структура потребления электроэнергии, %

Источник: КОРЭМ



HEAT PRODUCTION, DISTRIBUTION AND CONSUMPTION

Heat energy is regarded as a social product in Kazakhstan, because the main consumers in this segment are households, mostly apartment buildings in urban areas, the amount of which at the end of 2016 was about 150 thousand, and part of the urban private sector, as well as over 20 thousand of social and budgetary objects (kindergartens, schools, universities, hospitals, state institutions, etc.). The population as well as housing and utilities consume 55% of the heat output.

According to Kazakhstan Electricity Association (KEA), there are 38 CHPs, 29 large and about 5,400 small boiler houses. Most of CHPs provide combined production - they produce both heat and electricity. The municipal property prevails in the ownership structure of heat-generating enterprises - it takes 80%, and only 20% of enterprises are in private ownership. According to KEA, 11% of facilities were built 20 years ago; the same number of facilities are in operation for 20-30 years, 38% - for 30-40 years, 39% of heat generating capacities - more than 40 years.

According to 2015 data, the length of the republican heat networks is 11.88 thous. km. In 2014, depreciation of the networks was officially estimated at the level of 70-80%. According to the state plan for heat networks modernization for 2014-2020, by 2020 the level of depreciation of the heat network facilities will reduce to an average of 55%.

At the end of 2016, CHPs and boiler houses of Kazakhstan produced 80.7 mln Gcal of heat energy, which was 0.1% less than in 2015. The decrease in heat energy production in Kazakhstan has been observed since 2013: reduction in generation by this year is 22.0% as compared to the results of 2016, the average annual dynamics since 2013 is -5.8%.

The production decline trend is associated with the implementation of programs aimed to improve energy efficiency at industrial enterprises and residential sector facilities, as well as with the modernization of energy generating capacities and heat network facilities.

PRICES FOR ELECTRICITY AND HEAT

Companies operating in heat energy transmission and distribution sectors are regulated by the anti-monopoly authority - the Committee on Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of the Republic of Kazakhstan

Tariffs of electric grid companies are aimed to provide compensation for operating costs and capital expenditures of natural monopoly entities. In this regard, the regulator's policy provides for the application of tariffs that include an investment component - so-called cap rates.

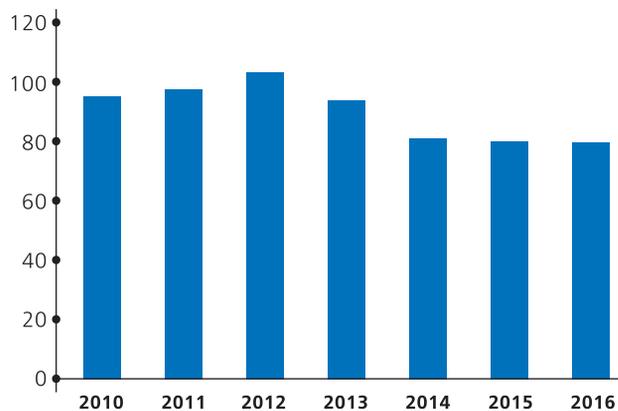
In 2015, the Government of the Republic of Kazakhstan extended the program of cap rates being in effect from 2009 to 2015 until January 1, 2019. From 2019, the investment activities in the electric energy generation sector should be supported through introduction of a power market model.

Since 2016, electricity and heat supply organizations have switched to 5-year cap rates, which can be adjusted.

According to the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, final selling prices for electricity increased by 6.1%, for heat energy - by 8.0%. As compared to 2015, the growth in tariffs can be estimated as moderate: one year earlier, they increased by 8.3% and 14.0%, respectively. Since 2010, the average annual rate of tariff growth is 8.5% (electricity) and 6.8% (heat).

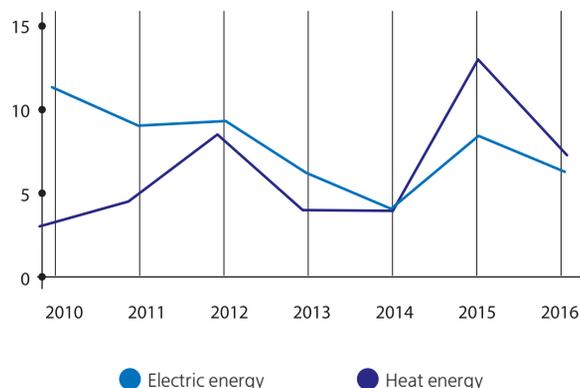
Heat energy production in Kazakhstan, mln Gcal

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



Growth of tariffs for electric and heat energy in Kazakhstan, %

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



KEY EVENTS OCCURRED IN LEGISLATION IN 2016

During 2016, state bodies (central and local) approved more than 100 regulatory acts in the field of electricity and heat energy.

In February 2016, the Government of the Republic of Kazakhstan approved new Rules for determination of fixed tariffs prescribing the norms for calculation of tariffs for renewable energy sources.

In April 2016, the Law «On introduction of amendments and additions to some legislative acts regarding the transition of the Republic of Kazakhstan to the green economy» providing details of mechanisms of using renewable energy sources came into force.

In August of the reporting year, the Minister of Energy of the Republic of Kazakhstan issued an order, pursuant to which the association of legal entities «Kazakhstan Energy Association» was defined as the Market Council. The Market Council is an integral element of the electric power market, the goal of which is to monitor market activity.

In October 2016, the Council of the Eurasian Economic Commission approved a list of activities aimed to implement the main macroeconomic policy guidelines of the EEU member states for 2016-2017. The unified energy market of the Eurasian Economic Union should be introduced in 2019. During the following two years, the union members should elaborate common rules for operation of the unified electric energy market, including the rules for accessibility of services rendered by natural monopoly entities.

In November 2016, the Government of the Republic of Kazakhstan submitted a draft law «On introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan relating to electric energy» to the Parliament for review. The aim of amendments was to ensure the implementation of activities under the «100 specific steps» plan - «Enlargement of Regional Electric Grid Companies».

State power grids are transferred into trust management or gratuitous use of energy transmission organizations (ETO), to whose networks such grids are connected. The transfer of ownerless power grids to local executive bodies is regulated on a gratuitous basis and it is stipulated that assets of ownerless power grids transferred to ETO's balance sheet are not included in the ETO's tax base. The requirements to ETOs are strengthening: ETOs should have in place dispatching process management, a group of certified employees with the appropriate material and technical base for operation and repair of networks, a service agreement signed with a system operator, automated commercial accounting systems and telecom systems unified with KEGOC systems.

KEY EVENT OCCURRED IN THE INDUSTRY IN 2016

The main event of the year in the energy industry of Kazakhstan was the postponement of two most anticipated projects: construction of Balkhash TPS and power unit No. 3 at Ekibastuz GRES-2. At the end of 2016, two out of eight assets of Samruk-Energo JSC, which were put up for sale under the 2014-2020 privatization program, were privatized. 100% stake of East Kazakhstan REDC JSC and 78.64% of Mangistau REDC JSC were sold. Sale of assets such as Aktobe CHP, Alatau Zharyk Company JSC, AIES JSC, Almatyenergosbyt LLP and Tengis Munay JSC is also expected. The ultimate goal of Samruk-Energo JSC is to prepare for the public listing on the stock exchange.

INVESTMENT PROJECTS

In 2016, investment activities in the energy sector continued to decline. The volume of investments in fixed assets decreased by 19.6% to 459.7 KZT bln. The decline lasts for the second year due to the following two key events - the completion of the main part of the cap rates program in the electric energy generation sector and the decline in consumption due to the national economic crisis.

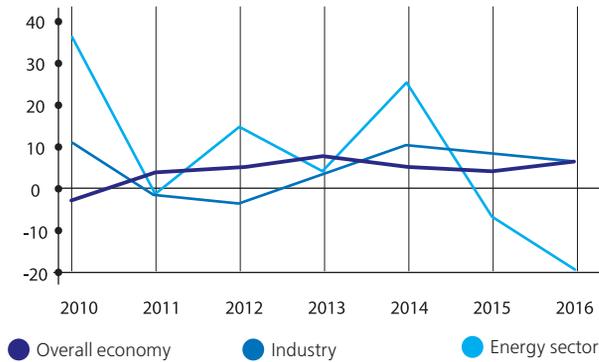
At the same time, the gross inflow of foreign investments demonstrated a positive trend in the reporting year. Following the results of I-III quarters of 2016, the sector received 82.9 mln US dollars of foreign investments - an increase in this indicator is 6.7 times relative to the level of four quarters of 2015.

At the corporate level, it is important to note several players with the largest investment programs implemented in 2016 and whose projects had a great significance for the industry. According to the plan of Samruk-Energo JSC, the total amount of the investment program for 2016 was set at the level of 91.8 KZT bln. Following the results of 2016-2017, a total of 223.9 KZT bln will be invested in the development of new and maintenance of old assets.

In September, a boiler No. 8 was put into operation at Almaty CHP-2, which allowed increasing the heat capacity of the station by 20% up to 1,414 Gcal/h. The project cost amounted to 25.7 KZT bln. Capital expenditures incurred for implementing the project of upgrading and expanding the open switchgear (OSG-500 kV) at EGRES-1 amounted to 18 KZT bln. The cost of the project of installing a new turbine at Aktobe CHP, which allowed increasing the installed capacity of the station from 88 to 118 MW, amounted to 3.5 KZT bln.

Dynamics of investment to fixed assets in the Republic of Kazakhstan, %

Source: Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan



In November 2016, a turbine unit No. 12 was commissioned at Ust-Kamenogorsk CHP (included in AES Kazakhstan group). The cost of the project of installing a new turbine with a capacity of 120 MW was equal to 53 mln US dollars.

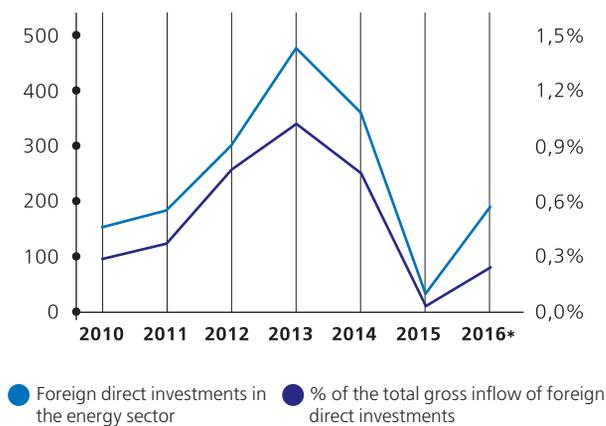
In May, a turbine unit with a capacity of 110 MW (electric energy) and 180 Gcal/h (heat) was commissioned at Karaganda CHP-3 owned by Karaganda-Energocenter, and therefore the plan efficiency should increase by 25%.

In December, the system operator KEGOC completed the construction of 500 kV high-voltage power transmission lines of Ekibastuz - Shulbinskaya HEPP (Semey). This is the first part of the project for electricity transit in the North-East-South direction. The completion of the project for construction of a transit main, which will also pass through Aktogay and Taldykorgan to Alma substation, with a length of 700 km (500 and 220 kV overhead lines) and costing 120 KZT bln, is expected in 2018.

Gross inflow of foreign direct investments to the energy sector of Kazakhstan, USD mln, %

*according to the results of I-III quarters

Source: National Bank of the Republic of Kazakhstan



MARKET DEVELOPMENT PROSPECTS

The positive dynamics outlined in the energy sector of the Republic of Kazakhstan will continue in 2017. The economic growth resulted from increase in production in the mining and manufacturing sectors of industry, as well as in transport, will lead to increase in the electric energy production and consumption.

According to the power balance of the UES of Kazakhstan approved by the Ministry of Energy of Kazakhstan in October 2016, electricity production will amount to 103.9 bln kWh in 2017 (+10.4% compared to the actual figure of 2016). In the long term until 2023, production will grow from 103.9 to 113.4 bln kWh. After 2016, the growth will be affected by newly introduced energy sources, which will generate 19% of the output in 2023. Generation of electric energy by renewable sources will grow from 1.4 to 5.6 bln kWh.

In the next 6 years, the total installed capacity in the energy system of Kazakhstan will grow by 2.2% (from 22,346 to 22,832 MW), the available capacity - by 6.0% - from 18,638 to 18,756 MW.

The main project of Central-Asian Electric Power Corporation JSC in 2016 was the modernization of a turbine unit No. 5 (95 MW, complete replacement) and a boiler No. 12 (reconstruction) at Petropavlovsk CHP-2. The new turbine unit will allow generating more than 650 mln kWh per year, and the reconstructed boiler with a capacity of 270 tons of steam per hour will provide additional generation of 5.7 mln kWh per year, while a total efficiency will amount to 40.31% (turbine units) and 89.56% (boilers).

PERFORMANCE AND DEVELOPMENT PROSPECTS OVERVIEW

As part of the Investment Program, in 2016 PAVLODARENERGO continued implementing a number of large-scaled equipment modernization projects with the aim to increase generation, reduce electricity and heat transmission losses and improve environmental performance. In 2016 the Company allocated the amount of 11,760 KZT bln for implementation of the investment program measures that is related to the completion of works planned for 2015 and increase in the cost of equipment and materials purchased.

In 2016, electricity sales volume was 3,058 mln kWh, more by 3.2% compared to 2015. Heat sales volume in 2016 was 4,192 thous. Gcal, having increased by 1% compared to 2015 due to implementation of investment program measures by the PAVLODARENERGO enterprises and meeting consumer demand.



GENERATION INCREASE PROJECTS

Since January 1, 2016, in accordance with order of the RK Minister of Energy dated February 27, 2015 No. 160 On approval of ceiling tariffs for electrical energy for the group of energy producing companies, PAVLODARENERGO JSC applies maximum selling prices for electricity from energy sources CHP-3, CHP-2, Ekibastuz CHP in the amount of 7.50 KZT/ kWh (excluding VAT).

In 2016, 10 projects were implemented at Pavlodar CHP-3 as part of investment programs. The largest of these projects include the first phase of reconstruction of the turbine unit T-100/120-130-3 № 6 with replacement of high pressure cylinder, intermediate pressure cylinder and generator; reconstruction of boiler unit No. 5 with reconstruction of steam pipeline and installation of APCS; construction and reconstruction of ash dump; reconstruction of equipment water treatment plant at chemical workshop; reconstruction of third section of main steam pipeline, completing the works on replacement of the main steam pipeline of the plant.

As part of turbine unit No. 6 reconstruction, the heating main No. 22 reconstruction and transfer in the territory of CHP-3 was completed – for reducing hydraulic resistance of heat network, division of network feeding into industrial area and city. Also, main-line pumps and booster pumps with hydraulic coupler were installed for improving heat system hydraulic control and reducing electricity consumed by pump. All this enabled to increase reliability of electricity, steam and heat supply.

Key activities within the investment program implemented at Pavlodar CHP-2 during the reporting period aimed at replacement of worn-out equipment. These activities include construction of the ash dump second section, reconstruction of boiler unit No. 3, replacement of a electric motors at boiler and turbine halls and replacement of heat network fittings.

At Ekibastuz CHP in 2016, continuation of construction of the ash dump second section became the main investment project. Overhaul of boiler units No. 5, 8, 12, 13, 14, 15 was completed as well.

Item	2014	2015	2016
Installed electricity capacity , MW	642	662	662
Electricity output, mln kW h	3 349	3 720	3 829
Share in Kazakhstan's total electricity generation, %	3,5	4,1	4,1
Electricity transmitted, mln kW h	2 282	2 491	2 544
Electricity sold, mln kW h	2 738	2 963	3 058
Installed heat capacity, Gcal/h	2 140	2 240	2 240
Heat transmitted, thous. Gcal	4 660	4 412	4 568
Heat transmitted, thous. Gcal	3 296	3 220	3 244
Heat sold, thous. Gcal	4 204	4 154	4192

PAVLODAR CHP-3

2011-2012

2011-2012 - a new turbine unit No. 1 was installed, due to which the installed electric capacity of the plant increased from 440 to 505 MW. The new turbine was equipped with an automated process control system (APCS), which provided a possibility to introduce a cost-saving and safe operating mode, maintain automatically the specified steam and district heating parameters, and control equipment temperature conditions and specified load at a stable level.

2012

boiler No. 1 was commissioned after replacement with the installation of automated process control and NOx emission reduction systems.

2014

turbine unit No. 5 was put into operation after the reconstruction, which allowed increasing the installed electric capacity by 15 MW - from 505 to 520 MW. Modernization of a boiler No. 3 by installing the automated process control and NOx emission reduction systems was completed. The project implementation allowed the company to reduce nitrogen oxide concentrations to values not exceeding the standard limits and to decrease significantly environmental emission payments.

2015

- new turbine unit No. 2 and turbine unit No. 4 after its reconstruction were put into operation, which allowed increasing the installed electric capacity from 520 to 540 MW. In summer 2015, a new cooling tower No. 5 was put into operation. Implementation of a complex of measures allowed the company to increase the available electric capacity at CHP-3 and electrical load during the summer period due to the improvement of vacuum efficiency in the plant turbine condensers.

In 2015, a boiler No. 2 was modernized by installing the APCS.

2016

the plant started implementing the project for modernization of a turbine unit No. 6 through increasing the installed electric capacity by 15 MW. In the reporting year, a turbine, generator and auxiliary equipment were supplied. Completion of work is expected in 2018.

In 2016, a boiler unit No. 5 was equipped with an automated process control system (APCS), which would allow maintaining cost-efficient and safe operation and the specified parameters in an automatic mode.

The arrangement of the second section of the ash dump at CHP-3 was almost completed. This was one of measures aimed to ensure the continuity of the plant's technological cycle and storage of ash and slag wastes during a period of 25 years.

PAVLODAR CHP-2

2011

boiler No. 1 was upgraded by replacing a drum, which allowed increasing the fleet life and reliability of the boiler operation.

2014

new cooling tower No. 2 was put into operation, which provided a possibility to remove the restriction on electric energy generation in the condensation mode during the summer period.

2016

the main works on construction of the second section of the ash dump at CHP-2 were completed. This was one of measures aimed to ensure the continuity of the plant's technological cycle and storage of ash and slag wastes during a period of 25 years.

EKIBASTUZ CHP

2009

turbine No. 1 was put into operation at Ekibastuz CHP with the aim to produce electricity through heat consumption with the installed electric capacity of 12 MW, which allowed using the generated electricity for the plant's own needs.

2014

boiler No. 6 was commissioned after replacement as a result of which the steam capacity increased by 15 tons per hour.

2016

construction of the 2-nd section of ash dump started in 2015 was continued at Ekibastuz CHP in the bed of Lake Tuz. This measure aimed to ensure the continuity of the plant's technological cycle and storage of ash and slag wastes during a period of 25 years.

RECONSTRUCTION OF ELECTRIC POWER FACILITIES

Pavlodar Regional Electric Distribution Company JSC developed and approved the Investment Program for Reconstruction, Modernization and Re-equipment for 2016-2020 with a total amount of investment of 13.6 KZT bln, including 2.2 KZT bln for 2016.

In 2016, in Pavlodar the construction of 220 kV outdoor switch-gear (OSG) at Promyshlennaya substation was continued. The project was aimed to increase the reliability of Pavlodar electric generating system and strengthen its connection with the Unified Energy System of Kazakhstan. The commissioning of a new OSG and closure of Pavlodar energy circuit is planned for the IV quarter of 2017.

For the purpose of expanding capacity of power transmission lines, specialists of PAVLODARENERGO JSC replaced the existing steel-aluminium wire AC-185 with a high-temperature aluminium reinforced composite wire ACCR 373-T13 with a total length of 7.21 km. The new wire has mechanical and strength characteristics that allow transmitting power 2-3 times more.

Reconstruction of cells and relay protection and automation equipment of 110 kV PTL No. 151-154,157 was carried out at Promyshlennaya substation, including the replacement of existing oil circuit breakers with SF6 circuit breakers with heavy breaking current.

Implementation of the investment program is funded by internal funds of the enterprise, namely depreciation and income, specified in rates. Objective of the program is stabilization of electric power supply to consumers and creation of long-term conditions for development of the energy complex of the region. The investment program was prepared taking into consideration current technical state of equipment of substations and power grid, as well as economical and technical priorities, including actions aimed at increase of involved assets utilization factor. The program includes actions aimed at reduction of normative electricity losses, improvement of power equipment reliability. During a year, the works on the following parts of the program were carried out:

- Construction, reconstruction, modernization and re-equipment of networks 35 kV and higher;
- Creation of a digital corporate telecommunication network;
- Implementation of an Automatic System for Commercial Accounting of Electric Power (ASCAEP);
- Reconstruction and development of industrial buildings and facilities.

During 2016, PAVLODARENERGO JSC managed to reduce electricity transmission losses from 8.69% to 8.52%.

RECONSTRUCTION OF HEAT NETWORKS

In 2016, the construction and reconstruction of 1.9 km of heat pipelines using pre-insulated pipes was completed in Ekibastuz, and 4.21 km of thermal insulation was restored using PU foam coating on Pavlodar pipelines.

In 2016, in accordance with the agreement concluded for investment projects implementation between the Ministry of National Economy of the Republic of Kazakhstan, Pavlodar Heat Networks LLP and European Bank for Reconstruction and Development, the following activities have been performed:

- in Pavlodar - reconstruction of heating main pipeline No. 22 with the replacement of 4,210 m of mineral wool thermal insulation with PU foam insulation shell from GP-2 (ground pavilion) to GP-5 and from GP-5 to FS-56 (fixing piping support);
- in Ekibastuz - construction of heating main pipeline No. 6 along Pshembayev St., from TK-4A to TK-36Л with the length of 851 m; construction of heating main pipeline No.14 from TK-9И to TK-21K with the length of 748 m.

In accordance with the Investment program for reconstruction and development of heat networks in Pavlodar within the frameworks of depreciation deductions, the following actions were taken in 2016:

- modernization of heating networks (replacement of expansion joints);
- modernization of heating main pipeline No. 10 from TK – 308 to TK – 708 with installation of the bellows expansion joints (4 pc.) and U-form expansion bends (6 pc.);
- modernization of heating main pipeline No. 3 from TK –308 to TK – 315 with installation of the bellows expansion joints (4 pc.);
- working out of cost-estimation documentation for the reconstruction of heating main pipeline No. 5; for reconstruction of heating network from TK-221/10 to TK-221/8; for removal of heating network and hot water pipelines from the crawl space in the resident house in 91 Yestai Str.; for reconstruction of heating network from TK-137 to TK-137/2; for construction of Fire Pump Station No. 2/3.

In Ekibastuz - the first phase of reconstruction of 346.8 m heating network along Chalbyshv Str. from TK-8K to resident house in Bezymianny Str., using pre-insulated steel pipes in PU insulation and fittings.

CONSTRUCTION AND DEVELOPMENT OF ASH DUMPS

In 2016, the following works were completed at Pavlodar CHP-2 and Pavlodar CHP-3: construction of access roads, lighting, drilling of monitoring wells, construction and finishing works at drain water pumping stations, reconstruction of clarified water pumping stations by replacing electrical and technological equipment, commencement of construction of drain pavilions.

In 2016, works were performed to construct the 2nd section of the ash dump at Ekibastuz CHP in the Tuz Lake bed and build-up dams of the 2nd section of the ash dump at Pavlodar CHP-3, required to increase the accumulating capacity of the existing ash dump before the construction of the 3d section of the ash dump at CHP-3 for the purpose of organizing the storage of ash and slag wastes generated during the plant's production operation.

With the aim to achieve environmental protection goals, new ash dumps were constructed in Pavlodar city using a modern and technological method for groundwater protection: the bed and protective dams of ash storage facilities are covered with a Canadian geomembrane film resistant to mechanical damage and temperature fluctuations, which provides durability, long service life and environmental safety. In addition, draining, beach irrigation and circulating water supply systems are also provided.

PROCESS AUTOMATION

In 2016, Pavlodar CHP-3 launched a project for introduction of an information-computing software complex (ICSC) to support the production control processes. The pilot project is aimed to improve economic efficiency by optimizing the composition and operating mode of the plant as well as to automate labour-intensive calculations. In December of the reporting year, the pilot operation of the system was launched, which will allow upgrading the station's software and hardware in the future. In the future, it is planned to expand the scope of ICSC application by introducing the complex at all facilities of the Company.

CUSTOMER AFFAIRS

The following companies are major consumers of electric and heat energy: KSP-Steel LLP, POCH LLP, Caustik JSC, KazTransOil JSC, Yertys Service LLP, Nephtechim Company LTD. Services are rendered to the population, small and medium-sized businesses and state-funded organizations in compliance with the service quality requirements stated by state authorities within their competence and taking into account tariffs approved by an authorized state body.

In its activity, Pavlodarenergosbyt LLP persistently improves the quality of customer service. With the slogan "From energy supply - to energy service", the company actively introduces modern energy supplying technologies. For example, we have arranged the service centers, contact center, payment acceptance points, «one contact» principle service for issuance technical specifications. Service centers accept payment for energy supply from physical and legal entities with no fee. Also, service centers and contact centers

provide consumers with the information relating to energy supply issues: payment for electricity and heat; reasons for lack of electricity and heat - based on the operational data of dispatch services in the real-time mode; change in tariffs for electricity and heat; programming multi-area metering devices and other issues related to energy supply.

In the contact center, automatic speech system (without attendant assistance) provides consumers with the following information: current tariff rates (for electricity and heat); procedure for change of owner and inhabitant-per-dwelling; receiving the certificate of no arrears; information on addresses and working hours of service centers and pay offices; contact emergency numbers.

Pavlodarenergosbyt LLP has organized the unified financial settlements center. Utility companies, condominium control agencies and other service organizations in Pavlodar region are engaged in cooperation within the frame of consolidated payment system.

Interactive servicing is provided through corporate web-site in the territory of Pavlodar and Ekibastuz – www.pavlodarenergo.kz.

GRIEVANCE MECHANISM

The Company keeps records of complaints and applications in the following ways:

- hotline;
- registering complaints from individuals and legal entities in special logs;
- keeping audio records with data preservation within 30 days (all consumers' applications are considered, after which written answers are sent and measures are taken);
- holding public hearings with citizens of the city with the participation of mass media (local TV channels) and publishing the information in the local press prior to implementing the project for modernization and reconstruction of power facilities;
- consumer questioning with the aim to find out the level of satisfaction/dissatisfaction with the work of the Customer Service Center (CSC) staff;
- daily receipt of consumers' requests about energy supply by phone and in writing;
- on the official website the following columns were created: "Anti-corruption", "Questions-Answers", "Feedback"; they are used to receive the grievances submitted by external related persons.

- also, since October 2016 the personal blog of the General Director of PAVLODARENERGO JSC has been functioning in the corporate web-site, where to the customers can apply with all questions about the Company activities and receive answer within two working days.

FINANCIAL AND ECONOMIC INDICATORS

The consolidated financial statements of the Company for 2016 were prepared in accordance with the International Financial Reporting Standards. Accounting policies are applied to all enterprises of the Company on a uniform basis.

The key financial and economic indicators of the Company demonstrate the effectiveness and efficiency of operational and financial activities, as well as its performance in line with the primary areas of its strategic development.

REVENUE FROM SALES OF PRODUCTS/SERVICES

At the end of 2016, electricity and heat energy generated by the Company, including the transmission and sales of purchased energy, amounted to 45,069 KZT mln, which was 11% higher than the indicator of 2015 due to increase in the volume of electricity generated by the Company's own power plants, and growth in selling rates of electricity and heat.

The dominant factors affecting the level of income from sales in 2016 compared to the previous period are as follows:

- volume of sales of electric energy increased by 1,277 mln and 112 KZT or 5.6% as compared to the level of 2015 increase in generation of the Corporation's own electric energy by 109 mln kWh (3.6%) as a result of commissioning of new generating capacities in the second half of 2015 under the Investment Program and positive dynamics of customer demand by 117 mln kWh (4%). At the same time, electricity consumption reduced for the plants own need;
- revenues from sales of heat energy, taking into account the marketing margin, increased by 1,217 KZT mln or 19.3% due to increase in tariffs for generation and a selling tariff of retail companies by 16.7% as a whole;
- Revenues from transmission of electric energy increased by 1,381 KZT mln (18.8%) due to the growth in electricity transmission and distribution tariffs by 16% and increase in transmission volume by 59 mln kWh (2.4%).
- revenues from transmission of heat energy increased by 883 KZT mln or 24.3% due to increase in transmission tariffs by 23.7%;

Key financial and economic indicators for 2014-2016, KZT mln

INDICATORS	2014	2015	2016
Operating income	37 098	40 547	45 069
Cost including period expenses	(28 436)	(31 736)	(34 786)
Profit from operating activities	8 662	8 811	10 283
Total EBITDA for the year*	12 059	*12 961	15 868
Total EBITDA for the year, margin in %	32,5%	32,0%	35,2%
Income tax expenses	(1 845)	(61)	(1 908)
Net profit for the year	5 900	(2 097)	6 475
Assets	114 171	127 557	132 382
Capital	66 031	62 374	68 849
Capital expenditures for fixed assets	18 060	18 631	8 979

*Total EBITDA is stated excluding the effect of the exchange rate difference

COST OF GOODS/SERVICES SOLD

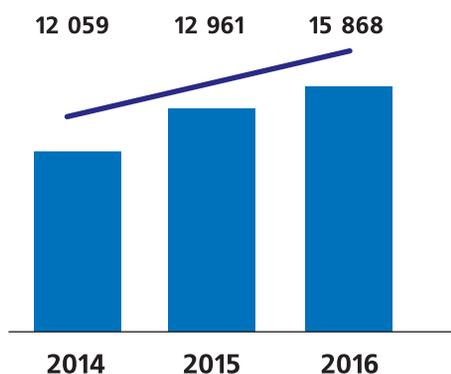
Cost of sold electrical and heat energy in 2016 was 30,819 KZT mln. Increase by 2,561 KZT mln or by 8.3% vs. 2014 was caused by increase of operating expenses under such cost items as "Fuel", "Deprecation", "Production-type services", "Remuneration of labor" and others.

In the cost structure of the Company the largest specific ratio (26%) has the "Fuel" item. The growth of electric power production by 109 mln kWh 2.8% affected the increase in consumption of natural coal by 150 thous. tons or 4.0%; coal price including transportation went up by 8.6% and resulted in the increase under the "Fuel" item by 928 KZT mln or 11.6%. Amortization deductions increased by 672 KZT mln due commissioning of fixed assets in 2016 for a total amount of 24,085 KZT mln. In 2015, "Production-type services" expenses for recultivation of ash dump amounted to 379 KZT mln, in 2016 these expenses were not undertaken that resulted in reduction of services cost in the amount of 460 KZT mln or 11%. In addition, production audit expenses reduced in accordance with the schedule and legal norms requirements. Due to indexation of salaries of employees the cost item "Remuneration of labor with deductions" increased by 533 KZT mln or by 10%.

TOTAL EBITDA DYNAMICS*

The EBITDA indicator for 2016 amounted to 15,868 KZT mln, having increased by 2,907 KZT mln or 22% as compared to 2015. The main factors affecting the operating performance growth are increase in tariffs for electrical energy transmission and distribution by 16% and increase in sales of own-produced electric energy by 109 mln kWh or 2.8%, as well as increase in the monopolistically regulated activities tariffs for generation, transmission and distribution, as well as sales of heat energy.

Total EBITDA for the year, KZT mln



*Total EBITDA is stated excluding the impact of the exchange rate difference

OPERATING EBITDA BY SEGMENTS

Operating EBITDA has been chosen as a basic indicator in the evaluation of the Company production performance. This performance indicator does not take into account other income, finance income, non-monetary component of exchange rate liabilities, amortization, and non-recurrent or non-permanent items that do not affect the primary production activities of the Company.

Operating EBITDA indicator of the Company for 2016 amounted to 15,081 KZT mln, having increased by 2,173 KZT mln or 16.8% compared to 2015. In the structure of the operating EBITDA indicator the leading (priority) marginal segment is production of electrical and heat energy (12,936 KZT mln), where in 2016 there was an increase by 25 KZT mln or by 0.2%. In the segment "Transmission and distribution of electrical energy", the operating EBITDA indicator increased by 1,591 KZT mln (129%) due to the increase of sales revenue after the growth in tariff by 16%.

In the segment "Transmission and distribution of heat energy", the operating EBITDA indicator loss decreased by 69%, or 683 KZT mln due to the increase in transmission tariffs by 18%. In the segment "Sales of electric and heat energy", the operating EBITDA indicator loss decreased by 108 KZT mln due to the increase in electricity sales rates by 21% and increase in heat sales rate by 13.6%.

DYNAMICS OF NET INCOME/LOSS

Profit from operating activities for 2016 amounted to 10,283 KZT mln (22.8% margin to sales income), having increased by 1,472 KZT mln due to increase in electrical energy generation by 2.8% and by tariffs growth.

Net financial expenses increased by 1,534 KZT mln or 145% due to the fact that in 2016 the interest on loans for all completed investment facilities (except for turbine unit No. 6 of CHP-3) was taken to the results of financing the economic activity of the Company. Also, interest rate increased from 10% to 13%, and the rate of coupon reward increased as well. Net profit for 2016 amounted to 6,475 KZT mln. As compared to 2015, this indicator increased significantly (8,572 KZT mln), which is explained by exchange rate losses incurred by the Company in 2015 due to KZT devaluation.

ASSETS AND LIABILITIES

As of December 31, 2016, the total assets of the Company amounted to 132,382 KZT mln, which is 4% more than in 2015.

As of December 31, 2016, the value of fixed assets amounted to 115,407 KZT mln or 87% of the total assets. In 2016, as part of the Investment Program, the amount of 8,367 KZT mln was allocated to unfinished construction and acquisition of fixed assets; the value of new and reconstructed facilities of the current period and carried forward from previous years was equal to 4.768 KZT mln.

Financial and economic indicators by segments for 2016, KZT mln

Indicators	Production of electric and heat energy	Transmission and distribution of electric energy	Transmission and distribution of heat energy	Sales of electric and heat energy	Other	Total
Operating income	29 239	8 727	4 513	2 590	-	45 069
Cost	(18 781)	(6 135)	(3 959)	(1 942)	(2)	(30 819)
Gross profit	10 458	2 592	554	648	(2)	14 250
Period expenses	(1 087)	(469)	(1 378)	(1 033)		(3 967)
Profit from operating activities	9 371	2 123	(824)	(385)	(2)	10 283
Financial expenses	(2 201)	(62)	(234)	(96)		(2 593)
Exchange gain	98	48	37			183
Other income	274	32	9	195		510
Income tax expenses	(1 625)	(491)	207	1		(1 908)
Net profit for the year	5 917	1 650	(805)	(285)	(2)	6 475
Operating EBITDA by segments	12 936	2 824	(308)	(369)	(2)	15 081

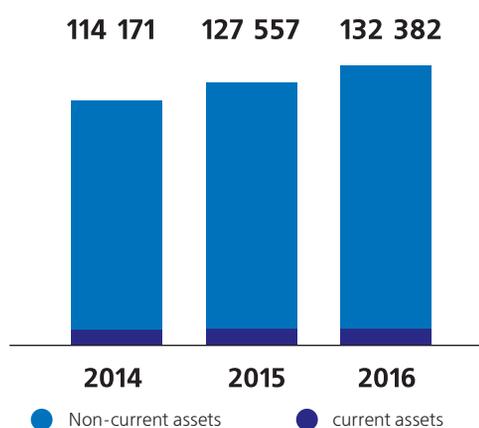
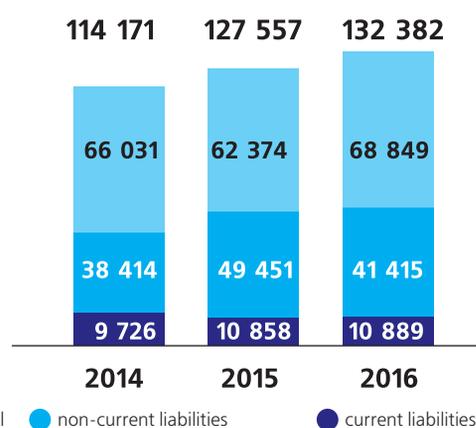
Other financial assets are the deposits in the amount of 1,057 KZT mln accumulated by the Company for servicing loans, financing investment program.

The Company's authorized capital is composed of 200 mln ordinary shares. As of December 31, 2016, the fully paid ordinary shares amounted to 16,664 KZT mln.

Long-term loans include mainly the loans granted by the EBRD to finance the long-term Investment Program for reconstruction and modernisation of the Company assets.

In November 2016, PAVLODARENERGO JSC placed short-term coupon commercial bonds in the amount of 400 KZT mln at a par value of 100 KZT and an indexed interest rate of 13-13.5% for replenishment of current assets. Coupon payments are made semi-annually, date of maturity is November 7, 2017. These funds were spent to finance the Investment Program and development projects in accordance with the Company's strategy.

At the end of the reporting year, the total financial debt amounted to 35,699 KZT mln, while the Company maintained its financial stability

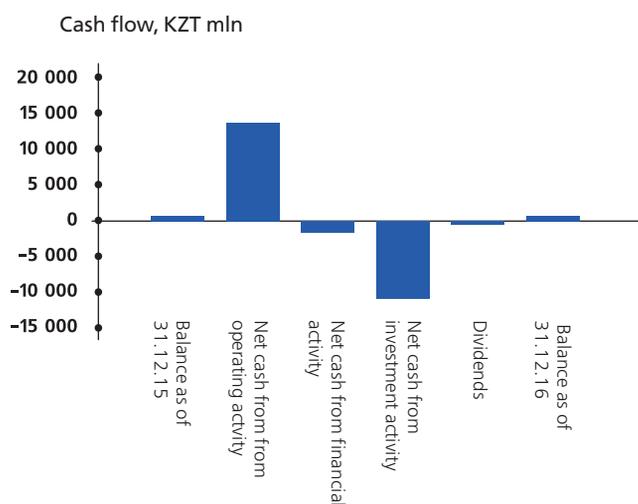
Assets, KZT mln

Liabilities, KZT mln


CASH FLOW

In 2016, there was a trend of increasing cash flows from operating activities, which was caused by increase in sales volumes of electricity and tariffs for heat energy. Net inflow from operating activities, taking into account the effect of exchange rate fluctuations on cash balances in foreign currency, amounted to 13,863 KZT mln. Changes in the working capital are associated with increase in inventories and trade receivables. Increase in accounts payable related mainly to large deliveries under the Investment Program, resulted in the increase in the working capital.

The most significant cash outflows related to investment activity in 2016 are associated with implementing the Investment Program in the current period as well as with payment of debt for facilities completed in 2015.

At the year-end, cash and deposits amounted to 1,614 KZT mln. A sufficient cash reserve allows the Company to maintain the required level of liquidity and its internal resources for debt servicing.



MAIN GOALS AND OBJECTIVES FOR 2017

As part of the Investment Program, in 2017 the Company will continue implementing a number of equipment modernization projects with the aim to increase generation, reduce electricity and heat transmission losses and improve environmental performance.

In 2017, the Company intends to increase electricity generation by 3.3% relative to the figure of 2016 (up to 3,955 mln kWh) and heat energy output by 2.8% against the level of 2016 (up to 4,697 thous Gcal), which is associated with the planned volumes of heat energy supply to consumers.

The Company intends to allocate 12,807 KZT mln for implementing the Investment Program.

PAVLODARENERGO JSC has planned the second phase of reconstruction of turbine unit No. 6 at CHP-3 that will result in the increase in the installed electric capacity from 110 to 125 MW. The Company will start construction of the third phase and build-up of the second phase of the plant ash dump. Reconstruction of boiler unit No. 4 is planned as well.

Pavlodar CHP-2 will work towards the completion of construction of the ash dump second phase and beginning of construction of the third phase of the ash dump.

Ekibastuz CHP will continue construction of the second phase of ash dump. Reconstruction of boiler unit No. 8 will become one more important project in 2017.

In 2017, PREDC JSC within investment programs plans construction, reconstruction and technical re-equipment of 0,4- 10 kV electric networks with a total length of 42.665 km, construction and reconstruction of 35-110 kV overhead lines with a total length of 54.5 km, reconstruction of three 110 kV substations and beginning of construction of 110/10 kV substation "Severnaya Gorodskya".

In the reporting year it is planned to construct a total of 19.8 km of heat pipelines using pre-insulated pipes, including 1.8 km in Pavlodar city, 18 km in Ekibastuz city, as well as to restore insulation using SPF shell at 4.2 km long pipelines in Pavlodar city.

Within the trilateral agreement concluded between the Ministry of National Economy of the Republic of Kazakhstan, Pavlodar Heat Networks LLP and European Bank for Reconstruction and Development, the following actions are planned for 2017:

In Pavlodar:

- reconstruction of heating main pipeline No. 22 with the replacement of 1,963 m of thermal insulation from FS-56 to GP-9;
- reconstruction of heating main pipeline No. 37A with the replacement of 2,050 m of thermal insulation from GP-15 (PS-2) to GP-17;

In Ekibastuz:

- removal of district heating networks from private areas of low-rise buildings (1-st phase), length is 17.46 km;
- constriction of block-type heat points (1 phase);
- reconstruction of main heating line No. 7 - from central heat distribution station (to TK-3Э - with installation of metering devices and control valves (length is 2.355 km);
- construction of heating main pipeline No. 9 along Pshembayev St., from TK-25Э to TK-4A the a total length of 1.842 km.

In accordance with the Investment program for reconstruction and development of heating networks in Pavlodar within the frameworks of depreciation deductions, the following actions are planned for: development of design and estimate documentation for reconstruction of 2,602 m heating networks, construction of heating networks in Usolsk microdistrict, reconstruction of 218 m heating main No. 5,968 m heating network, removal of 603 m heating network and hot water pipelines from the crawl space in the resident house in 91, Yestai Str.

In Ekibastuz: the second phase of heating network reconstruction along Chalbyshhev Str., with the total length of 155.5 m with the use of pre-insulated steel pipes in SPF shell and fittings; reconstruction of heat main No. 1 with replacement of 1,030 m thermal insulation using SPF shell and new anticorrosion materials; reconstruction of 385 m² of the roof of pump station No.3.

In total in 2017 construction and reconstruction of heat pipelines using pre-insulated pipes are planned on 3.4 km of network in Pavlodar, and on 21.8 km in Ekibastuz. Restoration of insulation using PU foam shell is planned on 1.03 km of pipelines in Pavlodar and on 4.01 km in Ekibastuz.

PROSPECTS OF THE 2020 INVESTMENT PROGRAM

PAVLODARENERGO JSC implements one of the most large-scale investment programs among the electric power industry enterprises of Kazakhstan in terms of the volume of capital investments in the renovation and reconstruction of production facilities. The planned volume of the Company's investments for 2010-2020 amounts to 124.5 KZT bln. Within the framework of the Investment Program, activities are carried out in the following three areas:

- increase in generation;
- energy saving, including reduction of electricity and heat transmission losses;
- improvement of environmental performance during the production.

The main activities under the Investment Program were completed in the period of 2009 - 2015. Thanks to the modernization projects, capacities were introduced and upgraded in the volume of 392 MW, the installed capacity increased by 20%, electricity and heat generation grew by 23% and 8%, respectively, while ash emissions decreased by 64%.

In the reporting year, CAEPCO JSC adopted a new Development Strategy for 2016-2020. The document develops and complements the areas of the 2010-2015 Strategy, which has been successfully and fully implemented. Pursuant to the 2016-2020 Strategy, the Company will continue implementing the Investment Program for equipment modernization aimed to increase energy generation, reduce electricity and heat transmission losses and improve environmental performance. In addition, the Company will continue improving the corporate governance system and the human resources policy, and introduce an automated enterprise resource management system.

Due to the main equipment modernization and replacement the growth planned for the period of 2016-2020 will be as follows:

- installed electric capacity - 15 MW or 2.3%;
- installed heat capacity - 28 Gcal/h or 1.3%;
- electric energy generation - 150 mln kWh or 3.8%.
- heat energy output - more than 60 thous Gcal or 1.4%.

PAVLODARENERGO JSC will continue implementation of the complex of measures for reducing electricity and heat energy transmission losses as well as increasing reliability of energy supply to consumers. For the period of 2016-2020 the total heat energy losses in the networks is expected to reduce by 11.3%, with complete elimination of excessive losses by 2020.

Implementation of these measures will allow to achieve the strategic goal - to form a vertically integrated private energy company providing customers with consistent and reliable services through the synergy of energy generation, distribution, transmission and guaranteed sales of both electricity and heat power.

CORPORATE GOVERNANCE

The objectives of PAVLODARENERGO JSC in the achievement of strategic goals are in enhancement of corporate governance. The activity of the Company is based on a balanced consideration of interests of all stakeholders in particular investors, shareholders, employees and officers of the Company.

Corporate governance provides improving the activity transparency, growth of assets and maintaining financial stability of the Company.



GENERAL MEETING OF SHAREHOLDERS

A superior management body of the Company is the General Meeting of Shareholders. Shareholders of the Company may make suggestions to the agenda of the Annual General Meeting, nominate candidates to the Board of Directors and its Committees, and convene meetings of the Board of Directors.

RESULTS OF THE GENERAL MEETING OF SHAREHOLDERS

In 2016, decisions that are within the authority of the General Meeting of Shareholders of PAVLODARENERGO JSC were made by the General Meeting of Shareholders of CAEPCO JSC on the following subjects:

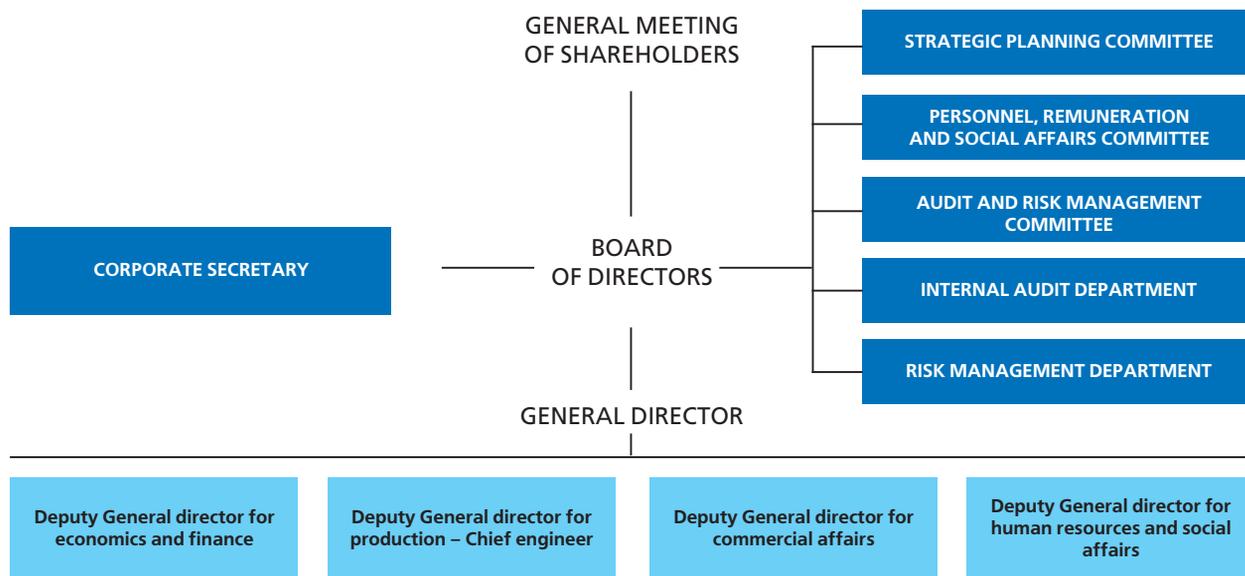
- approval of the financial statements of PAVLODARENERGO JSC and its subsidiaries for the fiscal year 2015;

- approval of procedures for the distribution of the Company's net profit for the fiscal year 2015;
- choosing an audit organization to audit the financial statements of PAVLODARENERGO JSC and its subsidiaries based on the results of the year 2016;
- election of new members of the Board of Directors of PAVLODARENERGO JSC.

No significant transactions with shares were carried out by the Company during the reporting period. No changes have occurred in the shareholders owning five percent or more of the Company's shares outstanding.

As of December 31, 2016, the authorised share capital of PAVLODARENERGO JSC was equal to 16,664 KZT bln. The sole shareholder owning 100% of the shares is Central-Asian Electric Power Corporation JSC.

ORGANIZATIONAL STRUCTURE



EQUITY STRUCTURE

Shareholder	Ordinary stock		Preferred shares	Total shares	
	number	share		number	share
Central-Asian Electric Power Corporation JSC	166 639 957	100%	–	166 639 957	100%

INFORMATION ON DIVIDENDS

The Company's policy regarding distribution, announcement, size, form and terms of dividend payment is set out in the Company's Charter and the Dividend Policy of PAVLODARENERGO JSC. The main principles of the Company's Dividend Policy include:

- balance between the interests of the Company and its shareholders in determining the amount of dividend payment;
- improvement of investment attractiveness, financial stability, capitalization and liquidity of the Company;
- ensuring the market return on invested capital;
- respect for and strict observance of the rights of shareholders and improvement of their prosperity.

PAVLODARENERGO JSC intends to allocate a certain portion of its net income for payment of dividends in the amount that would allow the Company to keep enough funds for its further development. A decision on dividend payment is made by the Annual General Meeting of Shareholders of CAEPCO JSC based on the recommendation of the Board of Directors of the Company. In case of any unforeseen circumstances that affect negatively the Company, the Board of Directors shall recommend the General Meeting of Shareholders of CAEPCO JSC to refrain from making a decision to pay (announce) dividends.

In 2016, following the results of the fiscal year 2015, the Annual General Meeting of Shareholders decided not to pay dividends to shareholders of PAVLODARENERGO JSC.

EXECUTIVE BODY

The General Director is the sole executive body of the Joint Stock Company responsible for managing the executive body of PAVLODARENERGO JSC. In his activity the General Director is governed by the Regulations on the General Director of PAVLODARENERGO JSC. The General Director manages current activity of the Company, implements the strategy instituted by the Board of directors and shareholders. The General Director carries out activities in the best interests of shareholders and in compliance with the fundamental principles such as honesty, integrity, diligence, reasonableness and vigilance.

The amount of remuneration for the executive body is determined by the decision of the Board of Directors of PAVLODARENERGO JSC.

The General Director of PAVLODARENERGO JSC is Oleg Perfilov.

He has no share in the charter capital of the Joint Stock Company, subsidiaries or affiliated organizations.

BRIEF BIOGRAPHY

Oleg Perfilov was born in July 15, 1968 in the Pavlodar region. In 1992, he graduated from the Pavlodar Industrial Institute majoring in Automatic Control of Electric Power Systems.

He started his career in the energy sector in 1992. During his career, he held various positions at Pavlodar's energy enterprises from an ordinary workman to a manager. From 2002 to 2007, he was the head of CHP-2 and CHP-3 of PAVLODARENERGO LLP.

On November 11, 2007, he was appointed Deputy General Director for Production at Access Energo LLP, which changed its name to North-Kazakhstan Energocenter LLP (Petrovsk) on February 29, 2008. In 2009, he was Deputy General Director for Production at SEVKAZENERGO Petropavlovsk LLP, which was later restructured into SEVKAZENERGO JSC. From 2009 to 2013, he was Deputy Chairman of the Executive Board for Production at SEVKAZENERGO JSC.

In January 2013, he was appointed acting Chairman of the Executive Board of PAVLODARENERGO JSC. Currently, he is General Director of PAVLODARENERGO JSC.

Mr. Perfilov was awarded a Certificate of Merit of the Ministry of Energy and Mineral Resources of the Republic of Kazakhstan (2005). In 2011, for his achievements in developing the electrical power industry of the CIS countries, Mr. Perfilov was awarded the title Distinguished Energy Sector Professional of the CIS.

Executive bodies of the Company's subsidiaries include: Pavlodar Regional Electric Distribution Company JSC, Pavlodar

Heat Networks LLP and Pavlodarenergosbyt LLP are separate entities - General Director of each enterprise.

Name, legal form of business organization	Sole executive body	Position	Date of election/end of tenure
PAVLODARENERGO JSC	Oleg Perfilov	General Director	10.09.2014 – 06.09.2018
Pavlodar Regional Electricity Distribution Company JSC	Fedor Bodrukhin	General Director	07.10.2011 – indefinite term
Pavlodar Heat Networks LLP	Marat Imanayev	General Director	01.06.2015 – 01.06.2017
Pavlodarenergosbyt LLP	Talgat Arginov	General Director	01.11.2013 – 01.11.2017

BOARD OF DIRECTORS

The Board of Directors of the Company determines strategic goals, maintains the necessary performance control mechanisms, including ongoing monitoring and evaluation of business performance. Independent directors, who are not affiliated with the Company, are members of the Board of directors. The Board of Directors is headed by the Chairman, who convenes meetings of the Board of Directors and forms the agenda taking into account suggestions received from members and committees of the Board of Directors.

Furthermore, the Board of Directors of PAVLODAR-ENERGO JSC makes decisions on the activities that are within the authority of the General Meeting of Shareholders (members) of the following legal entities: Pavlodarenergosbyt LLP, Pavlodar Heat Networks LLP – 100% of shares (shares of participation in the equity capital) belongs to PAVLODARENERGO JSC.

On 05.09.2016 an extraordinary meeting of shareholders of CAEPCO JSC, the sole shareholder of PAVLODARENERGO JSC, was held and approved the composition of the Board of Directors of PAVLODARENERGO JSC in the amount of 5 (five) persons and elected the following persons as the members of the Board of Directors:

1. Oleg Perfilov as the member of the Board of Directors
2. Gennady Andreyev as Independent Director

Term of powers of members of the Board of directors of PAVLODARENERGO JSC is set till April 17, 2017.

Remuneration for members of the Board of Directors of PAVLODARENERGO JSC is determined by the decision of the General Meeting of Shareholders of CAEPCO JSC. The total amount of remuneration paid to the Board of Directors and the executive body in 2016 is 194,632 KZT mln.

MEMBERS OF THE BOARD OF DIRECTORS



YERKYN AMIRKHANOV (1967)

The Chairman of the Board of Directors of PAVLODARENERGO JSC

President of CAEPCO JSC;

01.07.2001 – Chairman of the BoD of PAVLODARENERGO JSC.
30.06.2004 – Member of the BoD of Eximbank Kazakhstan JSC.
20.08.2007 – Member of the BoD of CAPEC JSC.
16.03.2009 – Member of the BoD of CAEPCO JSC.
28.05.2009 – Chairman of the BoD of Caustic JSC.
22.04.2011 – President of CAEPCO JSC.
25.10.2011 – Chairman of the BoD of SEVKAZENERGO JSC.
25.02.2013 – Chairman of the BoD of AEDC JSC.
13.11.2013 – Chairman of the BoD of NK REDC JSC.
20.01.2014 – Chairman of the BoD of PREDC JSC.



GULNARA ARTAMBAYEVA (1969)

Member of the Board of Directors of PAVLODARENERGO JSC

President of CAPEC JSC, members and shareholder of the BoD of CAPEC JSC

16.06.2000 – President of CAPEC JSC;
27.06.2002 – Member of the BoD of CAPEC JSC;
27.06.2002 – Member of the BoD of PAVLODARENERGO JSC;
07.10.2002 – Member of the BoD of PREDC JSC;
31.03.2004 – Member of the BoD of Eximbank Kazakhstan JSC;
27.04.2007 – Chairman of the BoD of CAPEC Invest SICAV;
16.03.2009 – Member of the BoD of CAEPCO JSC;
07.07.2011 – Chairman of the BoD of Astana Invest House;
22.02.2013 – Member of the BoD of SEVKAZENERGO JSC;
14.11.2014 – Member of the BoD of AEDC JSC



OLEG PERFILOV (1968)

Member of the Board of Directors, General Director of PAVLODARENERGO JSC

2013 – till the present day - PAVLODARENERGO JSC/General Director.

2012 – till the present day - CAEPCO JSC/Vice President on Production.

2016 – till the present day - PAVLODARENERGO JSC/Member of the Board of Directors.



ALBERT SAFARBAKOV (1940)

Member of the Board of Directors Independent Director of PAVLODARENERGO JSC;

Is not affiliated with PAVLODARENERGO JSC and has not been acting as such for the past three years.

26.01.1997 - Director of Pavlodartekhenenergo LLP.

12.03.2012 – member of the BoD, Independent director of PREDC JSC.

22.02.2013 – member of the BoD, Independent director of PAVLODARENERGO JSC.



GENNADIY ANDREYEV (1943)

Member of the Board of Directors, Independent Director of PAVLODARENERGO JSC

2015 – till the present day - Honorary President of KazNIPI Energoprom JSC.

2016 – till the present day – CAEPCO JSC/Member of the Board of Directors (Independent Director).

2016 – till the present day - PAVLODARENERGO JSC/Member of the Board of Directors (Independent Director).

2016 – till the present day - SEVKAZENERGO JSC/Member of the Board of Directors (Independent Director).

COMMITTEES OF THE BOARD OF DIRECTORS

Name of the Committee	Members of the Committees of the Board of Directors	Date of election/end of tenure
Strategic Committee	Gennady Andreyev – Chairman of the Committee	06.09.2016-17.04.2017
	Yerkyn Amirkhanov – Member of the Committee	06.09.2016-17.04.2017
	Oleg Perfilov – Member of the Committee	06.09.2016-17.04.2017
Audit and Risk Management Committee	Albert Safarbakov - Chairman of the Committee	06.09.2016-17.04.2017
	Gulnara Artambayeva - Member of the Committee	06.09.2016-17.04.2017
	Oleg Perfilov – Member of the Committee	06.09.2016-17.04.2017
	Zhanar Rakhimberlinova – Member of the Committee	06.09.2016-17.04.2017
	Aizhan Stanbayeva - Member of the Committee	06.09.2016-17.04.2017
Personnel, Remuneration and Social Affairs Committee	Gennady Andreyev – Chairman of the Committee	06.09.2016-17.04.2017
	Yerkyn Amirkhanov – Member of the Committee	06.09.2016-17.04.2017
	Oleg Perfilov – Member of the Committee	06.09.2016-17.04.2017
	Natalia Konstantinova - Member of the Committee	06.09.2016-17.04.2017

The **Strategic Committee** is a permanent working body of the Board of Directors. It was created to increase the efficiency of corporate governance, projects implementation and Company's development strategy fulfillment control. The Committee also provides assistance to the Board of Directors in improving the Company's planning and business development mechanisms.

The **Audit and Risk Management Committee** is a permanent working body of the Board of Directors. It renders assistance to the Board of Directors in effective performing its regulatory and supervisory functions, improving and strengthening the internal audit and risk management systems. The Committee advises the Board of Directors on matters requiring action on its part.

In 2016, the Committee held 2 meetings.

The **Personnel, Remuneration and Social Affairs Committee** is a permanent working body of the Board of Directors. It was established to develop and implement a uniform human resources policy in the Company and its subsidiaries, elect or appoint candidates for the positions of the head and members of executive body of the Company and its subsidiaries, directors of the Internal Audit and Risk Management Departments, Corporate Secretary and other bodies and subsidiary units, as well as to form an effective corporate governance system and implement its principles.

In 2016, the Committee held 1 meeting.

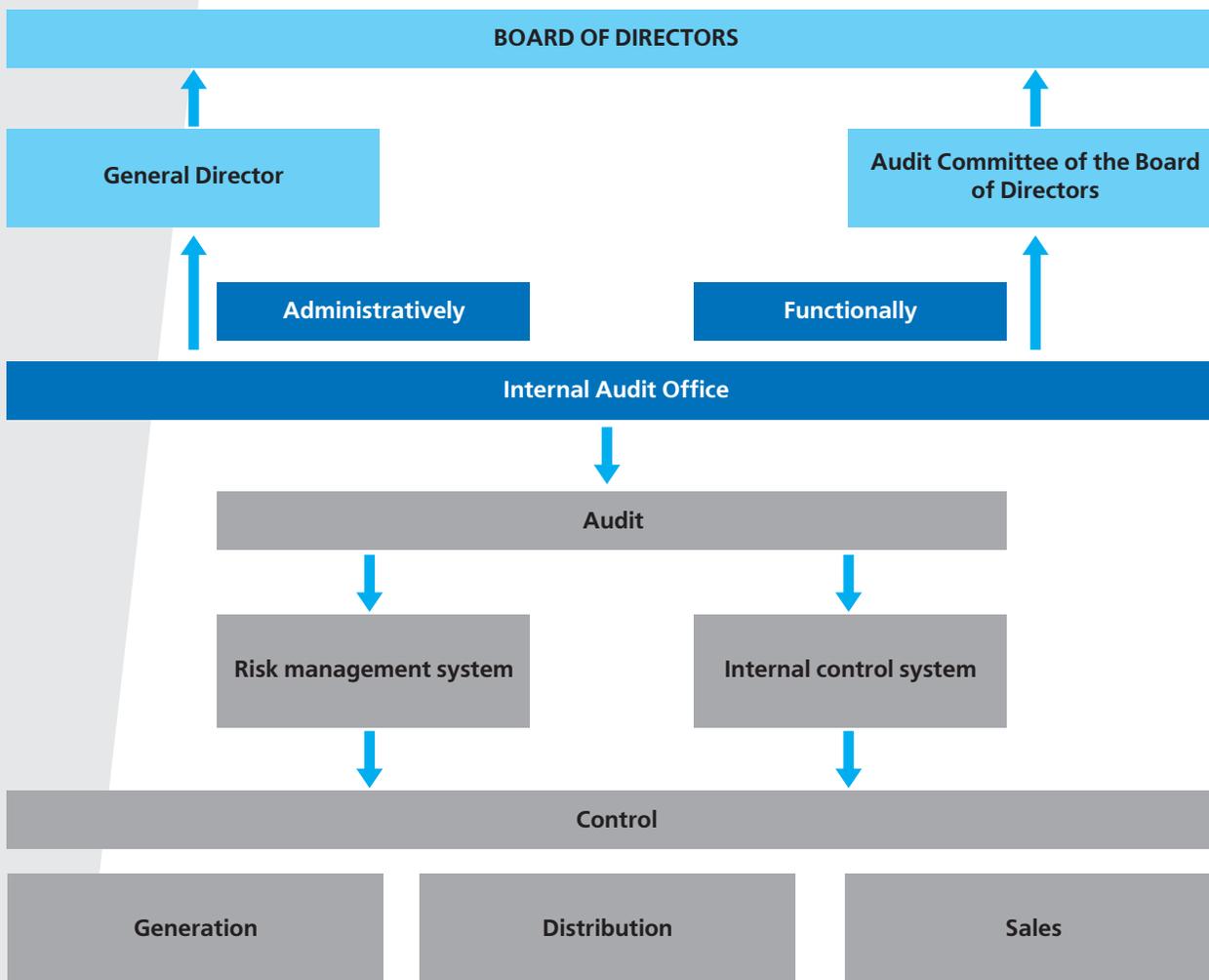
THE BOARD OF DIRECTORS PERFORMANCE OVERVIEW

PERFORMANCE OVERVIEW OF THE BOARD OF DIRECTORS

In 2016, the Board of Directors held 12 meetings. The Board of Directors focused on the following key issues:

26.01.2016	Approval of the budget of the PAVLODARENERGO JSC Group of Companies for 2016 Adjustment of tariff rates and fixed official salaries of employees of the PAVLODARENERGO Group Payment of benefits to employees of the PAVLODARENERGO Group for 2015 year results
26.04.2016	Making adjustments to the consolidated business plan (budget) of PAVLODARENERGO JSC for 2016 Approval of updated organizational structure of PAVLODARENERGO JSC Rendering assistance in holding Annual Forum of Energy Veterans of KEA Delivering charity support to Temple Construction Social Fund in Pavlodar
31.05.2016	Preliminary approval of the annual consolidated statements of PAVLODARENERGO JSC for the year 2015 confirmed by a report of the Deloitte LLP audit company Proposals of the Board of Directors of PAVLODARENERGO JSC on the procedure of distribution of net income for the expired fiscal year and size of a dividend per one ordinary share.
07.06.2016	Allocation of funds for celebration of 60th anniversary of Ekibastuz CHP of PAVLODARENERGO JSC
06.06.2016	The sole shareholder PAVLODARENERGO's approval of conclusion by PAVLODARENERGO JSC of Additional Agreement to the Contract for Project support, preserving shares and subordination between Pavlodar Heat Networks LLP, PAVLODARENERGO JSC, CAEPCO JSC and the European Bank for Reconstruction and Development dated March 26, 2011 as amended on June 8, 2012, as a related-party transaction Approval of the annual consolidated financial statements for the year 2015
06.10.2016	The Company approval of opening non-revolving credit facility in Eximbank Kazakhstan JSC and issuance of unsecured letters of credit within the open non-revolving credit facility for documentary operations with total financing limit of 829,290.15 euro.
06.10.2016	Approval of conclusion of additional agreement to the Framework Agreement with Al Hilal Islamic Bank for PAVLODARENERGO JSC jointly with CAEPCO JSC, SEVKAZENERGO JSC and Astanaenergoby LLP.
12.10.2016	Approval of terms of issuance of short-term commercial bonds of PAVLODARENERGO JSC.
17.10.2016	Granting the right to the PAVLODARENERGO Group of enterprises for the use of trademark of PAVLODARENERGO JSC.
16.11.2016	Approval of budget for the year 2017 for implementation of a program for support of young specialists and improvement of educational level of the personnel of PAVLODARENERGO Group of companies. Approval of updated organizational structure of PAVLODARENERGO JSC. Approval of updated Corporate Governance Code and Regulation of the Board Of Directors in PAVLODARENERGO JSC.
26.12.2016	Allocation of funds for sport activities of employees of PAVLODARENERGO Group.

INTERNAL CONTROL AND AUDIT



For the purpose of improving business processes and effectiveness of making decisions, the Company has introduced internal control mechanisms. Independence and objectivity of activities carried out by the Internal Audit Office (IAO) are ensured through subordination and accountability to the Board of Directors of the Company and supervised by the Audit and Risk Management Committee, which monitors decisions and processes to ensure the reliability of financial reporting and coordination of internal control and risk management systems.

The IAO operates in accordance with an annual work plan approved by the Board of Directors. The IAO submits its annual report as well as quarterly progress reports to the Board of Directors and the Audit Committee.

The IAO operates in accordance with the International Standards on Auditing (ISA) developed by the Institute of Internal Auditors Inc., as well as in compliance with the current laws and regulations of the Republic of Kazakhstan and the Code of Ethics of internal auditors of PAVLODARENERGO JSC.

Internal auditors adhere to the following principles in the course of their activities: integrity, objectivity, confidentiality and professional competence.

The activities of the IAO conform to the requirements of the Internal Audit Department of parent company and consistent with the audit methodology and practice. Both in 2016 and at the present day, the Company has an operating internal control system, which provides sufficient confidence in the effectiveness at all levels of control, including financial and operational one, and compliance with laws and regulations.

CORPORATE GOVERNANCE CODE COMPLIANCE REPORT

The corporate management system of PAVLODARENERGO JSC regulates the process of interaction between the management and internal control bodies of the Company, shareholders, and other stakeholders. The system ensures a balance of interests of all the persons listed.

The corporate management system is regulated by the Company's internal by-laws presented at the corporate website and is summarized in PAVLODARENERGO JSC's Corporate Governance Code adopted in 2010 by the By the Board of Directors of the Company.

The Code fully complies with laws and regulations of the Republic of Kazakhstan "On joint-stock companies": the document is based on the current international practices in the

field of corporate governance and recommendations on the use of corporate governance principles by Kazakhstani joint stock companies.

Following the principles of the Corporate Governance Code is aimed to form and introduce into the Company's daily operations corporate behaviour norms and traditions that meet international standards and contribute to creating a positive image of the Company for its shareholders, customers and employees with a view to exercising shareholders' rights to the maximum extent and improving their awareness about the Company's activities, as well as to control and reduce risks, maintain sustainable improvement of the Company's financial performance and implement successfully its statutory goals.

COMPLIANCE WITH KEY PRINCIPLES OF THE CORPORATE GOVERNANCE CODE IN 2016

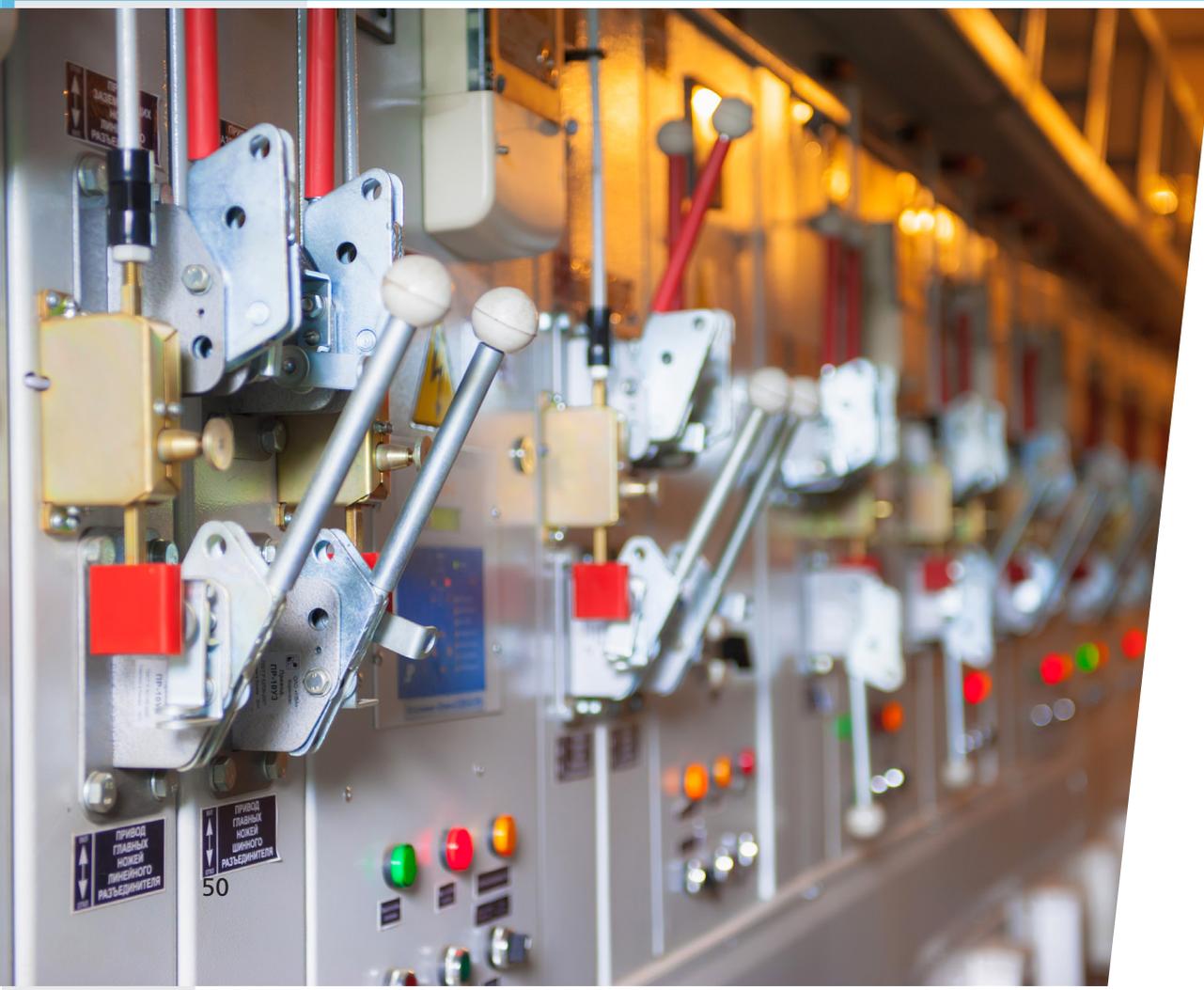
Key Principles of the Corporate Governance Code	Adherence to the Principles	Comments
<p>Justice Equal treatment of all shareholders, regardless of their capital contribution and location, and providing opportunities for the effective protection of their rights.</p>	Followed	Corporate governance in PAVLODARENERGO JSC is based on the principle of protection and respect for the rights and legitimate interests of the Company's shareholders and promotes the growth of assets and maintaining the Company's financial stability and profitability.
<p>Accountability The Board of Directors of the Company reports to its shareholders, executive bodies report to the Board of Directors of the Company, employees report to the executive management (the President of the Company). This principle ensures accountability and delineation of powers between the Company's management bodies, as well as full accountability of the Company to its shareholders, which is achieved through the timely and complete provision of shareholders with reliable information regarding the current financial situation of the Company, business performance and the Company management structure.</p>	Followed	<p>This principle of the Corporate Governance Code is followed through the introduction of the Company's organizational structure as provided for in the Charter and the Law of the Republic of Kazakhstan «On Joint-Stock Companies». The principle of accountability is reflected in the statutes of all management</p> <p>bodies/structural units, which allows to determine the lines of authority of the Company's management bodies and ensure full accountability of the Company to the shareholders.</p>

Key Principles of the Corporate Governance Code	Adherence to the Principles	Comments
<p>Responsibility Responsibility of the Company to its shareholders, employees, customers and partners, close cooperation with them aimed to increase its assets of the Company and improve its stability and reliability. This principle determines ethical standards for the Company's shareholders and employees, and envisages liability of the Company's officers for their illegal and wrongful actions or inaction as provided for by the current legislation.</p>	Followed	<p>In 2010, the Company adopted the Code of Business Conduct, which determines the main principles of relations of the Company with shareholders and investors, employees and officers, consumers of services provided by PAVLODARENERGO JSC.</p> <p>The Company has developed and adopted an action plan for interaction with stakeholders, based on which the Company prepares annual progress report, which describes the following basic principles:</p> <ul style="list-style-type: none"> • responsibility; • continuity of relations; • feedback with stakeholders; • accountability; • openness and transparency.
<p>Transparency Timely disclosure of reliable information on all material facts relating to the Company's activities, including its financial position, performance, ownership and management structure, in the volume prescribed by the legislation and internal regulations, as well as provision of free access for all interested parties to such information through its publishing in publicly available sources in the manner stipulated by the legislation and the Company's internal regulations.</p>	Followed	<p>The transparency principle stipulated by the Corporate Governance Code is developed in the Information Policy of PAVLODARENERGO JSC, main tasks of which are as follows:</p> <ul style="list-style-type: none"> • timely provision of information on all significant matters related to the Company; • ensuring availability of public information about the Company to all stakeholders; • increasing openness and trust between the Company and interested parties; • improving the Company's corporate governance; • creating a favourable image of the Company.
<p>Environmental protection and social responsibility The Company treats the environment responsibly and rationally, operating as a socially responsible business.</p>	Followed	PAVLODARENERGO JSC has developed and adopted an environmental and social action plan, which regulates the Company's policy in the field of environmental protection and social responsibility.

Key Principles of the Corporate Governance Code	Adherence to the Principles	Comments
<p>Effectiveness The General Director of the Company and its Board of Directors must ensure that the Company is managed in a sensible and responsible manner promoting steady improvement of its financial performance, growth of shareholder wealth, effective human resources policy, employee training and development, motivation and social security, and protection of the interests of the Company's employees.</p>	<p>Followed</p>	<p>The principle of effectiveness stipulated by the Corporate Governance Code is regulated by the Regulations on the General Director and the Regulations on the Board of Directors.</p>
<p>Controllability Control over financial and business activities of the Company to protect the rights and legitimate interests of its shareholders, supervision of senior managers over junior managers in accordance with the policies and procedures approved by the Board of Directors of the Company, as well as efficient engagement of internal and external auditors along with the introduction of an effective risk-based internal control system.</p>	<p>Followed</p>	<p>Control over financial and business activity of the Company in order to protect rights and legitimate interests of its shareholders is the responsibility of the General Director of PAVLODARENERGO JSC in accordance with the provisions set forth in the Regulations on the General Director. In addition, the Company has an Audit Committee acting as an advisory body of the Board of Directors of PAVLODARENERGO JSC, whose goal is to assist the Board of Directors in monitoring the decisions and processes, and ensuring the reliability of financial reporting и functioning of relevant internal control and risk management systems.</p>

RISK MANAGEMENT

Minimization of economic, social, environmental and other risks is an important priority of PAVLODARENERGO JSC. Timely and comprehensive analysis of risks in the management of the Company's activities allows making optimal decisions in terms of expenses and losses as well as improving efficient and sustainable operations in subsidiaries.



CORPORATE RISK MANAGEMENT SYSTEM

The Company has a corporate risk management system (RMS) aimed at identification, assessment and monitoring of all significant risks. Risk identification is carried out at all

levels: production enterprises, business units as well as at the level of the Group of companies. Risks are identified, evaluated and monitored.

INTERNAL ENVIRONMENT



The work on improving the RMS in the Company is made by the Risk Management Office, which is accountable to the Board of Directors of the Company. The Office activity is carried out in accordance with the annual work plan approved by the Board of Directors.

Work performed in 2016	Work planned for 2017
Updating of the Risk Register and Risk Map of the Company	Updating of the Risk Register and Risk Map of the Company
Analysis and testing of the ICS effectiveness in business processes: <ul style="list-style-type: none"> control of the customer service process; control of the process of connecting consumers to heat and electric networks; control of industrial inspection for compliance with industrial safety requirements when operating hazardous industrial facilities. 	Analysis and testing of the ICS effectiveness in business processes: <ul style="list-style-type: none"> management of the occupational health and environment protection process; management of the revenues and receivables accounting process; inventory accounting management; management of fixed assets and intangible assets accounting process.

INTERNAL CONTROL STANDARTS

The Company has introduced the Internal Control System (ICS) is a set of procedures, processes, codes of conduct and actions arranged in one continuing process, which is a part of the Company management process implemented by the Board of Directors, all executive and supervisory bodies as employees, aimed at achievement of the following purposes:

- efficiency and effectiveness of operational and investment activities of the Group;
- compliance with the laws and regulations of the Republic of Kazakhstan;
- reporting reliability;
- safeguard of assets

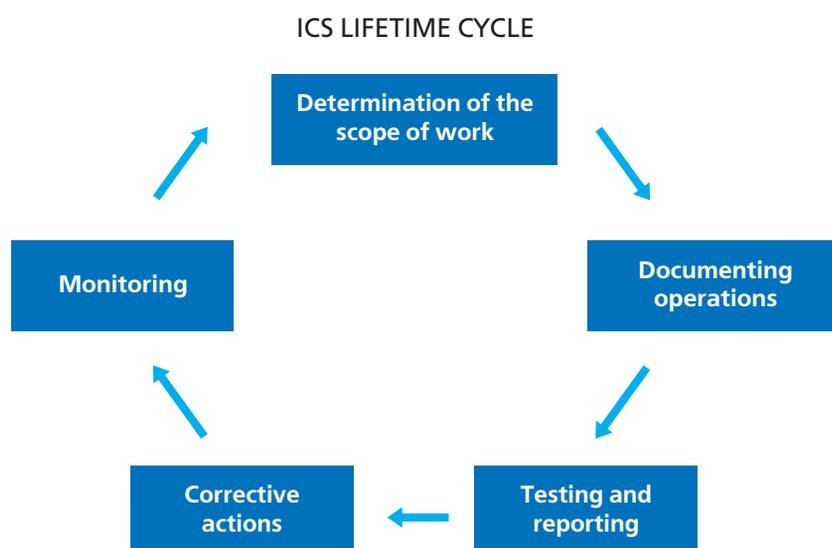
The Company’s management creates an effective control environment at all levels of the Group through:

- forming an understanding of the need and implementation of internal control procedures among the Group’s employees;

- maintaining a high level of corporate culture and demonstrating the principles of integrity and competence;
- improving the level of professionalism and competence among the Group’s employees;
- ensuring effective interaction between business units and employees;
- ensuring effective distribution of powers and responsibilities;
- forming fraud prevention mechanisms;
- organizing activities of the internal control bodies.

The Company is striving to ensure that all activities are controlled adequately with the aim to reduce risks. Control procedures have been implemented at all levels of management.

In 2016, the Company continued introducing a risk-based approach in order to minimize various types of risks inherent in activities of enterprises and business units.



RISK INSURANCE

In order to manage properly the risks inherent in the Company's activities, PAVLODARENERGO JSC has developed and implements an insurance protection policy for risk insurance aimed at minimizing and eliminating the consequences (damage, losses) resulted from the occurred risks and reducing (mitigating) the influence of such negative consequences on achievement of the Company's strategic goals. Thus, the Policy is aimed to ensure stable operations and development of the Company through the implementation of cost-effective insurance protection against significant risks that are subject to insurance and threaten the Company's activities, employees' health and property interests of shareholders and investors.

The insurance protection of PAVLODARENERGO JSC Group is provided for all types of compulsory insurance in accordance with the legislative requirements of the Republic

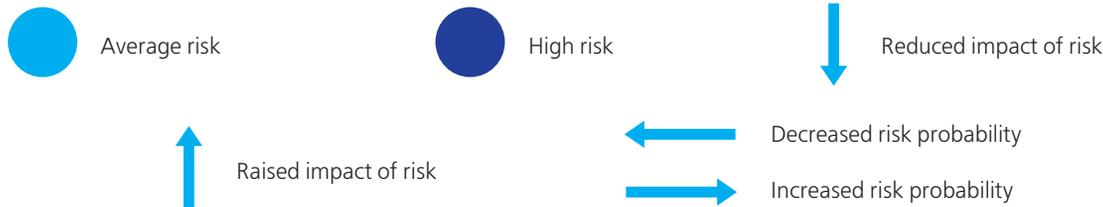
of Kazakhstan. Besides the compulsory types of insurance, the Company maintains voluntary insurance of property risks in accordance with the requirements of the insurance protection policy and the best world practices. Property risks of generating assets of PAVLODARENERGO JSC Group are insured in insurance organizations of the Republic of Kazakhstan in accordance with the legislative requirements. The Company imposes high requirements for insurance of its assets (all risks property insurance) and, therefore, places additional requirements and exercises control over re-insurance of its risks in international re-insurance organizations (such as Munich RE, Hannover RE, etc.) having at least AA rating. The Company implements a policy of openness towards representatives of the insurance community through the conduct of periodic insurance engineering survey of its generating assets and implementation of re-insurers' recommendations.



ANALYSIS OF RISKS HAVING SIGNIFICANT IMPACT ON PERFORMANCE

Based on the results of updating the Company Risk Register and Risk Map of the Company in accordance with the approved Risk Management Policy, the Company identified 70 risks having significant impact on its performance.

RISK	FACTORS	LEVEL OF RISK
Operational risks		
Injuries	<ul style="list-style-type: none"> 1. Violation of occupational health and safety requirements by employees, including employees of contractors; 2. Equipment failure, production accidents. 3. Low level of personnel qualification 	
Late procurement and deliveries of goods, works and services	<ul style="list-style-type: none"> 1. Long-lasting process of procurement approval reasoned by the requirements on following procurement procedures due to the fact that the Company is the natural monopoly entity. 2. Delivery of defective commodities and equipment by suppliers with inappropriate specifications 	
Excessive heat losses	<ul style="list-style-type: none"> 1. High degree of heat network depreciation; 2. From January 1, 2010, the Pavlodar region department of the Committee on Regulation of Natural Monopolies and Protection of Competition of the RK Ministry of National Economy, excluded the value of normative losses in consumers networks. 	
Financial risks		
Change in the national currency exchange rate to foreign currency	<ul style="list-style-type: none"> 1. Change in macroeconomic indicators; 2. Change in oil prices; 3. Interventions of the RK National Bank. 	
Growth in accounts receivable	The main reason of the risk is low level of customer repayment discipline. Decrease in basic macroeconomic indicators that affect contracting parties' solvency.	



CHANGE	RISK CHANGE DESCRIPTION	RISK MITIGATION MEASURES
↑	Despite a decrease in violations of occupational health and safety requirements by the company's employees, there is a growth in injuries and incidents in PAVLODARENERGO JSC and AEDC JSC	<p>At the level of the parent company CAEPCO JSC, the new regulatory documents have been approved:</p> <ul style="list-style-type: none"> - Occupational Health and Safety Policy, which provides for goals and objectives for improvement of occupational health and safety approaches; - The workplace certification working group organization methodology ("quick victories"); - Rules for drawing up annual personnel management plan in the field of occupational health and safety. <p>The Company's employees have been notified about all these documents. These documents have been proceeded in accordance with Regulations of facilities. Detailed information is contained in the "Occupational Health and Safety" section of this Report.</p>
↑	Late procurement and deliveries of goods, works and services as well as improper organization of procurement procedures during a year affected the deviation of repair works from approved repair schedule. At the year end, the repair schedule has been fulfilled in full.	<p>The Company has taken measures on mitigation of these risks:</p> <ol style="list-style-type: none"> 1. Made a decision to revise the Regulations "Procurements" for establishing communication relationships; 2. Assigned a responsibility for exercising control over the observance of contractual obligations by supplier, including receiving inspection of commodities and materials; 3. Set out the requirements to execution of commodities procurement documentation, assigned the responsibility for these documents conformity inspection.
→	According to the results of 2016, compared to the level of 2015, the Company has shown the growth of excessive heat losses.	The investment programs Nurly-zhol and EBRD in 2016-2020 specified the modernization of Pavlodar heating networks, and approved the financing in the amount of 14 KZT bln. The main goal of this investment project is to reduce excessive heat losses to zero.
←	On August 20, 2015 the National Bank resolved to cancel an exchange rate band and transit to a freely floating exchange rate. Since the beginning of the current year, a tenge/US dollar exchange rate has changed within the range of 327.66-389.91. The Brent oil price has changed within the range of 27.88-53.14 US dollar/barrel.	The Company has significant dollar-denominated liabilities. To manage a dollar exchange rate risk the Company monitors changes in currency exchange rates. In 2016, PAVLODARENERGO JSC carried out no currency risk hedge operations due to no choice of derivative financial instruments on the domestic market. In this regard, the Company uses a natural hedge method by placing free funds in dollar-denominated deposits and monitoring the efficiency of long-term investment programs.
→	In 2016, a positive trend was observed in payment for energy consumed. Despite this, an overdue debt indicator is still high.	<ol style="list-style-type: none"> 1. Claim-related work is performed. 2. Preparation of schedules for debt repayment by instalments. 3. Information on employees' overdue indebtedness for utility services is sent to enterprises, as needed.

SUSTAINABLE DEVELOPMENT

The strategic goal of PAVLODARENERGO JSC is to build a leading private energy Company strictly complying with the established principles of sustainable development such as provision of high-quality services to customers, compliance with the international industrial and environmental standards, improvement of corporate governance, carrying out an anti-corruption activity.



STAKEHOLDER ENGAGEMENT

An important element of the sustainable development system is stakeholder engagement. Principles of stakeholders' identification and selection are governed by a regional aspect. Based on high social importance of its operations and aiming at minimization of risks, PAVLODARENERGO JSC implements a complex of activities for expanding and improving effective interaction with all stakeholders in accordance with the principles of corporate conduct: openness, reliability and completeness of information on the Company's activities, complete respect for interests of all stakeholders and prompt response to manifestation of such interests. Ensuring sustainable development and the achievement of strategic goals of the Company is possible

provided that the interests of all stakeholders are taken into account and all stakeholders are treated responsibly. In 2016 the Company developed Stakeholder Engagement Plan (SEP). In the preparation of the Plan, the management of PAVLODARENERGO JSC was snap polled and based on results of the poll a Company stakeholders ranking map was prepared and analyzed. Primarily, cooperation is established with those stakeholders that significantly affect activity of the Company and those that can significantly affect it in medium term if the Company implements its strategic initiatives. In addition, the impact of the Company's activity on stakeholders was taken into consideration.

Key Stakeholders	Engagement process	Issues raised
Employees	Ensured by means of corporate newspapers and websites, personal blog of the General Director of the Company. There are special e-mail boxes and phone hotline for employees' appeals. Company management holds meetings with employees. Labor disputes are resolved by grievance committee with the participation of representatives of both the employer and the employee.	<ul style="list-style-type: none"> Occupational health and safety; Informing employees about Company's activities; Assistance in professional development.
Local communities	The Company has a comprehensive system for processing customer queries and providing feedback with the help of Internet sites, email, contact center, personal blog of the General Director of the Company. Public hearings, round tables and other events are held.	<ul style="list-style-type: none"> Addressing and approval of applications for tariff rates for monopolistically regulated services. Implementation of the investment program. The quality of services provided to customers, monitoring of compliance with customers' requirements, for example, installation of household energy meters and receiving technical specifications.
Governmental and Regulatory Authorities	Requests from governmental and regulatory authorities are processed: some requests are answered, while others are limited to fact finding. Employees of the Company participate in specialized meetings and consultations. Visits of official delegations are arranged.	<ul style="list-style-type: none"> Mitigation of a negative impact of industrial facilities operations on the city and the region. Ensuring preparation for a heating season. Performance of investment commitments. Compliance with the law, including environmental and nature protection requirements.
Suppliers, contractors, customers	Tender processes, meetings with contractors and customers. Company's web-sites provide feedback.	<ul style="list-style-type: none"> Creation of a mutually beneficial partnership. Ensuring transparency of tender processes.

Key Stakeholders	Engagement process	Issues raised
Educational institutions	Holding meetings with representatives of higher education institutions and colleges of Pavlodar regions. Employees of the Company participate in admission boards, qualification commissions as well as in accreditation of educational programs. Development of the PROFENERGY project with the aim to support young specialists and graduates with opportunity of employment by the Company.	<ul style="list-style-type: none"> • Staff recruitment for enterprises. • Internship and employment of graduates.
Mass Media	The Company facilitates on annual basis arrange press tours, press conferences, circulate press-releases and provide explanations on the informational requests.	<ul style="list-style-type: none"> • Establishment of cooperation. • Provision of information on implementation of the Investment Program for assets modernization and renovation. • Compliance with environmental standards. • Implementation of social projects.
Non-governmental organizations (NGO)	NGO representatives are regularly invited to participate in press tours and public hearings held during the year. Employees of the Company participate in public meetings with small and medium business representatives. Meetings are held with leaders who support socially vulnerable people as well as with representatives of the consumer rights protection society.	<ul style="list-style-type: none"> • Assistance in addressing environmental and social issues.
Trade union	Interaction with trade unions is carried out through arrangement of meetings and handling requests received in the course of activities.	<ul style="list-style-type: none"> • Compliance with a collective labor agreement; • Rendering assistance in arrangement of leisure time and recreational activities for employees.

In 2016, PAVLODARENERGO JSC provided regular information to the above-mentioned public groups regarding its activities by updating corporate web-site, posting information in mass media, responding to requests, organizing public hearings, press tours, «round table» meetings and other events.

In 2016, the Company implemented activities under the Stakeholder Engagement Plan (SEP) in accordance with the policy of the European Bank for Reconstruction and Development. Following the results of plan execution, a public report was posted at corporate web-site of the Company, providing information on stakeholder engagement activities.

The Company adheres to the following principles of information disclosure:

- guarantee of completeness and reliability of disclosed information;
- prompt disclosure of information on all material facts relating to its activities;

- regular and timely disclosure of information on the Company;
- relevance of information;
- ensuring a high level of safety of commercial, official and other secrets protected by the law of the Republic of Kazakhstan;
- a reasonable balance between the Company's openness and respect for its commercial interests;
- information support for making managerial decisions;
- provision of relevant, timely, complete, reliable and objective information to employees of the Company and its subsidiaries;
- prevention of loss, leakage and distortion of information.

ENVIRONMENTAL POLICY

ENVIRONMENTAL IMPACT MANAGEMENT

Environmental protection (EP), consistent improvement of environmental performance and energy efficiency are the key strategic priorities of PAVLODARENERGO JSC and an integral part of the sustainable development process of the Company. In 2016, PAVLODARENERGO JSC generated 3,828.863 mln kWh of electric energy and 4.568 thous Gcal of heat energy. 3,705 thous tons of Ekibastuz coal and 4.8 thous tons of mazut were consumed for energy generation.

In order to minimize environmental impact PAVLODARENERGO JSC implements consistently the environmental policy as provided for by the Development Strategy of the Company with the aim to comply with the environmental law requirements and use the latest scientific and technical achievements.

Priority areas of PAVLODARENERGO JSC environmental activities are based on the key influences on the negative processes affected the environment in the region:

- atmospheric pollutant emissions;
- greenhouse gas (CO₂) emissions;
- impact on water bodies as a result of water consumption;
- industrial wastes disposal.

Significant environmental aspects are managed through regular monitoring of environmental performance and assessment of compliance with legislative and corporate requirements. Responsibility for monitoring, recording and analysis of mentioned environmental impacts of PAVLODARENERGO JSC assigned to environmental protection department.

Information about environmental activities is provided by publishing on the web site of PAVLODARENERGO JSC of the Integrated Management System Policy, environmental management tasks and objectives, reporting documents such as: corporate reports, drafts of Environmental Impact Assessment sections for developed projects of reconstruction and modernization, minutes of public meetings, nature protection action plans, and non-technical summary of projects.

In addition, PAVLODARENERGO JSC inform contractors on the applicable legislative and normative requirements by including such requirements in agreements, terms of reference and requirements for contractors.

PAVLODARENERGO JSC intends to make every possible effort to prevent a negative environmental impact and implement operating methods that meet the requirements of the ISO 14001 international standard in all spheres of its activity.

Since 2009, PAVLODARENERGO JSC has been implementing an Environmental and Social Action Plan (ESAP) as a part of its Investment Program and in accordance with the Policy of the European Bank for Reconstruction and Development with regard to projects financed by the EBRD. Actions envisaged by the Environmental and Social Action Plan are aimed at improvement of environmental performance during the production, as well as of the Occupational Health and Safety Policy implemented at PAVLODARENERGO JSC. Within the frameworks of the ESAP the Corporation provides a public report on an annual basis.

* All quantitative environmental data is provided under the "generation" block due to its significant impact on the environment.

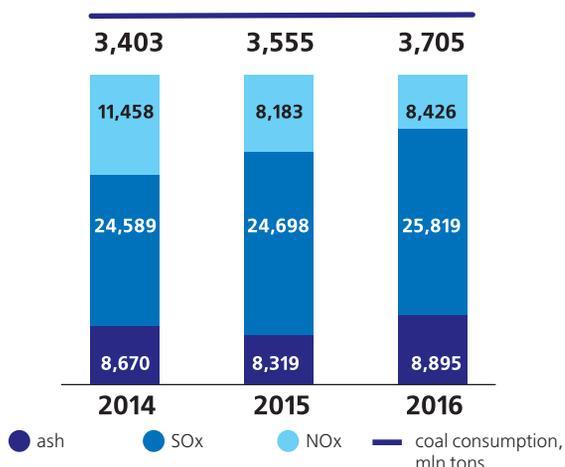
ATMOSPHERIC AIR PROTECTION

Emissions are one of the main environmental impacts from thermal power plants.

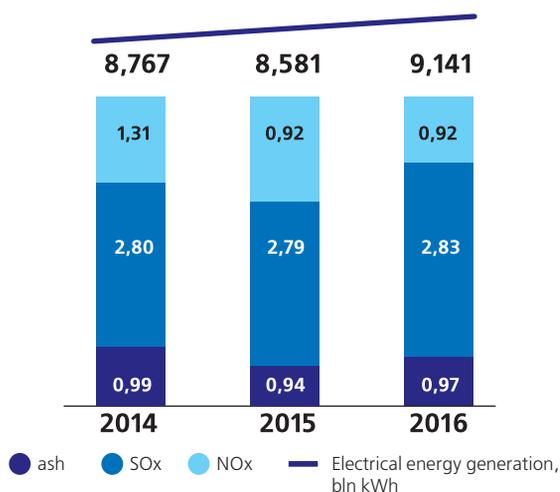
Replacement of obsolete generating facilities having low energy and environmental efficiency with new facilities that meet modern environmental protection requirements has the highest impact on reduction of emissions of PAVLODARENERGO JSC. In order to improve its environmental performance from 2009 to 2013 the Company upgraded its fly ash collectors adding 2nd generation battery emulsifiers at all power-generating boilers, which increased the degree

of purification of flue gases and ensured lower costs of enterprises. The actual purification rate after installation of emulsifiers reached 99.5% up from 97%. This action allowed reducing the total annual coal ash emissions from 29.9 thous tons to 8.9 thous tons per annum (70%). At the end of the year 2008 - the year when investment program was launched - amount of pollutant emissions of PAVLODARENERGO JSC was recorded at the level of 65.9 thous tons (including other emissions), based on results of the year 2016 this parameter was 44.2 thous tons (including other emissions) (33%).

Gross atmospheric pollutant emissions in 2014-2016, thous tons



Specific atmospheric pollutant emissions in 2014-2016, mg/MWh



MITIGATION OF ENVIRONMENTAL IMPACTS, ENVIRONMENTAL PROTECTION MEASURES

In 2016, PAVLODARENERGO JSC implemented the following main actions with the aim to mitigate environmental impacts:

- repair of heat insulation, lining of emulsifiers and gas ducts, works for maintaining degree of efficiency of fly ash collectors (FAC) at project level;
- repair of dust exhausting plants (DEP);
- performance of current repair works to maintain the main equipment operation in accordance with the Technical Regulations;
- replacement of burners during capital repairs of boilers;
- APCS installation at the boiler unit No. 5 of CHP-3;

- replacement of used lamps with energy-saving lamps;
- reconstruction, modernization of CHP equipment, aimed at reduction of energy consumption for internal needs, improvement of fuel consumption accounting, reduction of fuel specific consumption per a unit of sold product;
- recultivation of pits and ash dump at CHP-3;
- commencement of reconstruction of the turbo unit T-100/120-130-3 at the station No. 6 of CHP-3 of PAVLODARENERGO JSC.

GREENHOUSE GAS (CO₂) EMISSIONS

After the Kyoto Protocol entered into force for the Republic of Kazakhstan in 2009, the Company arranged work to prepare for taking inventory of greenhouse gas emissions and consumption of ozone depleting substances.

To monitor greenhouse gas emissions the Company uses a calculation method, which provides accounting of emissions from normal (regular) production operations, special practices (commissioning works, process shutdown, repair and maintenance) and emergencies.

On May 26, 2016, within the Loan Agreement signed on March 26, 2011 with the European Bank for Reconstruction and Development (EBRD), supplementary financial agreement was concluded for raising additional loan in the amount of 4,650 KZT mln for implementation of investment program for reconstruction of heating networks during the period 2016-2018 in Pavlodar and Ekisbastuz cities with the purpose of restoration and modernization of the central heat supply system.

In October 2016, a trilateral agreement was signed for implementation of the Pavlodar and Ekisbastuz heat supply system modernization projects. The agreement was concluded between the European Bank for Reconstruction and Development (EBRD), the Ministry of National Economy of the Republic of Kazakhstan and Central-Asian Electric Power Corporation (CAEPCO JSC) within the framework of Nurlı Zhol state program for infrastructure development. The total investments in the infrastructure of two cities in the period of 2016-2018 will amount to 13.94 KZT bln. 4.65 KZT bln are borrowed by EBRD, plus 4.65 KZT bln was funded within Nurlı Zhol state program. And 4.64 KZT bln was funded by Pavlodar Heat Networks LLP. Thus, the gross CO₂ emissions reduction in 2016 due to reduction of losses in heating networks was equal to 129 thous tons on an accrual basis, or 2.32% in terms of specific emissions as compared to the level of 2010.

Thanks to the implementation of energy saving actions, PAVLODARENERGO JSC in 2016 reduced greenhouse gas emissions by 42.612 thous tons of CO₂. However, production increase resulted in slight increase of the gross greenhouse gas emissions in 2016, compared to 2015 (4.0%) and amounted to 5.5 mln tons CO₂, due to increase of burnt fuel

(coal, mazut). Specific indicators of greenhouse gas emissions associated with generation of heat and electricity also show a slight rise in 2016 - 0.71%.

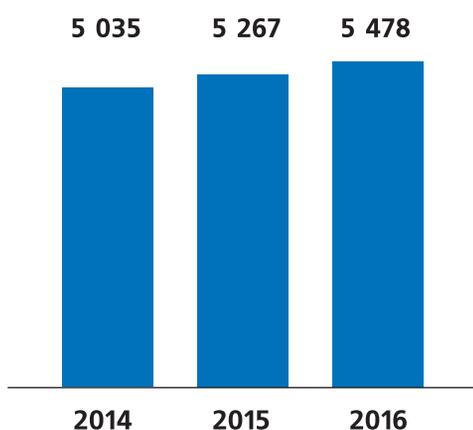
Actions of PAVLODARENERGO JSC related to CO₂ emissions reduction:

- reduction of heat energy losses from equipment through carrying out reconstruction and modernization under the investment program;
- increase of overall efficiency of fuel use through increase of share of generation by new blocks, as well as implementation of the programs related to improvement of energy efficiency

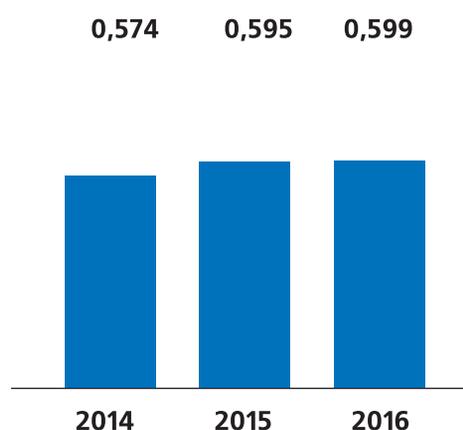
and implementation of the ISO 50001 Energy Management System standard (energy saving actions) at the enterprises;

- improvement of heat insulation and modernization of existing non-residential buildings (air tightening of air leakage areas, sealing of windows and doors);
- use of modern household and office appliances with energy saving class A+, A++ (new equipment consumes less of electric energy by 15-50%);
- replacement of incandescent lamps with modern energy saving ones (reduction of energy-related expenses by 5 times).

Gross CO₂ emissions in 2014-2016, mln tons



Specific CO₂ emissions per a unit of generated energy in 2014-2016, ton/MWh



ENVIRONMENTAL PROTECTION EXPENDITURES

In order to improve efficiency of environmental protection activity PAVLODARENERGO JSC provides financing for environmental actions. In 2016, the total amount of expenditures was equal to 1,856.8 KZT mln. For all new construction and reconstruction projects an Environmental Impact Assessment (EIA) project is prepared

and communicated to local communities and stakeholders through public hearings. To confirm compliance with the environmental standards of the Republic of Kazakhstan all projects undergo the state environmental examination in local environmental regulatory authorities.

Environmental protection expenditures, KZT mln

No.p.	Expenditure name	Expenditure amount, KZT mln			
		2013	2014	2015	2016
1	Investment expenditures	3 363,6	2 581,5	2 735,8	958,5
2	Expenses for overhaul repair of fixed assets intended for nature protection purposes	129,6	4,7	788	60,8
3	Current expenses	915,6	925,8	1 152	837,5
	Total	4 408,8	3 512	4 675,8	1 856,8

A common component of the Company's activities is the compliance with legislation in the field of environmental protection and power generation. In 2016, as per the results of scheduled inspection of the environmental protection

activities, PAVLODARENERGO JSC paid penalties in the total amount of 1.8 KZT mln for unauthorized disposal of waste and construction works prior to obtaining an environmental emission permit.

WATER MANAGEMENT AND WATER RESOURCES PROTECTION

Use of water resources is an integral part of the production processes of PAVLODARENERGO JSC. The main water unit impacted by the Company is Irtysh river. Water for technical needs is supplied by third party organizations on a contractual basis.

The main technological systems consuming the bigger part of water are cooling systems, hydraulic ash removal and water treatment plants.

In accordance with the production monitoring program of PAVLODARENERGO JSC for 2015-2019, agreed in 2014 by the Environmental Regulation and Supervision Committee of the RK, quality of the water discharged to ash dump is controlled and level and quality of underground water is monitored through a network of observation wells. Reports on fulfillment of the production environmental control program are submitted to the Ecology Department of the Pavlodar region on a quarterly basis. For technological purposes,

monitoring of quality of technical (feed) water is carried out by relevant official laboratories.

Key goal in water use management is to use water more efficiently, that provides for reduction of negative impact on the environment.

PAVLODARENERGO JSC has drinking water supply systems, as well as storm and domestic sewerage systems. Water for domestic, drinking, fire-fighting needs is supplied and discharged in a centralized manner via city water supply and sewage networks owned by outside organizations, on a contractual basis. Production water supply is carried out using a circulating water system.

In 2016, PAVLODARENERGO JSC consumed 530,007 thous m³ of water for water supply purposes with the main portion accounting for water of circulating water supply systems. During the reporting period the water discharge volume was equal to 370.9 thous m³.

Total water consumption by sources, thous m³

Indicator	2014	2015	2016
Total water consumption, including:	570 787	528 978	530 007
from third-party suppliers	23 909	24 746	24 338
from circulating water supply systems	532 370	490 701	491 645
from water recycling sources	14 507	13 531	14 024

Volume of waste water discharge, thous m³

Indicator	2014	2015	2016
Total waste water generated	375	342	370, 925
Disposed to third party organizations	375	342	370,925

The most important environmental activities implemented in 2016 in the field of water use and water discharge include the following:

- monitoring of qualitative and quantitative characteristics of ground water (water analysis was carried out in accordance with the approved

schedule) in the areas of industrial sites, ash dumps and pits;

- repair of service and drinking water pipelines and their stop and control valves at CHP-3 and CHP-2;
- replacement and repair of stop valves of service water pipelines, fire-fighting water and heating water pipelines at Ekibastuz CHP.

EFFICIENT MANAGEMENT AND DISPOSAL OF PRODUCTION WASTES

The main wastes generated by PAVLODARENERGO JSC are the ash and slag wastes, which represent 99% of the total amount of wastes stored in specially equipped plain-type hydraulic engineering facilities – ash dumps. Compliance with the environmental law of the Republic of Kazakhstan during the creation of new reservoirs for ash wastes storage allows preventing environment contamination by ash and slag wastes and ensuring stable CHP operation. Other wastes generated in the result of production activity are transferred for further processing, recycling or final disposal to the specialized companies operating at the territory of the Republic. The most significant action related to soil protection from production and consumption wastes is compliance with the rules on waste temporary storage and disposal methods.

The total volume of wastes in 2016 amounted to 1,471.7 thous tons, including 1,465.9 thous tons of ash and slag wastes, 6.9 thous tons of industrial and domestic wastes. Increase in waste generation by 55.8 thous tons compared to 2015 was caused by increase in a share of ash and slag wastes of the green hazard list. It was caused, in its turn, by increase in share of coal in the fuel balance of PAVLODARENERGO JSC. The volume of industrial and domestic waste delivered in 2016 to third-party organizations for disposal or recycling reduced by 0.8 thous tons compared to 2015 due to reduction in waste generation.

The most important actions of 2016 related to wastes management were aimed at improving industrial and environmental safety of ash and slag dumps and other waste disposal facilities:

- build-up of the dams of the 2nd section of the ash dump at CHP-3;
- recultivation of the 1st section of the ash dump at CHP-2;
- completion of construction of the 2nd section of the ash dump at CHP-2;

It should be noted that new ash disposal pits are constructed using the latest technology of an impervious screen in the ash dump bed - the Canadian polysynthetic geomembrane. Use of a special film – geomembrane would allow achieving 100% water proofing. This is a reliable and durable impervious screen ensuring protection of soil and ground water against contamination due to chemical components contained in clarified water of the hydraulic ash removal (HAR) closed-circuit system.

Total weight of waste generation, thous tons

Indicator	2014	2015	2016
Ash and slag waste	1 367	1 408	1 466
Other types of wastes	11,1	7,7	6,9

Wastes by hazard levels, thous tons

Indicator	2014	2015	2016
Waste generation	1 378	1 416	1 472
Green list	1 377	1 415	1471,8
Amber list	1,3	1,2	0,41
Red list	-	-	-

ENVIRONMENTAL MANAGEMENT SYSTEM

PAVLODARENERGO JSC has environmental management system conforming to the international standards and legally approved limits of maximum permissible emissions.

The Company obtained a certificate of compliance with the ISO 14001:2004 international standard. According to ISO 14001, the Environmental management system is a part of general management system, which includes organizational structure, planning of activities, distribution of responsibility, practical work as well as procedures, processes and resources for development, introduction, assessment of

achieved results of implementation and improvement of IMS policy, tasks and objectives.

Availability of the environmental management system developed, well-functioning and certified for compliance with the ISO 14001 standard is the most important indicator of a systematic and efficient work in the field of environmental protection promoting the improvement of Company's competitiveness, increase in the market value of shares and creation of a positive image in relations with external stakeholders.

During the reporting period the TÜV Rheinland Kazakhstan company (a leader in the independent examination and certification industry) carried out supervisory and re-certification audits of compliance of PAVLODARENERGO JSC with the international standards ISO 14001 (Environmental Management System), ISO 9001 (Quality Management System), OHSAS 18001 (Occupational Health and Safety Management System), ISO/CD 50001 (Energy Management System). As a result, robustness, efficiency and focus on improvement were confirmed.

PUBLIC APPRAISAL OF ENVIRONMENTAL PROTECTION ACTIVITIES

In order to meet the environmental requirements of the Republic of Kazakhstan, in 2016, PAVLODARENERGO JSC held 8 public hearings with the participation of representatives of local executive bodies and the public: the State Institution «Pavlodar Administration of Entrepreneurship and Agriculture», territorial divisions of the authorized body for environmental protection of the Republican Governmental Agency «Pavlodar Regional Ecology Department of the Environmental Regulation and Supervision Committee of the Ministry of Energy and Science of the Republic of Kazakhstan», the State Institution «Administration of Subsoil Use, Environment and Water Resources of Pavlodar region» for addressing the following environmental projects:

1. discussion of the Action Plan for the period of recultivation of Kuat and Zhyly su pits (11.01.2016 r.);
2. draft EIA «Building-up the dams of the 2nd section of the ash dump at CHP-3 of PAVLODARENERGO JSC and the draft Action Plan for environmental protection for the period of building-up the dams of the 2nd section of the ash dump at CHP-3 of PAVLODARENERGO JSC (12.01.2016);
3. draft EIA for the Feasibility Study «Replacement of turbine unit P-50-130 at station No. 3 of CHP-3» (07.04.2016);
4. draft EIA «Exploration and evaluation of clay rocks at Alfa site in the Northern Industrial Area of Pavlodar city» and the draft Action Plan for environmental protection for the period of exploration and evaluation of clay rocks at Alfa site in the Northern Industrial Area of Pavlodar city (07.04.2016);
5. draft EIA «Pavlodar CHP-3. Construction of a temporary scrap metal storage site» and the draft Action Plan for environmental protection for the period of construction of a temporary scrap metal storage site of PAVLODARENERGO JSC (09.06.2016);
6. draft EIA «Liquidation of Kuat and Zhyly su pits» (25.08.2016);

7. draft EIA «Industrial development of clay rocks at Alfa site in the Northern industrial area of Pavlodar city» (05.12.2016);
8. draft EIA «Reconstruction of mazut-handling facilities at CHP-3 of PAVLODARENERGO JSC in Pavlodar city» (22.12.2016);

Announcements of public hearings were published in the Kazakh and Russian languages in Zvezda Priyrtshya and Saryarka newspapers as well as in Internet sources of the State Institution «Pavlodar Administration of Entrepreneurship and Agriculture» <http://pavlodar-op.gov.kz> and the State Institution «Administration of Subsoil Use, Environment and Water Resources of Pavlodar region» <https://tabigatpv.gov.kz>.

The main objective of the public hearings is to determine the environmental impact assessment during the implementation of the above stated projects, evaluate possible consequences for the ecology and socio-economic environment, and develop environmental emission standards for reconstruction and construction operations. The sources of environmental impact, volumes of pollutants released during the performance of works, and the volume of production waste generation were addressed in detail. Also, the participants of the hearings were also submitted a number of environmental protection measures for discussion aimed at minimizing a negative environmental impact during the performance of all planned works.

In 2016, there were no environmental impact grievances in the region.



HUMAN RESOURCES AND SOCIAL POLICY

HUMAN RESOURCES MANAGEMENT POLICY

The Human Resources Policy of PAVLODARENERGO JSC is a comprehensive system of interaction with employees aimed to achieve strategic goals of the Company.

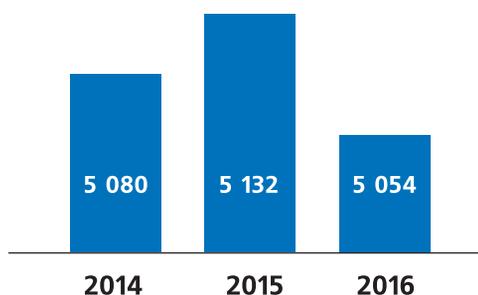
The objective of the Human Resources Policy is to form the Company with an efficient corporate governance system providing opportunities for maximizing employees' potential. The Company is strengthening its Human Resources Policy by engaging various professional employees, retaining highly qualified employees, conducting continuous professional training and development for employees, providing opportunities for professional growth of initiative young employees, creating a talent pool and managing talents.

EMPLOYEE HEADCOUNT AND QUALITY

As of December 31, 2016, the Company headcount was equal to 5,054 persons.

Decrease in the headcount by 1.5% relative to 2015 is a result of implementation of measures to optimize the headcount at facilities.

Headcount trend, pers.



Payroll headcount distribution by companies of PAVLODARENERGO JSC Group for 2016

Company name	Headcount
PE JSC (Pavlodarenergo JSC)	1 892
PREDC JSC	1 962
PHN LLP	740
PES LLP	460
Total:	5 054

EMPLOYEE STRUCTURE BY CATEGORY AND GENDER

Due to the nature of the business, the Company's employee structure is dominated by men, with a share of 61.8%. The production personnel are mostly from "workers" category, with men accounting for 70.6%.

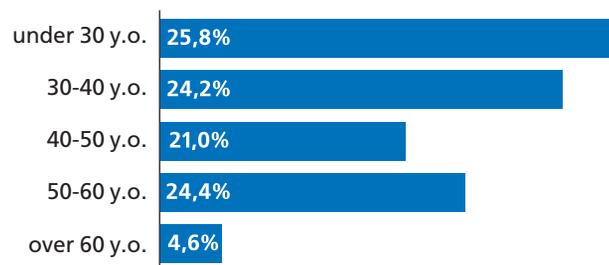
EMPLOYEE STRUCTURE BY GENDER AND AGE

The age structure of the Company's employees is characterized by a proportion of employees who are in the most productive age for professional work - under 40 years old – they make up 50% of the total headcount. Employees over 60 years old make up 4.6%

Within the human resources management policy, the Company implements activities aimed at gradual personnel rejuvenation to achieve an optimal balance of young initiative employees and experienced highly professional employees with the aim to ensure continuity and transfer professional knowledge and skills.

Average age of teaching staff is 40 years

Employee structure by age

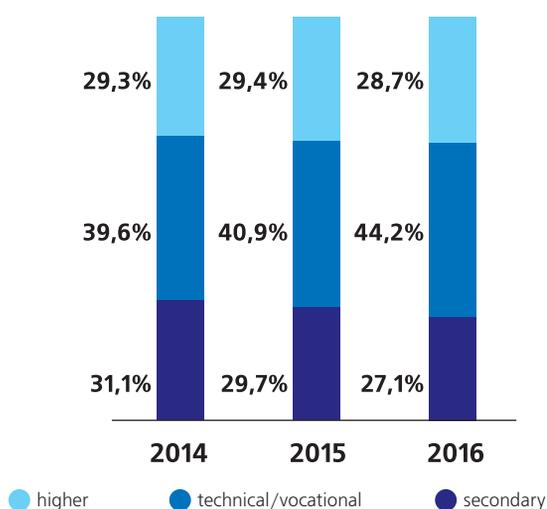


EMPLOYEE EDUCATION LEVELS

In general, in 2014-2016 the Company has an increasing trend in the share of the production personnel having technical/vocational education and reducing the share of employees having general secondary education. In view of priority of filling vacancies of workers, the share of employees having a higher education is slightly falling – by 0.7%, – vs. 2015.

In 2016, 19 employees completed extramural higher education, including 16 employees in their job related fields; 11 employees completed technical/vocational correspondence training, including 9 employees in their job related fields.

Educational level trend



PERSONNEL TRAINING AND DEVELOPMENT

The personnel training and development system of the Company covers the following areas:

- compulsory, normative training;
- management skills development;
- professional skills development.

In order to improve efficiency of activities and create safe working conditions at its enterprises, the Company carries out training in accordance with its corporate format and individual development plans.

In 2016, 5,569 employees completed training, including 4,221 production employees who received compulsory training, or 83.5%. The number of employees trained in training centers of the Company in 2016 amounted to 3,126 persons (61.8% of the total number of employees). In order to develop professional skills, 967 employees received advanced training in 2016.

EMPLOYEE TURNOVER

Personnel category	Total		men		women	
	persons	%	persons	%	persons	%
Headcount	5 054	100	3 124	61,8	1 930	38,2
Managers	735	14,6	569	77,4	166	22,6
White-collar workers	1 229	24,3	374	30,4	855	69,6
Blue-collar workers	3 090	61,1	2 181	70,6	909	29,4

EDUCATION LEVEL DYNAMICS

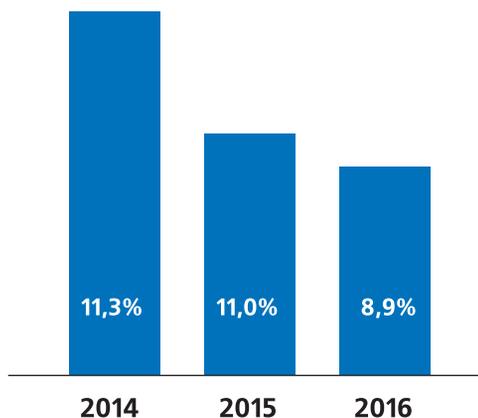
Item	2014	2015	2016
Number of employees who have completed training, retraining or professional development, including:	4 866	5 207	5 569
Safety and fire safety regulations, operating rules and regulations (initial training, qualification certification/re-certification), training courses for managers	3 619	4 428	4 221
Cross-training	8	11	39
ISO 9001, ISO 14001, OHSAS 1800 quality management system trainings (including environmental protection, internal audit and risk management issues)	1 020	315	320
Civil defence and emergency training	0	3	22
Other training (professional development, seminars, workshops, etc.)	219	450	967

EMPLOYEE TURNOVER

In 2016, employee turnover rate in general for the Company reduced and was 8.9% due to implementation of improvement initiatives:

- headcount optimization at enterprises in order to identify payroll fund reserves and use these funds to raise wages;
- development of mentorship and incentives to support young specialists;
- financial and non-financial incentives for skilled workers;
- improving social guarantees in accordance with collective bargaining agreement.

Turnover rate



TALENT POOL

In 2016, in order to ensure availability of the required personnel reserve for various managerial positions the PAVLODARENERGO JSC Group of companies created a talent pool of 619 senior, middle and junior level managers.

Talent pool development is carried out based on individual programs aimed at professional and managerial training of succession pool members, including training in the Company's own training center, skills improvement, internships, mentoring, performance of managerial functions and temporary employee relocation. The external talent pool is also formed. During 2016, 77 persons from the talent pool were appointed to managerial positions. 590 young specialists work at the Company's enterprises, of which 131 people were employed in 2016, including 91 persons - to leading positions and professions. At the same time, a share of employees having technical/vocational education was 83 persons (63.4%), higher education - 48 persons (36.6%).

INVOLVEMENT OF YOUNG SPECIALISTS

In 2016, the Company continued implementing the PROFENERGY project, as part of which the program was developed with the aim to support young specialists and graduates and appoint them to key/critical positions at enterprises, develop and improve personnel educational level and retain key employees.

The program allows implementing the state program aimed to train technical staff.

For example, in February, 2016, trilateral social partnership agreements were signed between PAVLODARENERGO JSC, Chamber of Entrepreneurs of Pavlodar region and 5 educational institutions of Pavlodar and Ekibastuz cities.

Program for supporting young specialists includes the following measures:

For students studying on an intramural basis in the Company's profile disciplines:

- improvement of training programs;
- paid practical training;
- temporary employment for the period of vacation;
- competition of scientific papers;
- granting scholarship;
- participation in examination boards.

For the Company's employees studying on an extramural basis in the core industry disciplines:

- loans for payment of trainings;
- payment for educational leave;
- bonus for successful graduation.

In 2016, 93 guided tours were conducted at production facilities; 192 students completed on-the-job and pre-graduation practical training, including paid practical training - 2 students. 6 students were hired for summer vacation period.

In November 2016, PAVLODARENERGO JSC announced a contest among the third-year students of Pavlodar and Ekibastuz. 11 applications for participation in the contest of scientific papers were submitted by three educational institutions. In 2017, winners of the contest will be determined by the jury after the in-person defence of papers. They will be awarded with a corporate scholarship of the PAVLODARENERGO JSC and will also have an opportunity to be employed by the Company.

34 employees studied at higher educational institutions by correspondence, 24 of them - in the company's profile specializations; 47 employees receive technical/vocational education by correspondence, 34 of them - in the Company's profile specializations.

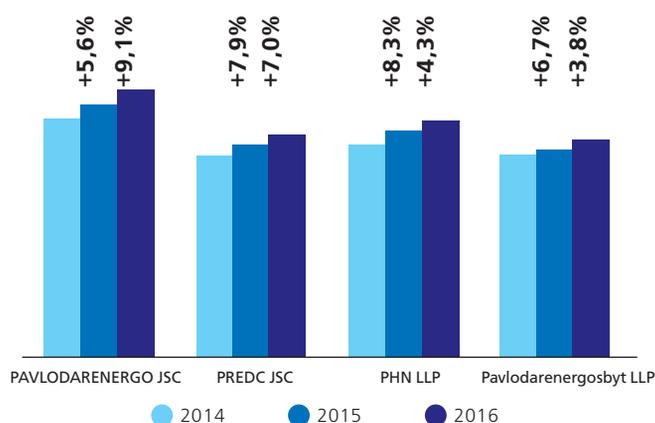
PERSONNEL MOTIVATION AND REMUNERATION

The goal of the Company's motivation and remuneration system is to attract, retain and motivate employees in order to ensure that the Company can achieve its mission and business targets at an optimal cost.

In 2016, the average income level in the companies of PAVLODARENERGO JSC Group increased by 10.6% compared to the level of 2015.

In 2016, the Company adopted the unified remuneration system, system of material incentives taking into account internal and external factors, including the allocation of labor remuneration funds depending on the scope of participation in production process and analysis of social factors and labor market conditions.

Average earnings growth rate by the companies of PAVLODARENERGO JSC group



NON-FINANCIAL INCENTIVES

In order to increase motivation for efficient performance, every year the Company undertakes employee recognition initiatives giving out awards, certificates of merit and titles for achieving high production results. Information on such initiatives is published in corporate information sources.

In 2016, 88 employees and veterans of the Group companies received corporate awards for efficient performance: 29 employees received corporate awards, 21 employees received state awards, 26 employees received awards from the Veteran Council of Kazakhstan Energy Association, 12 employees received awards from Kazakhstan Energy Association, among them 5 employees were awarded with the title of Distinguished Energy Worker and 4 employees - the title of Honoured Energy Worker.

In addition, in view of 60th anniversary of Ekibastuz CHP of PAVLODARENERGO JSC, 24 employees were awarded: 7 employees received corporate awards, 12 employees received state awards, 5 employees received awards from Kazakhstan Energy Association.

INTERACTION WITH TRADE UNIONS

The group of PAVLODARENERGO enterprises has adopted a single collective agreement for 2016-2019. When developing a collective agreement, the Company adheres to the principles of economic feasibility, sufficiency, joint responsibility and transparency. At the enterprises of PAVLODARENERGO Group, collective bargaining agreements provide social guarantees and benefits for employees and their families.

Interaction with trade unions of the PAVLODARENERGO Group of companies:

- control over collective agreement fulfillment;
- regulation of working and rest schedule in accordance with labor agreement, internal code of labor conduct and other regulations of the employer;
- remuneration of labor in accordance with the Unified Remuneration System Regulation and other local regulatory documents concerning remuneration;
- work in grievance committee;
- participation in commissions for complex research occupational safety, health, assessment of workplaces;
- work with the Veteran Council;
- making proposals on required industrial sanitary measures according to workers' requests.

Item	2014	2015	2016
Number of employees in trade unions, person	3 803	3 865	3 616
Percentage of the total headcount, %	74,9	75,3	71,5

SOCIAL SUPPORT, GUARANTEES AND COMPENSATORY PAYMENTS

Social policy of PAVLODARENERGO JSC Group of Companies is determined together with employees and their representatives – trade unions, and implemented based on financial possibilities of the companies.

Goals	Social package
Personnel motivation for long-term work	Additional professional pension contributions at the rate of 5% Bonus payment for professional competitions Bonus payment for anniversaries and holidays Payment of professional allowance for the year results
Effective compensation and benefit payment system	Compensation for camp vouchers for children under 14 years old New Year's gifts for employees' children Transport services for the delivery of employees to/from work
Support of personnel working capacity and health	Insurance against occupational accidents and diseases Compulsory health insurance Compensation for sanatorium and preventive treatment expenses
Employee social support	Material aid for the birth of a child Material aid for ritual services Paid educational leave Retirement allowance Additional paid leave for first marriage of employees and family members funeral
Sports and recreational activities	Reimbursement of food expenses to participants of sports competitions. Reimbursement of expenses for mass cultural events and collective leisure time



SPORTS AND RECREATIONAL ACTIVITIES

In order to promote a healthy lifestyle, the following activities are carried out at the Company's enterprises:

- payment of membership in sports and recreational facilities;
- organization of active leisure time;
- formation of collective traditions;
- holding of annual sports events, professional competitions.

1,562 employees visit sporting complexes: Swimming pool, tennis court, football, volleyball and other.

Every year, employees of PAVLODARENERGO Group take an active part in sports and recreational activities held both at the enterprise level, at district and regional levels. Sports competitions between the enterprises allow the teams to win prizes at external competitions. The most popular sporting competitions in the group of companies: volleyball, skiing race, autumn cross-country race, football, swimming, chess, fishing.

In 2016, the Company hold competitions in 9 sports with participation of 222 employees.

Enterprises of PAVLODARENERGO group hold a traditional family relay race in celebration of the Power Engineers' Day. In 2016, 11 teams took part in this competition.



OCCUPATIONAL HEALTH AND SAFETY

The Company continuously works on creating safe working conditions, prevent injuries, improve production and sanitary workplace conditions, reduce the impact of harmful and unfavourable factors, reduce industry-specific risks and dangerous situations at the workplace. The Company implements the Stakeholder Engagement Plan (SEP) in accordance with the policy of the European Bank for Reconstruction and Development. According to the ESAP, annual public reports are submitted with information on projects aimed to improve occupational health and safety at enterprises of PAVLODARENERGO JSC.

The Company's strategic goals in the field of occupational health and safety are as follows:

- injury reduction;
- improving workplace safety and the occupational safety and health management system;
- improving labor conditions at workplaces;
- prevention of employees' unsafe actions through systematic training in the field of safe work practices;
- development of personnel motivation systems to ensure occupational health and safety;
- development and implementation of unified corporate standards in the field of occupational health and safety;
- study and dissemination of modern best experience and global practices in the field of occupational health and safety.

In 2016, in compliance with the RK Labor Code requirements and for creation of safe labor conditions, improvement of culture and aesthetics of production, the Company developed the occupational health and safety Action Plan. These measures were carried out in compliance with the requirements of OHSAS 18001:2007. In 2016 external audit confirmed the certificate.

The fundamental liabilities in the health and safety area are the following:

- protection of health and life of the employees and the representatives of third parties present at the territory of the Company production facilities;

- compliance with the relevant legislative and normative requirements;
- provision of required resources in order to achieve set tasks and objectives;
- performing activities aimed at reducing and preventing accidents;
- continuous improvement of operation and maintenance quality, reducing injuries, improving working conditions.

In 2016, the actual costs of implementing occupational health and safety measures and improving labor conditions amounted to 423 KZT mln. The funds were spent for providing the Company's employees with the required personal protective equipment, including electric safety devices, special food and medicines. The Company has purchased fire-fighting equipment, informative banners, normative and technical documents and safety signs, organized medical examinations, including pre-shift medical examination, purchasing medicines and first aid kits. During the year, the Company was making repair of buildings and installations.

All employees of the Company's enterprises are insured against accidents as required by the law of the Republic of Kazakhstan "On compulsory employee insurance against industrial accidents".



TYPES AND RATES OF OCCUPATIONAL INJURIES

5 incidents happened at the Company's enterprises in the reporting year. Classification of incidents by types: electric shock; fall of an injured person; fall from height.

The causes for the incidents were as follows: gross negligence of an injured person; unsatisfactory labor management; non-compliance with the health and safety requirements.

The incidents include 1 fatality. In 2016, the Corporation declared a purchase of personal voltage alarm devices that are attached to the employee's protective helmet as additional protection means for personnel operating electrical installations and current-carrying parts. In 2017, voltage alarm devices will be provided to the most of teams engaged in the repair of power transmission lines.

Occupational injury rates			
	2014	2015	2016
Average payroll headcount	5 020	5 163	5 086
Number of traumatic events	2	2	5
Number of injured persons/including women	2/0	2/1	5/0
Number of fatalities	1	0	1

The incident recording, reporting and notification system of the Company complies with the legislative requirements of the Republic of Kazakhstan and the International Labor Organization (ILO). The Company implemented the following practices:

- investigation of micro-injuries, incidents and high potential incident being a basis for more serious injuries and damage;
- carrying out safety induction trainings with visualization by presentation slides;
- preparation of newsletters for providing information about incidents and their distribution among employees in order to share information about causes of such incidents and prevent their re-occurrence in the future.

The Company carries out the following control and preventive actions on a regular basis in order to prevent occupational injuries, monitor occupational health and safety condition and record cases of health and safety requirements violation:

- occupational health and safety, electrical safety training and knowledge assessment;
- carrying out planned and random occupational health and safety audits;
- arranging occupational health and safety days;
- holding occupational health and safety meetings;
- equipping work places in accordance with occupational health and safety requirements;
- placing information posters and safety signs at work places;
- holding professional competitions;
- arranging demonstrative work permit events, etc.

Main performance indicators of occupational health and safety preventive measures

	2014	2015	2016
Number of occupational health and safety meetings held	22	22	19
Number of Occupational Health and Safety Days held	374	198	129

In 2016, according to the occupational health and safety Action Plan for 2016-2017, the following measures were implemented:

- approval and enactment of the Regulation on a rainbow sheet;
- introduction of practices of notifying the family of an employee about his/her violation of occupational health and safety requirements;
- issuance of Safety Information Sheet;
- development of the Album of additional energy safety signs;
- development and introduction of the Regulation for occupational health and safety monitoring in order to unify the procedures for occupational health and safety monitoring, including cross-audits;
- in view of the International Day of labour safety on April 28, 2016 the Company hold measures on the personnel awareness raising about this Day, contest of children's drawings with the title: "My parents work safety", training and contest among the employees with the title: "We are for the safe working conditions";
- significant work has been done for prevention of incidents related to people fall on slippery or rough surfaces;
- in October 2016, the first mutual audit of occupational health and safety was conducted at enterprises of PAVLODARENERGO JSC. Heads of occupational health and safety services of CAEPCO JSC subsidiaries met at the same site after performance of audit at Pavlodar CHP-3, Ekibastuz CHP, PREDC JSC, Pavlodar Heat Networks LLP, and Pavlodarenergosbyt LLP. This event allowed the company to exchange experience in the field of creating safe labor conditions;

- all enterprises if PAVLODARENERGO JSC made the major repairs of buildings and installations.

During 2016, certification audits for compliance with the requirements of the International Occupational Health and Safety Standard OHSAS 18001 confirmed the enterprises' compliance. The auditors highlighted positive aspects as regards the following:

- development of slides, explanatory tests and video of induction briefing for visitors and secondees;
- replacement and reconstruction of equipment, repair of buildings and installations;
- implementation of social projects;
- improvement of labor conditions.

In 2016, the occupational health and safety department of PAVLODARENERGO JSC was recognized the best among the Pavlodar region enterprises and awarded with Certificate of Merit signed by the Head of the region.

EMPLOYEES OF THE COMPANY WHOSE PROFESSIONAL ACTIVITY BEARS HIGH INJURY RISK

Works related to maintenance and repair of power equipment are exposed to high injury risks. Electricians/ electrical fitters are the employees whose professional activity bears high injury risk.

To ensure safe working at electrical installations, the Company holds personnel training; organizational and technical measures, including control for their implementation; employees are provided with all required personal protective equipment, electric safety devices, etc.

PLANS FOR THE FORTHCOMING PERIOD

In 2017, the Company intends to introduce and maintain the following corporate standards and regulations in the field of occupational health and safety:

- the workplace certification methodology (“Quick victories”). Certification allows improving workplaces of production personnel to ensure efficient execution of works in a timely manner based on the full utilization of working time, equipment, progressive techniques, creation of comfort and safe labor conditions;
- “Rules for drawing up annual personnel management plan”. The Rules specify the requirements to development, drawing up and approval of personnel management plans on occupational safety and health;
- standard «Safety requirements for interaction of vehicles and pedestrians at production sites and facilities»;
- standard «Work at height»;
- regulations for personnel motivation at enterprises of PAVLODARENERGO JSC for compliance with occupational health and safety requirements.

CONSUMER SAFETY

The Company cares about safety and health of its consumers. For this purpose, it carries out systematically awareness-raising work and equipment inspections. The enterprises of PAVLODARENERGO introduce advanced technologies and implement safe working practices.

AWARENESS-RAISING WORK

The management of each district branch of the PREDC JSC power grid enterprises acting jointly with occupational health and safety specialists performs the work to raise awareness among the population regarding compliance with safety rules in the vicinity of the operating electrical installations and power lines.

At the beginning and at the end of a school year the Corporation implements measures to prevent electric injuries among children. For this end, specialists of district power grid enterprises are invited to schools to tell the pupils how to avoid electric shocks and thereby keep up their health.

In order to warn the population and personnel of danger, the safety signs and inscriptions are placed on all electrical installations operated by PREDC JSC, all equipment is protected against unauthorized access by providing appropriate fences, locks and blocking mechanisms.

The regional and district mass media publish articles aimed to prevent injuries, including among children, and protect public health.



ENSURING CONSUMERS' SAFETY AND HEALTH IN RETAIL COMPANIES

Pavlodarenergosbyt LLP implements the following measures aimed to ensure consumers' safety and health:

- service center buildings are equipped with ramps for disabled people;
- service center buildings are equipped with video surveillance systems;
- all service centers are provided with medical first-aid kits containing necessary medicines;

The Company has organized customer feedback through official web-sites and questioning of consumers in order to identify the level of customer satisfaction and address proposals for improvement.

SOCIAL PARTNERSHIP

In 2016, PAVLODARENERGO JSC took part in the republican campaign «Road to School» under the motto «The Territory of a Happy Childhood». The company takes an active part in the campaign for the second consecutive year and provides targeted assistance to orphans.

PAVLODARENERGO JSC is the general sponsor of children's tennis competition of first category PAVLODAR-OPEN. Annually, young sportsmen from various cities of Kazakhstan take part in the competition.

CORPORATE EVENTS

Within a year, the Company holds events for the employees in relation to the holidays like Children's Day, March 8, Knowledge Day, Defender of the Fatherland Day, Nauryz, Victory Day, Chemist Day, International Day of Older Persons, International Worker's Day, Power Engineers' Day, New Year.

- The Group of companies celebrated Nauryz meiramy with arrangement of the following events: Pavlodar CHP-3 held the most tasty bauyrsaqs contest; Ekibastuz CHP organized concert program in the sponsored secondary school.
- Children's drawings contest "The best summer day" was held on the Children's Day. 36 children of the enterprises employees participated in the contest. According to the

results, 9 children who took prize places were awarded with gifts – certificates for purchasing stationeries. 1,623 persons took part in the events organized for employees' children.

- As a part of celebration of the professional holiday – Energy worker's day – internal sport events with a number of competitions are held, the most popular among them are volleyball, table tennis, mini-football, swimming, chess, fishing.

In June 2016 PAVLODARENERGO organized the Republican Forum of Energy Veterans of Kazakhstan, which included:

- gathering of energy veterans from the regions of the Republic of Kazakhstan and CIS countries;
- participation of the representatives of the RK Ministry of Energy, Kazakhstan Energy Association, Samruk-Kazakhstan JSC, regional and city akimats, heads of energy companies, mass media;
- sharing experiences, promotion of continuity of generations;
- awarding ranks to the Company's veterans, organization of ceremonial event.

In 2016, 60th anniversary of Ekibastuz CHP, 55th anniversary of Pavlodar CHP-2 and 45th anniversary of the founding of Pavlodar Heat Networks LLP. In celebration of anniversaries, information was placed in the corporate newspaper and on the PAVLODARENERGO Corporate web-site, as well as in the regional mass media and internet resources. The following events were held for the anniversary of Ekibastuz CHP:

- contest of children's drawings;
- competitions in 5 sports (futza, volleyball, table tennis, kettlebell lifting, tugging war);
- rhymes contest among employees and city residents;
- preparation and presentation of the book "Ekibastuz CHP: Yesterday. Today. Tomorrow", devoted to the history and today's activity of the plant;
- talent contest "We have the stars lighting up".
- preparation of the festive issue of corporate newspaper "Power worker";
- taking a presentation movie about Ekibastuz CHP, which was shown during ceremonial event devoted to anniversary.

SIGNIFICANT ASPECTS AND BOUNDARIES

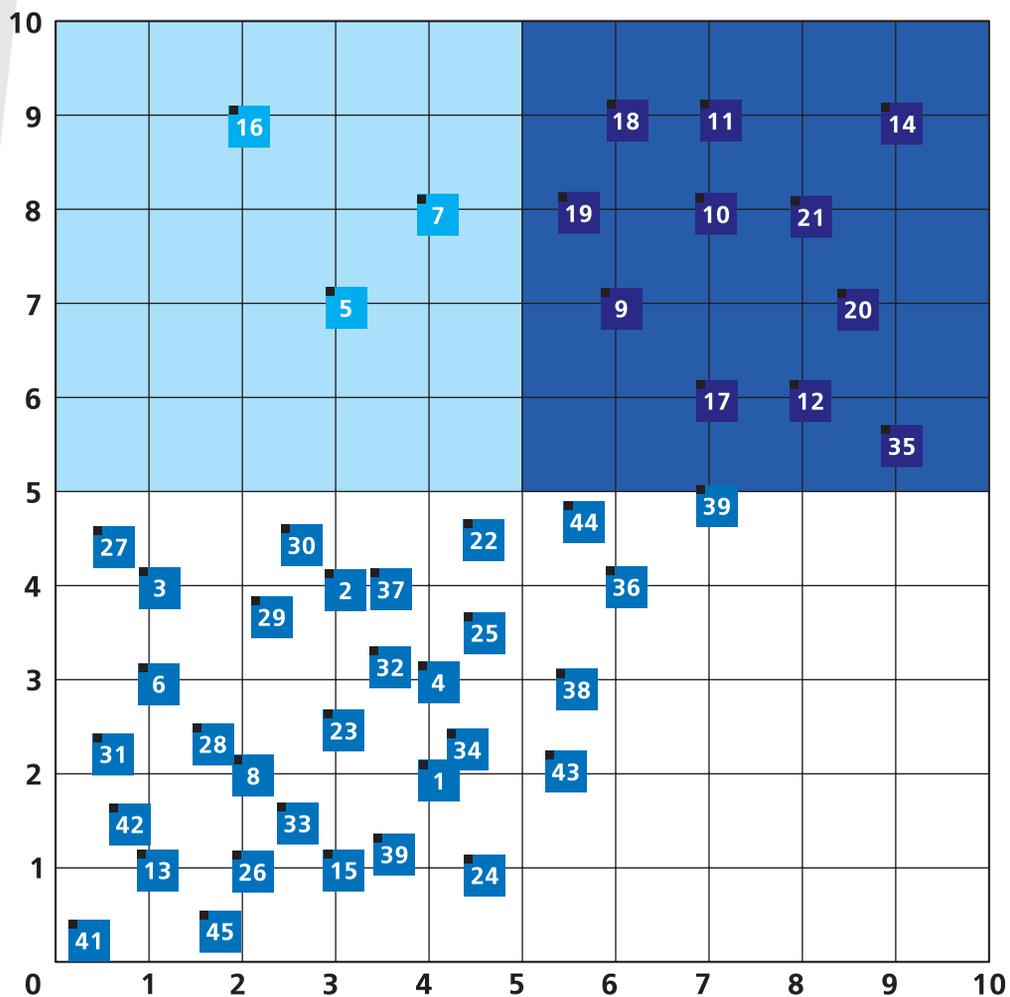
In accordance with the principles for defining the Report content of the GRI G4 Guidelines, the assessment of materiality of topics disclosed in the Report was carried out. The materiality assessment procedure includes the following main phases:

Phase 1. Identification of a maximum wide range of potentially important topics related to sustainable development based on the GRI G4 Guidelines.

Phase 2. Analysis of the degree of impact of the listed topics within and outside the Company. Selection of topics for further disclosure was made with due regard for stakeholders engagement. Besides, the priority of topics was analyzed in the context of their impact on the Company's operations and development strategy.

Phase 3. In accordance with stakeholders' opinion and strategic plans of the Company, key topics were ranked for the purpose of prioritization, and the Materiality Map was created. An average score was attributed to each aspect of activity depending on its impact on the Company (horizontal axis) and its stakeholders (vertical axis). The highest priority was defined for the dark blue zone aspects; they were prioritized during the report preparation. Aspects of the blue zone were also partially disclosed.

LIST OF ASPECTS AND MATERIALITY MAP



List of aspects

No.	Aspects	No.	Aspects
1	Economic effectiveness	24	Mechanisms for grievances about labour practices
2	Market presence	25	Investment
3	Indirect economic impacts	26	Non-discrimination
4	Procurement practice	27	Freedom of association and collective bargaining
5	Materials	28	Child labor
6	Energy	29	Involuntary or compulsory labor
7	Water	30	Safety practices
8	Biodiversity	31	Rights of indigenous and small-numbered peoples
9	Emissions	32	Assessment
10	Effluents and wastes	33	Evaluation of observance of human rights by suppliers
11	Products and services	34	Mechanisms for grievances about human rights violation
12	Compliance with requirements	35	Local communities
13	Transport	36	Corruption control
14	General information	37	State policy
15	Environmental appraisal of suppliers	38	Hindrance of competition
16	Environmental grievances mechanisms	39	Compliance with requirements
17	Employment	40	Assessment of suppliers' impact on community
18	Relations between employees and management	41	Consumer health and safety
19	Occupational health and safety	42	Marking of products and services
20	Training and education	43	Marketing communications
21	Diversity and equal opportunities	44	Consumer privacy
22	Equal remuneration for women and men	45	Compliance with requirements
23	Evaluation of suppliers' labour practices		

DISCLOSURE OF SIGNIFICANT ASPECTS AND INDICATORS IN
THE REPORT AND COMPLIANCE WITH GRI G4 GUIDANCE
("SOCIAL" CATEGORY)

TABLE OF REPORT'S COMPLIANCE WITH THE GRI G4 GUIDELINES

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
Strategy and analysis				
1	G4-1	Statement from the most senior decision-maker of the organization about the relevance of sustainable development for the organization and its strategy when addressing sustainable development issues	Completely	Section: "Letter of the Chairman of the Board of Directors", page 4-5 Section: Letter of the General Director Page 6-7
2	G4-2	Description of key impacts, risks and opportunities	Completely	Section: Analysis of risks having significant impact on performance, page 51
Organization profile				
3	G4-3	Organisation name	Completely	Section: Company's profile, page16
4	G4-4	Primary brands, products, and/or services	Completely	Section: Business profile, page 16 Section: Business model 16
5	G4-5	Location of the organization's headquarters	Completely	Section: Contacts, page
6	G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the Report	Completely	Section: Geography of operations, page17
7	G4-7	Nature of ownership and legal form	Completely	Section: Corporation structure, page39
8	G4-8	Markets where the organization operates (including geographic breakdown, sectors served, and types of customers and beneficiaries)	Completely	Section: Geography of operations, page17 Section: Subsidiaries, page 18-19
9	G4-9	Scale of the organization, including: total number of employees; • total number of departments; • net sales; • total capital broken down in terms of debt and equity; • quantity of products or services provided	Completely	Section: Human resources and social policy, page 65 Section: Key performance indicators for 2014–2016, page 9 Section: Outcomes of implementation of priority objectives in 2016, page 10 Section: Financial and economic indicators, page 33
10	G4-10	Total number of employees by employment contract and gender; • total number of permanent employees by employment type and gender; • total workforce by full-time and part-time employees and by gender; • total workforce by region and gender; • portion of the work performed by employees who are legally recognized as self-employed, or by individuals other than full-time and part-time employees, including employees and supervised employees of contractors; • seasonal variations in employment numbers	Partially	Section: Human resources and social policy, page 65

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
11	G4-11	Percentage of total employees covered by collective bargaining agreements	Completely	93% of employees are covered by a collective bargaining agreement
12	G4-12	Supply chain description	Completely	Section: Business model, page 16
13	G4-13	Significant changes in scale, structure or ownership during the reporting period, including: <ul style="list-style-type: none"> • changes in the location or changes in operations, including opening, closing and expansions of enterprises; • changes in the share capital structure and other capital formation, maintenance, and alteration operations; • changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination of relations 	Partially	Section: Organisational structure, page 39 Section: Share capital structure, page 39
14	G4-14	Application of the precautionary approach	Completely	Section: Environmental protection expenditures, page 61
15	G4-15	Externally developed economic, environmental and social charters, principles or any other initiatives ratified or endorsed by the organization	Completely	Section: Environmental impact management, page 64 Section: Greenhouse gas emissions, page 60 Section: Environmental management system, page 63
16	G4-16	Memberships of associations, industry and/or national and international advocacy organizations in which the organization: <ul style="list-style-type: none"> • holds a position on the governance body; • participates in projects or committees; • provides substantive funding beyond routine membership contributions; • considers its membership as strategic 	Partially	The Company is a member of the Kazakhstan Electricity Association (KEA)
Identified significant aspects and boundaries				
17	G4-17	List of legal entities included in the organization's consolidated financial statements	Completely	Section: About the report, page 2
18	G4-18	Methods of defining the report content and the aspect boundaries. Explanation of how the organization has implemented the reporting principles for defining the Report content	Completely	Section: Material aspects and boundaries, page 76
19	G4-19	List of all existing materials aspects identified in the course of determining the Report content	Completely	Section: Material aspects and boundaries, page 76
20	G4-20	Description of each material aspect, the aspect boundaries within the organization (including a list of legal entities or groups of legal entities specified in clause 3.2 and for which the aspect is material)	Partially	Section: Material aspects and boundaries, page 76
21	G4-21	Description of each material aspect, the aspect boundaries outside the organization (including a list of legal entities, groups of legal entities, facilities and geographical regions for which the aspect is material)	Partially	Section: Material aspects and boundaries, page 76

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
22	G4-22	Effects of all restatements of indicators provided in previous reports, and reasons for such restatements	Completely	Indicators gave not changed and are comparable with the data provided in previous annual reports of the Company
23	G4-23	Significant changes in the scope and aspects boundaries as compared to previous reporting periods	Completely	No changes
Stakeholder engagement				
24	G4-24	List of stakeholders engaged by the organization	Completely	Section: Stakeholder engagement, page57
25	G4-25	Principles of identification and selection of stakeholders for engagement	Completely	Section: Stakeholder engagement, page 57
26	G4-26	Organization's approach to stakeholder engagement, including frequency of engagement by types and by stakeholder groups; information of whether any of the engagement elements were taken specifically as part of the Report preparation process	Partially	Section: Stakeholder engagement, page57
27	G4-27	Key topics and concerns raised through stakeholder engagement, and how the organization has responded to such key topics and concerns, including through the preparation of its reporting	Completely	So far, the Company does not include stakeholders directly in the Annual Report preparation process, however, it is planned to be done in the future. In particular, as a part of this Sustainable Development Report a feedback form was prepared in order to get a feedback from stakeholders.
General information on the Report				
28	G4-28	Reporting period, to which the provided information relates	Completely	Section: About the report, page2
29	G4-29	Date of publication of the previous Sustainable Development Report	Completely	Section: About the report, page 2
30	G4-30	Reporting cycle	Completely	Section: About the report, page2
31	G4-31	Contact point for questions regarding the Report or its contents	Completely	Section: Contacts, page92
32	G4-32	Information on the Report preparation option «in accordance» with the GRI Guidelines chosen by the organization. GRI Content Index for the chosen Report preparation option. Statement of public (external) certification of the Report, if the Report has been assured externally.	Partially	Section: About the report, page2 Section: Table of Report's Compliance with the GRI G4 Guidelines, page78
33	G4-33	Organization's policy and current practice with regard to seeking public (external) certification for the Sustainable Development Report	Completely	This Report has not been certified externally. The Company does not find it reasonable in the medium term.
Corporate governance				
34	G4-34	The corporate governance structure of the organization, including Committees of the superior corporate governance body in charge of economic, environmental and social impacts of the organization	Completely	Section: Organisational structure, page 39 Section: Committees of the Board of directors performance overview, page44
Ethics and Integrity				
35	G4-56	Organization's values, principles, standards and norms of behavior such as the Code of Conduct and Code of Ethics	Completely	Section: Report on compliance with the Corporate Governance Code, page4

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
Category "Environmental", Aspect "Materials"				
36	G4-CPM	Data on management approach	Completely	Section: Environmental impact management, page59
37	G4-EN1	Materials used by weight or volume	Completely	Section: Environmental impact management,page 59
Aspect: Water				
38	G4-CPM	Data on management approach	Completely	Section: Water management and water resources protection,page62
39	G4-EN8	Total water withdrawal by sources	Completely	Section: Water management and water resources protection page 62
40	G4-EN9	Water sources significantly affected by water withdrawal	Completely	Section: Water management and water resources protection page 62
41	G4-EN10	Percentage and total volume of recycled and reused water	Completely	Section: Water management and water resources protection page 62
Aspect: Emissions				
42	G4-CPM	Data on management approach	Completely	Section: Greenhouse gas emissions, page 60
43	G4-EN15	Direct greenhouse gas emissions	Completely	Section: Greenhouse gas emissions, page 60
44	G4-EN18	Greenhouse gas emissions intensity	Completely	Section: Greenhouse gas emissions, page 60
45	G4-EN19	Reduction of greenhouse gas (CO ₂) emissions	Completely	Section: Greenhouse gas emissions, page 60
46	G4-EN21	NOx, SOx, and other significant pollutant emissions	Completely	Section: Atmospheric air protection, page 59
Aspect: Effluents and Wastes				
47	G4-CPM	Data on management approach	Completely	Section: Efficient management and disposal of production wastes, page 63
48	G4-EN22	Total water discharge with specification of waste water quality and treatment facility	Completely	Section: Efficient management and disposal of production wastes page 63
49	G4-EN23	Total mass of waste by types and disposal method	Completely	Section: Efficient management and disposal of production wastes page 63
Aspect: Products and Services				
50	G4-CPM	Data on management approach	Completely	Section: Atmospheric air protection, page59
51	G4-EN27	Extent of mitigation of environmental impacts of products and services	Completely	Section: Atmospheric air protection, page59
Aspect: Compliance with Requirements				
52	G4-CPM	Data on management approach	Completely	Section: Environmental protection expenditures, page 61

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
53	G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Completely	Section: Environmental protection expenditures page 61
Aspect: General Information				
54	G4-CPM	Data on management approach	Completely	Section: Environmental protection expenditures, page 61
55	G4-EN31	Total environmental protection expenditures and investments	Completely	Section: Environmental protection expenditures, page 61
Aspect: Environmental Grievance Mechanisms				
56	G4-CPM	Data on management approach	Completely	Section: Grievance mechanism, page32
57	G4-EN34	Number of grievances about environmental impacts filed, addressed and resolved through formal grievance mechanisms	Completely	Section: Grievance mechanism, page 62
Category: «Social» – sub-category: Labor practices and decent work Aspect: Employment				
58	G4-CPM	Data on management approach	Completely	Section: Human resources management policy, page 65
59	G4-LA1	Total number and share of newly hired employees and employee turnover by age group, gender and region	Completely	Section: Employee headcount and quality, page 65 Section: Payroll headcount by enterprises, page65 Section: Employee structure by category and gender, page 65 Section: Employee structure by gender and age, page65
Aspect: Labor/Management Relations				
60	G4-CPM	Data on management approach	Completely	Section: Interaction with trade unions, page 68
61	G4-LA4	Minimum notice period regarding material changes in operations, including whether this period is specified in a collective agreement	Completely	Section: Interaction with trade unions, page 68
Aspect: Occupational Health and Safety				
62	G4-CPM	Data on management approach	Completely	Section: Occupational health and safety strategic goals and implemented actions, page71
63	G4-LA5	Percentage of total personnel represented in formal joint health and safety Committees with the participation of management representatives and employees engaged in monitoring and providing recommendations for occupational health and safety programs	Completely	Section: Occupational health and safety strategic goals and implemented actions, page71
64	G4-LA6	Types and rates of work-related injuries, occupational diseases, lost days and workplace absence as well as total number of occupational fatal accidents, by regions and gender	Completely	Types and rates of occupational injuries, page 72

No.	Indicator index	Indicator name	Disclosure	Provision of the Report and comments
65	G4-LA7	Employees with high rates of injuries and high risk of diseases related to their occupation	Completely	Company employees whose professional activity bears a high injury risk, page73
Aspect: Training and Education				
66	G4-CPM	Data on management approach	Completely	Personnel training and development, page66
67	G4-LA10	Programs for development of skills and lifelong learning aimed to support the continued employability of employees and assist them upon career completion.	Completely	Employee structure by education, page65 Personnel training and development, page66 Talent pool, page67
Aspect: Diversity and Equal Opportunities				
68	G4-CPM	Data on management approach	Completely	Human resources management policy, page65
69	G4-LA12	Composition of management bodies and main personnel categories of the organization by gender, age groups, minority groups and other diversity characteristics	Completely	Personnel turnover, page67 Involvement of young specialists, page66
Category: «Social» – sub-category: «Society» Aspect: Local communities				
70	G4-CPM	Data on management approach	Completely	Stakeholder engagement, page57
71	G4-SO1	Percentage of business units that have implemented local community engagement, impact assessment and development programs	Completely	Stakeholder engagement, page57
Power industry protocol General information				
72	G4-EU1	Installed capacity	Completely	Section: Company overview, page15
73	G4-EU2	Power generation	Completely	Section: Key performance indicators for 2014–2016, page 9
74	G4-EU3	Number of residential, industrial, institutional and commercial customer accounts	Completely	Section: Geography of operations, page 17
75	G4-EU4	Length of aboveground and underground power transmission and distribution lines by regulatory regime	Completely	Section: Main production characteristics, page 18
76	G4-EU5	Allocation of CO ₂ or equivalent emissions allowances	Completely	Section: «Greenhouse gas (CO ₂) emissions», page 60

FINANCIAL STATEMENTS

Consolidated financial statements of the Company for 2016 were prepared in accordance with International Financial Reporting Standards and include financial statements of subsidiary organizations from the date of their acquisition. Principles of accounting policy are unified for all enterprises of the Company.



**CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS
OF DECEMBER 31, 2016 (KZT thous)**

	Note	December 31, 2016	December 31, 2015
NON-CURRENT ASSETS:			
Property, plant and equipment	6	115,406,857	111,240,645
Goodwill	7	1,687,141	1,687,141
Intangible assets		358,755	236,630
Advances paid	8	1,022,304	1,453,452
Other financial assets	9	1,000	200,000
Other non-current assets	12	955,078	339,533
Total: Non-current assets		119,431,135	115,157,401
CURRENT ASSETS:			
Inventories	10	2,877,057	3,875,219
Trade accounts receivable	11	6,476,275	5,368,687
Advances paid	8	1,142,014	672,567
Income tax prepaid		77,990	96,294
Other current asset	12	764,199	937,584
Other financial assets	9	1,055,981	868,227
Cash	13	557,829	580,983
Total: current assets:		12,951,345	12,399,561
TOTAL ASSETS		132,382,480	127,556,962
EQUITY AND LIABILITIES			
EQUITY:			
Share capital	14	16,663,996	16,663,996
Additional paid-in capital	15	1,188,176	1,188,176
Revaluation reserve on property, plant and equipment		24,533,989	25,880,707
Non-distributed profits		26,462,967	18,641,344
Total: equity		68,849,128	62,374,223
NON-CURRENT LIABILITIES			
Bonds issued	16	-	7,673,344
Borrowings	17	21,036,006	25,697,010
Deferred incomes	18	2,420,725	796,365
Deferred tax liabilities	30	17,002,246	15,093,700
Ash dump restoration liability		121,143	92,521
Employee benefit obligations		74,686	66,316
Finance lease liability	19	582,987	-
Other long-term accounts payable		176,730	31,879
Total: non-current liabilities		41,414,523	49,451,135

**CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS
OF DECEMBER 31, 2016 (CONTINUED) (KZT thous)**

	Note	December 31 2016	December 31 2015
CURRENT LIABILITIES:			
Current-portion of the bonds issued	16	8,729,071	225,133
Short-term loans and current portion of long-term loans	17	5,933,510	4,785,033
Current portion of employee benefit obligations		5,472	6,568
Trade accounts payable	20	4,501,900	8,084,821
Advances received	21	853,630	877,052
Finance lease liability	22	168,420	-
Other liabilities and accrued expenses	20	1,926,826	1,752,997
Total: current liabilities:		22,118,829	15,731,604
TOTAL: EQUITY AND LIABILITIES		132,382,480	127,556,962

**CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME FOR THE
YEAR ENDED DECEMBER 31, 2016 (KZT thous)**

	Note	2016	2015
REVENUE	23	45,069,458	40,547,315
COST OF SALES	24	(30,819,342)	(28,258,069)
GROSS PROFIT		14,250,116	12,289,246
General and administrative expenses	25	(3,332,808)	(2,925,109)
Selling expenses	26	(633,912)	(552,849)
Finance costs	27	(2,686,580)	(1,098,097)
Finance income		93,546	39,547
Foreign exchange gains (losses), net	28	182,592	(9,801,855)
Other income (expenses), net	29	510,497	13,210
PROFIT/ LOSS BEFORE TAXATION		8,383,451	(2,035,907)
INCOME TAX EXPENSES	30	(1,908,546)	(61,223)
PROFIT/(LOSS) AND TOTAL COMPREHENSIVE INCOME/(LOSS) FOR THE YEAR		6,474,905	(2,097,130)
PROFIT/LOSS FOR PERIOD			
(LOSS)/EARNINGS FOR THE YEAR PER SHARE, BASIC AND DILUTED, IN KZT	32	38.86	(12.58)

**CONSOLIDATED STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED
DECEMBER 31, 2016 (KZT thous.)**

	Note	Share capital	Additional paid-in capital	Revaluation reserve on property, plant and equipment	Non-distributed profits	Total equity
As of January 1, 2015		16,663,996	1,188,176	27,356,702	20,822,420	66,031,294
Loss and other comprehensive income for the year		-	-	-	(2,097,130)	(2,097,130)
Loss and total comprehensive income for the year		-	-	-	(2,097,130)	(2,097,130)
Amortization of revaluation reserve on property, plant and equipment		-	-	(1,475,995)	1,475,995	-
Dividends declared	14	-	-	-	(1,564,185)	(1,564,185)
Adjustment to fair value, net of deferred tax		-	-	-	4,244	4,244
As of 31 December 2015		16,663,996	1,188,176	25,880,707	18,641,344	62,374,223
Profit and other comprehensive income for the year		-	-	-	6,474,905	6,474,905
Profit and total year income		-	-	-	-	-
Total year income		-	-	-	6,474,905	6,474,905
Amortization of revaluation reserve on property, plant and equipment		-	-	(1,346,718)	1,346,718	-
As of 31 December 2016		16,663,996	1,188,176	24,533,989	26,462,967	68,849,128

**CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED
DECEMBER 31, 2016 (KZT thous.)**

	Note	2016	2015
Cash flow from operating activities:			
Profit/ loss before tax		8,383,451	(2,035,907)
Adjustments for:			
Depreciation and amortization	24, 25, 26, 29	4,797,641	4,097,227
Finance costs	27	2,686,580	1,098,097
Accrual of allowance for doubtful debts	25	278,281	103,969
Proceeds from disposal of property, plant and equipment		40,270	69,864
Employee benefit expense		16,743	17,378
Finance income		(93,546)	(39,547)
Foreign exchange gain/loss	28	(182,592)	9,801,855
Accrual of allowance for obsolete and slow-moving inventories	25	53,358	26,130
Accrual of provision on unused vacation	24, 25	31,452	7,961
Cash flow before working capital changes		16,011,638	13,147,027
Changes in working capital			
Change in inventories		944,804	(705,602)
Change in trade accounts receivable		(1,315,778)	(969,329)
Change in advances paid		(480,717)	(55,306)
Change in other trade accounts receivable		267,434	424,392
Change in trade accounts payable		321,346	37,423
Change in deferred incomes		(37,199)	(25,991)
Change in advances paid		(23,422)	(404,560)
Change in employee benefit obligations		(9,469)	(14,619)
Change in other liabilities and accrued expenses		676,229	385,588
Cash generated by operating activities		16,354,866	11,819,023
Income tax paid		(19,875)	(83,746)
Interest paid		(2,472,207)	(1,851,278)
Net cash generated by operating activities		13,862,784	9,883,999

**CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED
DECEMBER 31, 2016 (CONTINUED) (KZT thous.)**

	Note	2016	2015
Cash placed on deposits / Cash from deposit withdrawal		50,217	399,900
Acquisition of property, plant and equipment		(12,278,255)	(10,699,120)
Acquisition of intangible assets		(143,825)	(150,907)
Receipt of interest accrued on placed deposits		64,348	45,666
Net cash used in investing activities		(12,407,949)	(10,404,461)
Cash flow from financing activities:			
Dividends paid	14	(251,000)	(2,561,500)
Receipt of interest-free loan provided		-	129,206
Repayment of interest-free loan provided		(83,000)	-
Issuance of shares and other securities		400,134	-
Proceeds from government subsidies		819,792	-
Proceeds from loans		5,173,695	7,337,038
Repayment of loans		(7,538,606)	(4,426,283)
Net cash (used in)/ received from financing activities		(1,478,985)	478,461
NET DECREASE INCREASE IN CASH		(24,150)	(42,001)
CASH at the beginning of the year	13	580,983	597,716
Effect of changes in foreign exchange rates on cash balances in a foreign currency		996	25,268
CASH at the end of the year	13	557,829	580,983

NON-CASH TRANSACTIONS:

In 2016, the Group capitalized loan expenses in the total amount of 259,193 thous KZT (2015: 1,708,268 thous. KZT) (Note 6).

GLOSSARY

Overhead power line is an electric line for transmission of electric power through the wires located outdoors and attached by means of insulators and fittings to supports or brackets.

Overhead transmission line is a construction for transmission of electric power over a distance by wires.

Gigacalorie is a unit of measurement of heat energy used for assessment in heat power industry, heating systems, utilities sector.

Gigacalorie per hour is a derived unit used to specify the amount of heat produced or used by some equipment per a unit of time.

Cooling tower is a structure having a shape of an exhaust tower providing for an air draught.

Goodwill is the difference between the price of a company and the fair value of all its assets

Ash is an incombustible residue (in the form of dust) that is formed from mineral impurities in complete combustion of fuel.

Ash dump is a place for collection and disposal of waste ash and slag generated during combustion of solid fuel at combined heat and power plants.

Calorie (cal) is an off-system unit for measuring the amount of heat.

Boiler is a device for generating pressurized steam or hot water through fuel combustion, use of electric power, heat of exhaust gas or technological process.

Power transmission line (PTL) is a structure consisting of wires (cables) and auxiliary devices for transmission of electric power from power plants to consumers.

Megawatt is a unit of power measurement in electricity production.

Pump is a device for generating a pressure flow (suction, discharge) of mainly fluids by energizing it (by kinetic or potential energy).

Pumping unit is a pump with a set of equipment mounted according to a certain scheme ensuring pump's operation.

Steam turbine is an energy turbo machine, an element of a steam turbine unit that converts the potential energy of

a high-temperature-high-pressure steam into the mechanical energy of rotation of its rotor, which drives an electric generator.

Substation is an electric installation used for conversion and distribution of electric power and consisting of transformers or other power converters, switchgear, control devices and auxiliary facilities.

Available capacity is a value equal to installed capacity of the equipment minus the power that cannot be generated for technical reasons (insufficient draught in chimney, cooling systems of turbine condensers, etc.).

Available capacity of a unit (plant) is an installed capacity of a generating unit (plant), minus its capacity limitations.

Combined heat and power plant (CHP, cogeneration heating plant) is a thermal power plant generating not only electric power, but also heat, heat is distributed to consumers in the form of steam and hot water.

MPE Plan is draft standards for maximum permissible emissions.

Transformer (from Latin transformare – to transform, to convert) is a device for converting any significant properties of energy (e.g., electric transformer, torque converter) or objects (e.g., photo transformer).

Turbine is a prime motor with rotational movement of its working body – the rotor – that converts kinetic energy of the steam, gas or water medium into mechanical operation.

Turbine unit is a set of steam turbine, electric generator and exciter, united by one shaft train; it converts potential energy of steam into electric power.

Installed capacity is an effective value of the turbine units' rated capability.

Installed thermal capacity of the plant is a sum of all rated heating capabilities for all the equipment commissioned under the act and designed for supplying heat to external customers and steam and hot water for internal needs.

Installed power capacity of the electric power system is total effective power output of all turbo and hydroelectric power plants of the electric power system in accordance with their passports or specifications.

Emulsifier is a device for ash and dust removal working in a phase inversion mode.

ABBREVIATIONS

COSO – Committee of Sponsoring Organizations of the Treadway Commission

CTF - Clean Technology Fund

EBITDA – an analytical indicator, which means Earnings before Interest, Taxation, Depreciation and Amortization

ESAP – Environmental and Social Action Plan

ISO – International Organization for Standardization

KEGOC – Kazakhstan Electricity Grid Operating Company JSC

OHSAS – Occupational Health and Safety Management Systems

JSC – Joint Stock Company

AEDC – Akmola Electricity Distribution Company JSC

ASCAHE – Automatic System for Commercial Accounting of Heat Energy

ASCAEP – Automatic System for Commercial Accounting of Electric Power

GDP – Gross Domestic Product

OL – Overhead Line

OTL – Overhead Transmission Line

Gcal – Gigacalorie

Gcal/h – gigacalories per hour

SPAIID – State Program for Accelerated Industrial and Innovative Development

GRES – State District Power Plant

HEPP – Hydroelectric Power Plant

EBRD – European Bank for Reconstruction and Development

FAC – Fly Ash Collector

IIF – Islamic Infrastructure Fund

kWh – kilowatt per hour

CL – Cable Line

SG – Switchgear

PL – Power Line

MW – Megawatt

MNE RK – Ministry of National Economy of the Republic of Kazakhstan

MCI – Monthly Calculation Index

VAT – Value Added Tax

NGO – Non-Governmental Organization

EP – Environment Protection

PREDC – Pavlodar regional electric distribution company JSC

PCHP-2 – Petropavlovsk Combined Heat and Power Plant No.2

PE – PAVLODARENERGO JSC

RK – Republic of Kazakhstan

PGA – Power Grid Area

ICS – Internal Control System

SSIC – Self-Supporting Insulated Conductor

NK REDC – North Kazakhstan regional electric distribution company JSC

SKE – SEVKAZENERGO JSC

MM – Mass Media

QMS – Quality Management System

EMS – Environmental Management System

RMS – Risk Management System

AC – Agriculture

LLP – Limited Liability Partnership

CHP – Combined Heat and Power Plant

CAPEC – Central-Asian Power-Energy Company JSC

CAEPCO – Central-Asian Electric Power Corporation JSC

PP – Power Plant

CONTACTS

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Person in charge of the Annual report	
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AUDITOR

PAVLODARENERGO's auditor is Deloitte Limited Liability Partnership (license for conducting auditing activities No. 0000015, series MFU-2, dated of September 13, 2006, issued by the Ministry of Finance of the Republic of Kazakhstan, the license is perpetual).

Legal address of "Deloitte": Almaty, Almaty Financial Center, Building B, 36 Al-Farabi Ave.

REGISTRAR

PAVLODARENERGO's registrar is Integrated Securities Registrar Joint Stock Company (state registration certificate No. 1678-1910-02-JSC, issued on January 11, 2012). Legal address of Integrated Securities Registrar JSC: 141, Ablai-Khan Ave, Almaty.

Annual Report prepared
by Expert Kazakhstan LLP





PAVLODARENERGO