



# SUSTAINABLE DEVELOPMENT TODAY – CONSTRUCTIVE FUTURE TOMORROW

Annual report **2019** 

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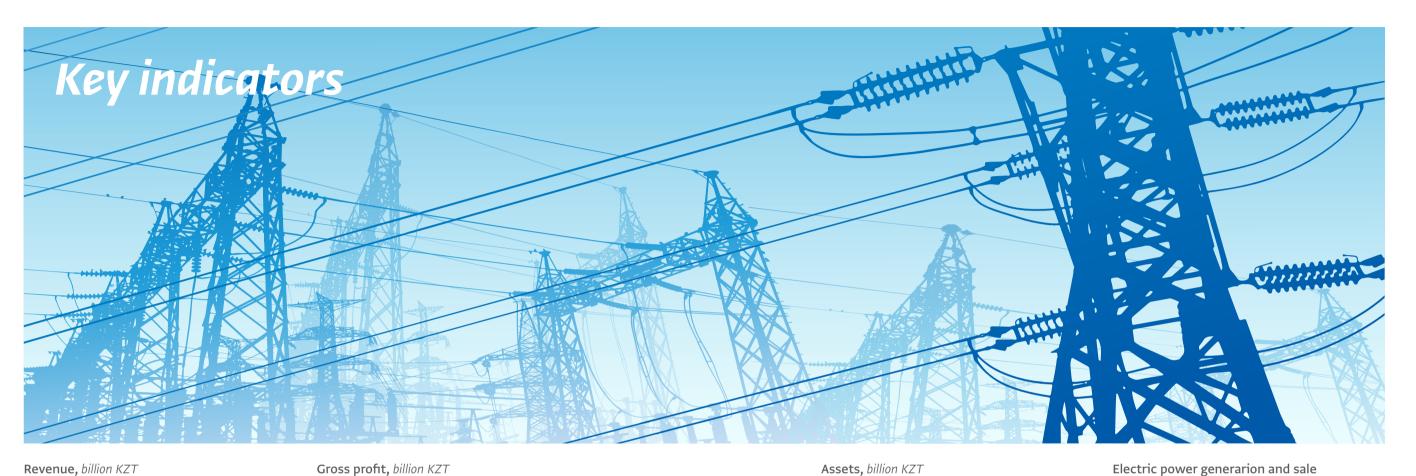
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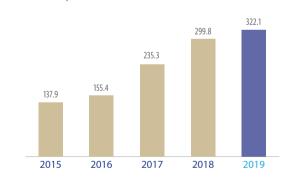
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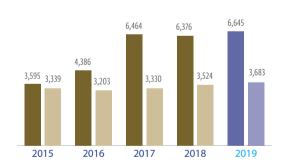
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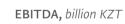


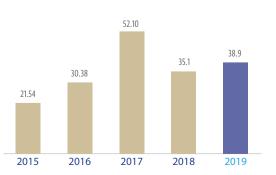


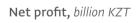


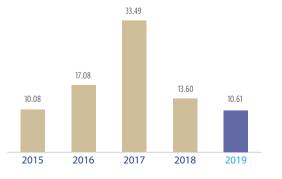




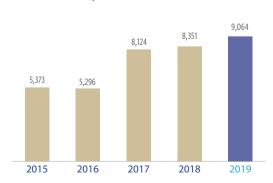








Transmission, million kWh



■ Electric power generation, million kWh

■ Sale of electric power, million kWh



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# Key events of the year 2019 and realization of priority tasks

#### Kazakhstan Utility Systems LLP

In January 2019, the international rating agency Fitch Ratings downgraded Kazakhstan Utility Systems LLP's long-term Issuer default ratings (IDR) in foreign and national currencies to "B+". The rating outlook is "Stable".

#### Karaganda Energocenter LLP

- At Karaganda CHPP-3, the third stage of the project for increase in number of dams in the third section of the ash dump No. 2 was completed.
- The project for the construction of the 1st section of the new ash dump No. 3 at Karaganda CHPP-3 was completed.

#### Ust-Kamenogorsk CHPP LLP

- Reconstruction of the ash dump No. 3 was performed with the use of ash and slag waste in the body of the dam for the first time in domestic practice.
- Construction of a new ash dump No. 5 has begun.
- Boiler unit No. 15 was upgraded to reduce nitrogen oxide emissions.
- Implementation of automated process control system on boiler unit No. 15 was completed.

#### Ontustik Zharyk Tranzit LLP

- Construction of a closed 110/10-10 kV
  "Yassy" substation with a capacity of 2\*40
  MVA with 110 kV lines in Turkestan has
  started with a plan for commissioning in
  2020.
- Construction of 10-0.4 kV electric networks has been completed in Akzhar, Ormanshy, Tasken districts of Shymkent, in the settlements of Zhumysshy of Kazygurt district, Zagambar and Pervomayevka of Tolebiy district, Almaly, Darkhan, Tyn of Makhtaaral district.
- The 110 kV HV line was reconstructed with a total length of 42.6 km.
- Reconstruction of the 35 kV HV line with a total length of 15.2 km was carried out.
- A number of Transformer Substations (TS) were reconstructed: TS 110/35/6 kV "Gorodskaya", TS 110/35/6 kV "Zhuan-Tyube", TS 110/35/10 kV "Makhtaly", TS 110/35/10 kV "Arys", TS 110/35/6 kV No. 4, TS 110/6 kV No. 3, TS 110/35/10 kV "Cement", TS 35/6 kV No.2, TS 35/10 kV "Kolkhoznaya", TS 35/10 kV "Kommuna".
- Reconstruction of a number of HV lines-0.4-10 kV, KL-0.4-10 kV, as well as CTS, TS, DS 10/0.4 kV have been completed.
- The Utility Metering System (UMS)
  has been implemented with coverage
  of 12 high-voltage substations (for
  wholesale market entities), as well as
  0.4 kV networks with coverage of 3,940
  subscribers in Shymkent (for retail market
  entities).

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#### Karagandy Zharyk LLP

- Reconstruction of the 110 kV HV line "CHPP-3-Karaganda" was completed.
- Construction of TS 110/10kV "Tikhonovka" is completed.
- Installation of the pilot project of the automated control system 6kV in Section 123 CDP-14, HV line 6kV f-123 CRP-14, TS-30.
- The replacement of accounting tools and the UMS equipment in Kungei micro district was performed.
- Installation of the control panel equipment for the UDF WPP was carried out.
- Installation of a container-type gas station on the territory of production base Zharyk TS was completed.
- 52 cars and special equipment were purchased.
- Technical modernization of 6-35-110 kV equipment was performed at nine substations: Novaya Dubovka, Karabas TS, Kzyl TS, Fedorovka-2 TS, Astakhovka TS, Karbyshevka TS, Karaganda TS, Karagaily TS, and Saran TS.

### Mangistau Regional Electricity Network Company JSC

- Construction of power line 220 kV Aktau – Karazhanbas with installation of autotransformer 1x150 MVA at tie distribution substation 220/110/35/10 kV "Karazhanbas" was completed;
- The construction of power line110 kV from Uzen TS 220 kV to TS 110/35/6 kV (18.7 km long) with the replacement of the 1x40 MVA transformer was completed;
- Modernization of outdoor switchgear 110 kV of TS 220/110/10 kV "Uzen";
- Power transformers at TS-35/6kV Glinzavod, Vostochnaya 2x10 MVA to 2x16 MVA were replaced.
- The equipment of the ZRU-6.10 kV was modernized at TS "Opornaya", "Kuibyshevo", "Fort", and "Dunga".
- A number of substations (9 PCs) and HV lines with a voltage of 35 kV and higher (180 km) were purchased.

#### Key events after the reporting date

• In March 2020, the international rating agency Fitch Ratings confirmed Kazakhstan Utility Systems LLP's long-term Issuer default ratings (IDR) in foreign and national currencies at the level of "B+". The rating outlook is "Stable".



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Development strategy of the Group corresponds to priorities of

the government policy in the field of energy sector development. The key

generating and power transmission capacities, as well as customer orientation

strategic directions are: modernization of existing assets, expansion of

Message of the Chairman of the Supervisory Board



#### Dear Ladies and Gentlemen!

Let me greet you on behalf of the Supervisory Board of Kazakhstan Utility Systems LLP!

We present to your attention our traditional annual report, in which we maximally reflected all the most significant events, financial and economic and production indicators of Kazakhstan Utility Systems LLP for 2019.

Currently, there is an active process of modernization of the energy sector of our republic, which undoubtedly entails the reform of the entire Kazakh energy sector. With structural interaction between the regulatory and energy market participants, domestic power plants are at the stage of upgrading their generating capacities, and electric power transmission enterprises are systematically carrying out a comprehensive upgrade of electric grid facilities.

Given the thoughtful, strategic approach as well as through relevant, timely measures we will see a concrete result in a significant reduction of wear of fixed assets of the generating companies and improve the quality of supply in transmission and distribution of electrical energy.

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We expect that in the near future, key industry players will

continue to invest steadily in the domestic energy system.

Kazakhstan Utility Systems LLP has always set as its prioritiesas systematic, sustainable capacity building, implementation of forward-looking methods in asset management, innovative, high-tech solutions aimed at stable and uninterrupted energy supply to consumers in the regions of its presence.

Based on the results outlined in this annual report, I can note with satisfaction that KUS Group completed 2019 with indicators demonstrating stable growth and progressive development of its divisions – generation of electricity and heat, transmission and sale to end users. These annual results demonstrate the success of the KUS Group's corporate strategy and financial and economic policy.

Kazakhstan Utility Systems LLP adhering to its fundamental principles, will continue its policy aimed at the system, comprehensive development of the company. The implementation of large-scale investment programs, the expansion of generating capacity, the construction

of new power grids, as well as customer-oriented sales companies form the basis of our group's conceptual

I am convinced of further successful development of the KUS Group and the success of the projects being implemented. Taking into account the existing potential, many years of experience and opportunities, I sincerely wish all the Kazakhstan Utility Systems's staff to realize their goals and believe in their expected results.

> Best regards, Dinmukhamet Idrissov

Kazakhstan Utility Systems



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By the end of 2019, the KUS Group covers the regions of presence with power and heat, where 35% of Kazakhstan's population lives. The consumers of KUS services are more than 1,076 thousand individuals and 113 thousand of legal entities.



Message of General Director



#### Dear readers!

Let me welcome you on behalf of the management of Kazakhstan Utility Systems LLP!

In accordance with the concept of openness and maximum transparency of our company, which is a basic corporate principle for us, we are pleased to present you this annual report, which contains economic indicators and indicators of production activity of the KUS Group for the year 2019. In this report, we have fully covered the entire range of goals and projects that we planned and implemented in the reporting year.

I hope that the information published in this annual report will be useful both for our long-term partners, with whom we have a long-term, mutually beneficial cooperation, and for prospective partners, who will be able to get acquainted in detail with all aspects of the activities of Kazakhstan Utility Systems LLP, reflected in the report. I am confident that this document will serve as a stimulating impulse for effective interaction in the long-term future.

Kazakhstan Utility Systems LLP is one of the key, systemforming participants of the country's energy market.

Our priorities have always been reliable energy supply to our customers, constant growth of production indicators, introduction of high technologies at our facilities, and building up our economic potential.

As we achieve our goals, we set ourselves new goals aimed at the comprehensive development of our company and strengthening our position in the industry market.

The system structure of Kazakhstan Utility Systems LLP consists of the following divisions: generation of heat and electricity, its transmission and distribution, as well as sales of electricity and heat. Our corporate development strategy, which is being implemented systematically, covers all

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the company's structural divisions. The effectiveness of our policy has been proven by obvious results. 2019 continued the set pace that we have been following for many years.

Speaking about specific figures, I will only say that over the past 10 years, the production of electricity at KUS group's thermal power plants has increased by 185% and heat energy by 71%. During the same period, more than 9,000 kilometers of power transmission lines, as well as more than 1,900 substations and distribution points, were built and reconstructed by the power transmission companies that are part of our structure. The volume of electricity transmission services via electric networks has increased by 3.9 billion kWh or 76% over the past 10 years. The number of subscribers of KUS group's sales companies has increased by more than 187,000 over the past decade.

In 2019 alone, the growth of electric power generation by power plants belonging to the KUS Group amounted to 4.2%, in absolute terms it is 269 million kWh. The increase in the volume of electricity transport by power transmission companies in 2019 was 8.5% or 713 million kWh. The volume of electricity sales by KUS group's sales companies in the reporting year exceeded by 4.5% or 159 million kWh compared to 2018.

Undoubtedly, growth in production was possible primarily due to conscientious work of thousands of employees of the KUS Group, the team that we are justly proud of. I would like to emphasize that human capital – highly skilled professionals committed to result is the supreme value of our Company.

All the projects that we implement - modernization of existing assets, construction of new power grids, expansion of generating and electric power transmission capacities,

and introduction of new technologies and automation of services in retail companies – are aimed at providing our consumers with heat and electric power in the regions where the Group operates.

I want to highlight that our Company strives not only to meet the expectations of our customers, but also to work ahead of the needs of residents of regions where the Group

The steady, natural growth of the population, the increase in the number of small and medium-sized businesses, the growth of residential construction, the construction of social facilities entail the need for electric power supply to new consumers. In this regard, we are working systematically to increase the power capacity of thermal power plants, modernize the power grid complex, and put new energy facilities into operation on a permanent basis. This is not a one-time event but an ongoing process that we work on every day.

Undoubtedly, corporate development strategy would not have been efficient without comprehensive support and trust of the Supervisory Board of KUS Group.

I am confident that corporate unity and further joint work of the Kazakhstan Utility Systems Group's team will allow us to achieve goals that we set for ourselves in the future and to continue the dynamic development of the Company.

> Best regards, Nabi Aitzhanov

Kazakhstan Utility Systems



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### Brief company profile

Kazakhstan Utility Systems LLP (KUS LLP, KUS, Company, KUS Group or the Group) is a successful vertically integrated company in the power and heat sector in the Republic of Kazakhstan.

Enterprises of the KUS Group form an industrial chain – from power and heat generation to their delivery to the end user. In 2019, the Company operated in Karaganda, East Kazakhstan, Mangistau and Turkestan regions, as well as in Shymkent. All KUS enterprises have unified management processes that provide effective interaction of all structural subdivisions of subsidiaries.

Development strategy of the Group corresponds to priorities of the government policy in the field of energy sector development. The key strategic directions are:

modernization of existing assets, expansion of generating and power transmission capacities, as well as customer orientation of retail companies. KUS is a stable company with a stable financial position, which is confirmed by ratings of international rating agency Fitch Ratings.

The company is a member of the Kazakhstan Electric Power Association (KEPA). KEPA includes 49 corporate members: energy producers and power grid companies, large industrial energy consumers, industry research and design institutes, power equipment producing companies, and other companies. In addition, KUS is a member of the KAZENERGY Association and the RK National Chamber of Entrepreneurs "Atameken".

### Vertical integration

The Group is a vertically integrated Company that includes 10 energy companies at the end of 2019. The number

of employees of the Group's Companies in 2019 is 8.7 thousand people.

#### The Group's Segments

Generation	Transmission and distribution	Sale
Karaganda Energocenter LLP	Karagandy Zharyk LLP	KaragandyZhyluSbyt LLP
Karaganda CHPP-1	Ontustik Zharyk Tranzit LLP	Raschetnyi servisnyi center LLP
Karaganda CHPP-3	Mangistau Regional Electricity Network Company JSC	Energopotok LLP
Shygys Energo LLP		
Ust-Kamenogorsh CHPP LLP		
Zhuzimdyk Wind Farm LLP		



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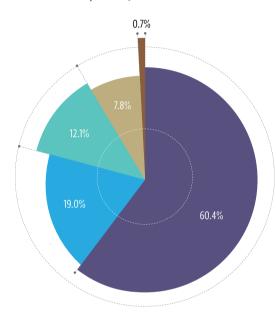
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Structure of profits, 2019



- Sale of electric power
- Transmission of electric power
- Sale of heat power
- Profit from manintenance of electric power availability
- Other

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**Karaganda Energocenter LLP** is a company that combined two power plants of the Group – Karaganda CHPP-1 and CHPP-3.

The total number of employees of KEC LLP is 1,284.

#### Karaaanda CHPP-1

- Electric power: installed capacity 24 MW, available –
- Heat power: installed capacity 392 Gcal/h, available 235.8 Gcal/h.

#### Karaganda CHPP-3

- Electric power: installed capacity 670 MW, available –
- Heat power: installed 1,432 Gcal/h, available 1,078.8 Gcal/h.

#### **Ust-Kamenogorsk CHPP LLP**

- Electric power: installed 372.5 MW, available 320.7
- Heat capacity: installed 859.9 Gcal/h, available 859.9 Gcal/h.

The number of employees is 549.

**Zhuzimdyk Wind Farm LLP** is a project for development of alternative energy in Turkestan region (Shayan village, Baidibek area of TR), which is being implemented.

The installed capacity of Zhuzimdyk Wind Farm – 40 MW.

#### **Transmission and distribution**

Karagandy Zharyk LLP is a power grid company in the Karaganda region.

0.4–220-kV electrical networks designed for electricity supply to urban, industrial and agricultural consumers in Karaganda city and Karaganda region:

- 0.4–220 kV HV line 5,144 km;
- 0.4–35 kV CL 1,688 km;
- substations 220/110/35 kV 105 units;
- TS, PTS, DB 6–10/0.4 kV 2,192 pcs;
- The service area is 21.4 thousand km<sup>2</sup>.

The number of employees is 1,587.

Ontustik Zharyk Tranzit LLP is a power grid company in Turkestan region.

0.4–110 kV electrical networks, designed for electricity supply to urban, industrial and agricultural consumers in Shymkent city and Turkestan region:

- 0.4–110 kV HV line 22,877.413 km;
- 0.4–110 kV CL 657.244 km;
- substations of 110-35 kV 250 units;
- Service transformer 352 pcs.;
- TS, PTS, DB 6-10/0.4 kV 5,826 pcs.

The number of employees – 3.430.

Mangistau Regional Electricity Network Company JSC is a power grid company in Mangistau region.

0.4–220 kV power networks, designed for electricity supply to urban, industrial and agricultural consumers in Mangistau region:

- 0.4–220 kV HV line 5.214.165 km:
- 0.4-35 kV CL 99. 454 km:
- substations 220/110/35 kV 66 units;
- Service transformer 132 pcs.;
- Packaged transformer substation of 6-10/0.4 kV 427

The number of employees – 720.

#### Sale

Karagandy Zharyk LLP is a power grid company in the Karaganda region.

Two district and two urban sales areas.

Financial performance of subsidiaries in 2019

The number of subscribers for heat supply:

- 152,246 subscribers individuals;
- 4,689 subscribers legal entities.

Number of subscribers for power supply:

- 192,614 subscribers individuals;
- 8,314 subscribers legal entities.

Number of subscribers for DHW:

- 129,059 subscribers individuals;
- 2,363 subscribers legal entities.

Number of employees – 298.

Raschetnyi servisnyi center LLP is an energy retail company in the Karaganda region.

Two district and one urban sales area.

Number of subscribers for power supply:

- 60.019 subscribers individuals:
- 1,697 subscribers legal entities.

Number of employees – 50 people.

Energopotok LLP is an energy retail company in Turkestan region in Shymkent.

18 regional and 5 urban sales areas.

Number of subscribers for power supply:

- 617,349 subscribers individuals;
- 28,417 subscribers legal entities.

The number of employees – 717.

**Assets**, thousand tenge **Net profit,** thousand tenge Company Karaganda Energocenter LLP 80,620,937 5,590,885 Ust-Kamenogorsk CHPP LLP 1,372,280 36,199,945 Karagandy Zharyk LLP 3,102,226 63,861,995 Ontustik Zharyk Tranzit LLP 40,868,484 3,908,390 Mangistau Regional Electricity Network Company JSC 56,670,899 4,582,119 KaragandyZhyluSbyt LLP 5,144,950 327,046 Raschetnyi servisnyi center LLP 512,203 96,696 Energopotok LLP 4,364,670 696,608



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#### 2008-2010

- On November 3, 2008 Management Company "Kazakhstan Utility Systems" LLP was formed.
- The Group gained control over 100% ownership interest in Ontustik Zharyk Tranzit LLP and Karagandy Zharyk LLP tocreate a vertically integrated energy company.
- In 2010, the Group joined the participants of Karaganda Energocenter LLP by making an additional contribution to the authorized capital and redistribution of shares between the participants.

#### 2011

- Obtaining control over 100 % shares in KaragandyZhyluSbyt LLP, Raschetnyi servisnyi center LLP, Energopotok LLP and Ontustik Zharyk LLP with the goal of creating a vertically integrated energy company
- Decision on the construction of a new power unit (boiler +turbine) at 110 MW and 185 Gcal/h at Karaganda CHPP-3.
- Karagandy Zharyk LLP commissioned two new substations
- Karagandy Zharyk LLP has implemented an automated control and accounting system (ASCAE), the second
- The construction of 110-kV HV line GRES-1 CHPP-2 of **2015** Karagandy Zharyk LLP was completed.
- Ontustik Zharyk Tranzit LLP has implemented an automaticdatabase and consumers system (ASCAE) with the purpose of issuing technical conditions for the fastest possible identification of connection points.
- Signing of EPC-contract for expansion of Karaganda CHPP-3, installation of power unit No. 6.
- Commissioning of a new turbine No. 5 with a capacity of 120 MW.
- Commissioning of the cooling tower No. 4 of Karaganda Energocenter LLP.
- Implementation of ASCAE by Karagandy Zharyk LLP, 3rd stage.

#### 2012-2013

- Signing an agreement with Development Bank of Kazakhstan JSC for opening a credit line of KZT 30 billion for Karaganda Energocenter LLP.
- Construction of new ash dumps for dry storage of waste at stations of CHPP-1 and CHPP-3 of Karaganda Energocenter LLP.
- Construction of Zharyk substation (SS) of Karagandy Zharyk LLP.

- Ontustik Zharyk Tranzit LLP has begun construction of 110 kV Severnaya Substation and 110 kV Nursat Substation.
- Establishment of Energy Center LLP. The company's statutory activity is the production of heat and powerenergy. 100% share in the partnership belongs to KUS LLP.

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- Since 2013 there is a process of expansion of CHPP-3 of Karaganda Energocenter LLP, by installing turbine No. 6 and boiler No. 8.
- Karagandy Zharyk LLP commissioned 220/110/10 kV Zharvk and 110/35/6 kV Santekhnicheskava-2 substations
- Ontustik Zharyk Tranzit LLP commissioned Severnaya substation (2x40.000 kVA), constructed and modernized 10/0.4 kV networks, and various voltage class substations.
- The project "Construction of a wind power station in the SKR" was initiated.
- Subsidiary marketing organizations expanded their customer base and introduced the "Unified Billing System" for suppliers of all types of utilities, buildings were acquired to create contact centers.

- In December, Ontustik Zharyk Tranzit LLP introduced 10/0.4-kV ASCAE, as a result, in 2015 in Turkestan, 31package transformer substations and 3,740 consumers were connected.
- Ontustik Zharyk Tranzit LLP designed, built and commissioned 110/10-10 kV Nursat closed type substation with installed capacity of 2 x 40 MVA power
- Karagandy Zharyқ LLP constructed and commissioned 220/110/35-kV Zharyk substation.
- Karagandy Zharyk LLP constructed and commissioned 110/35/10-kV Santechnicheskaya-2 and 110-kV CHPP-3 Santechnicheskaya-2 HV line, L = 1.3 km with the installation of AC wire 300 sq. mm.
- In order to diversify the Group's activities through the development of alternative energy, on July 15, 2015, Zhuzimdyk Wind Farm LLP was established, with 100% shares belonging to KUS LLP.
- In November, in Karaganda region, for the convenience of consumers, a joint project with ERC LLP for implementation of a unified payment document (UPD) was completed and developed on the principle of "one window", the number of cash handling units

- was increased, and the electronic queue system was introduced.
- Installation of the new 110-MW power unit wascompleted at Karaganda CHPP-3 of Karaganda Energocenter LLP. A trial run of the unit was carried out at full capacity with an ad hoc acceptance of equipment; a new fan cooling tower was commissioned.
- New contact centers were opened in subsidiaries of retail organizations of the South Kazakhstan region and Shymkent.

#### 2016

- Kazakhstan Utility Systems LLP acquired 6.54% of common shares of Mangistau Regional Electricity Network Company ISC
- In the trading system of Kazakhstan Stock Exchange JSC (KASE) the first specialized trades on placement of bonds of Kazakhstan Utility Systems LLP were held.
- The international rating agency Fitch Ratings confirmed that Kazakhstan Utility Systems LLP has long-term issuer default ratings (IDR) in foreign and national currencies at the level of "BB-" The outlook is "Stable".
- During the international contest "Choice of the Year No. 1 in Kazakhstan" Kazakhstan Utility Systems LLP officially received "Energy Company No. 1 of 2016 in Kazakhstan" award.
- A new power unit commissioned at Karaganda CHPP-3 of Karaganda Energocenter LLP, which includes a 110-MW power turbine and a 400 Gcal/h steam heat boiler. Due to this, Karaganda CHPP-3 became the largest heat and power plant in the Republic of Kazakhstan.
- In Shymkent 110/10 kV Nursat power substation of closed-type was commissioned
- Ontustik Zharyk Transit LLP has developed the project and completed modernization of 0.4-10 HV transmission lines with the use of self-supporting insulated wire with total length of 0.4 kV overhead transmission line – 220 km for 0.4-kV HV lines, for 6–10 kV HV line – 7 km.
- Karagandy Zharyk LLP reconstructed TSS, PTS with power equipment - 119 pcs, CL - 52 km, ACL (SIW) -88 km; a new building of dispatcher station of the UDF
- In 2016, KaragandyZhyluSbyt LLP switched to unified payment document (UPD) in settlements with consumers.

#### 2017

- KUS LLP has attracted funding in the amount of 882.4 million tenge through successful placement of bonds on Kazakhstan stock exchange.
- A credit line was opened with SB Sberbank JSC for purchase of 100% of shares in AES Middelzee Holding

- B. V. for a total amount of 7.2 billion tenge maturing in March 2024. 6.6 billion tenge was used.
- Generating assets purchased in East Kazakhstan region: Ust-Kamenogorsk CHPP and Sogrinsk CHPP with total installed capacity 447.5 MW.
- 37.5 % of shares of total placed shares in Mangistau Regional Electricity Network Company (MRENC) were acquired, and the total number of MRENC shares in KUS portfolio reached 43.73%.
- Karaganda CHPP-3 completed the first stage of project to increase the number of dams of 3<sup>rd</sup> section of ash
- At Ust-Kamenogorsk CHPP, the project for reconstruction of existing ash dump is completed, and construction of new ash dump for storage of ash and slag was started.
- MRENC JSC constructed 220 kV power line Aktau Karazhanbas with autotransformer 1x150MVA at tie distribution substation "Karazhanbas".
- In the course of diversification of activities, the project for maintenance of household utilities successfully expanded the market for services.
- Number of serviced personal accounts of consumers has increased by almost 20 thousand, or 1.8%. compared to 2016.

- 6.77% of ordinary shares in subsidiary MRENC JSC were acquired. The Group owns 50.19% of placed shares of MRENC JSC, the share of ownership of voting shares is 52.63 %.
- Transaction for sale of Sogrinsk CHPP LLP was completed.
- At Karaganda CHPP-3, the 2<sup>nd</sup> stage of the project to build up the dams of the 3<sup>rd</sup> section of the ash dump No. 2 was completed.
- Ust-Kamenogorsk CHPP LLP is currently completing a project for reconstruction of the existing ash dump, and construction of a new ash dump for storing ash and slag waste has begun.
- In March 2018, MRENC JSC attracted financing from the European Bank for Reconstruction and Development in the amount of 12.3 billion tenge from the Bank's regular resources and 5.3 million dollars. A special Green Climate Fund will be used for the implementation of the investment program.
- Expanding the customer base of Energopotok LLP through the participation of customers of Ontustik Zharyk Tranzit LLP.



*Interaction with* Key Message from the About Risk Corporate social Strategic Corporate **Contents** Strategy indicators Management company stakeholder responsibility report management events governance About company Geography Karaganda region The company is represented Brief company profile of activity in 4 regions of the country 42% of the total electricity output from the buses of all stations in KR Profiles of subsidiaries Generation Transmission and distribution 38% of the electricity transmission services market **Consumers** In 2019, the Group was represented in four of 14 regions of **Brief Company history** Kazakhstan – Karaganda, South Kazakhstan, East Kazakhstan 100% of the heat supply market (Karaganda city) thousand and Mangistau. The total population of these regions is Geography of activity 6.5 million people, which is about 35% of the republic's of the electricity market
(Karaganda city and satellite cities) population. **113+** thousand of legal entities In 2019, consumers of KUS services were more than 1,076 thousand individuals and over 113 thousand of legal entities. In Karaganda region, the Group focuses on production of heat, electric power energy and chemically purified water, as well as transmission, distribution and sale of electric power and heat.

region of the total electricity output from the buses of all stations in East Kazakhstan region **40%** of the heat supply market (Ust-Kamenogorsk CHPP) ● Ust-Kamenogorsk

East Kazakhstan

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Nur-Sultan

Turkestan

Shymken

Karaganda

TOP 4 largest energy companies by installed capacity

In Turkestan region and in

Shymkent – only transmission, distribution and sale of electric power, in the East

Kazakhstan - production of heat and power energy, in Mangistau – transmission and distribution of electric

power.

>6.5 million people live in the regions where KUS LLP operates

**35**% of the population of Kazakhstan lives, with electricity and heat supply services **KUS LLP** 

Aktau

Mangistau region

100% of the electricity transmission and distribution market (except Aktau city)

Turkestan region and Shymkent

66% of the electricity transmission market

47% of the electricity market



Mission, vision, values

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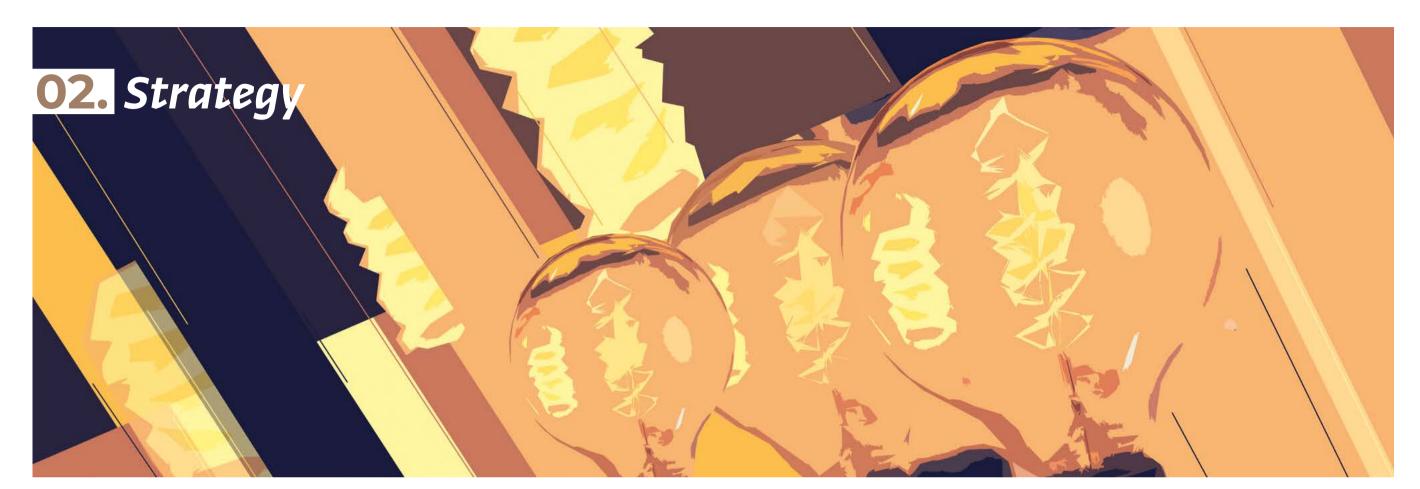
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### Mission, vision, values

#### Mission

The mission of the KUS Group is to provide reliable and high-quality power supply to its consumers, to promote long-term economic growth and social stability in the regions of presence, their prosperity and progress. The Group also sees its mission in preservation and protection of the environment when using natural resources rationally. At the same time, the Group places its unity with consumers, honest and open dialogue and implementation of joint tasks as the main priority.

#### Vision

The KUS Group is an actively developing structure that is leading in key segments of power and heat energy of Kazakhstan: generation, transmission and sale of energy.

The Group constantly expands the list of assets and geography of its presence through inclusion of various power engineering industry companies, use of renewable power sources and provision of support to promising innovative projects.

#### **Values**

**Reliability** is ensuring reliability and high quality of the services provided by the Company.

**Professionalism and team spirit** – improvement of professional level of employees as one of the most important tasks of the company.

**Human capital asset** is a belief in success of a common goal, mutual respect, assistance to each employee in growth and development, understanding of their interests and needs.

**Innovativeness** – continuous aspiration to improve and optimize already existing approaches and technologies as well as strenuous support and promotion of development of new products and solutions.



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#### Strategy

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#### **Goals and priorities**

The goal of KUS LLP is to increase the value of the Company, to maintain profitability and stability of business, to ensure shareholders' return on investment through increase in the value of assets.

To achieve these goals, the Company is constantly working to develop and optimize business processes, including reducing costs, increasing the efficiency of operations, improving the quality of products and services provided, and applying new advanced technologies.

Kazakhstan Utility Systems LLP considers quality management, labor safety, preservation of life, health, environmental protection as an **integral part of its mission** of a high-tech, efficient and dynamically developing company in the Republic of Kazakhstan.

The main **priorities** of Kazakhstan Utility Systems LLP that allow us to ensure quality and timely implementation of all projects are:

- systematic training and continuous improvement of professional skills of KUS Group employees, improvement of human resources, preservation and enhancement of human capital assets of KUS LLP;
- maximum of effective use of existing production, financial and human assets of the KUS Group to achive set goals;
- 3) customer orientation of retail companies, providing constant feedback to consumers, improving services;
- 4) strict observance of legislation of the Republic of Kazakhstan, government legal acts regulating energy policy, which are guides to the KUS Group in its
- 5) construction of new power grids, expansion of generating and power transmission capacities, stable growth of production indicators of enterprises belonging to the KUS Group;
- 6) modernization of existing energy assets, use of innovative solutions at their production facilities, scientific, innovative approach and optimization of energy costs;
- 7) constant focus on preserving the environmental balance in the course of operations of the organizations belonging to the KUS Group, implementation of the most progressive, energy efficient and safe solutions considering the environment and labor protection, technical solutions for implementation of projects;
- openness and transparency of all activities of KUS Group, provision of necessary information to consumers, partners and the public about the work of KUS LLP, including media coverage, taking into

account the high social significance of the products manufactured and sold by the Group;

 continuous analysis of activities of all suppliers and contractors of the KUS Group, building long-term, mutually beneficial relationships with them.

#### Responsibility

The group strives to create value in the long term for various stakeholders, and voluntarily assumes responsibility for taking into account the interests of stakeholders in making strategic decisions.

#### **Responsibility to the government** – security:

- ability of the company's networks and energy assets to meet the growing demand for heat and electricity;
- sufficiency and reproducibility of the resource base, effective cost management;
- efficient and reasonable use of funds invested in the Company, as well as-minimization of investment risks:
- coordination of the Company's plans and regional development plans in such a way as to meet the longterm energy supply needs of the regions.

Responsibility to shareholders – protection and implementation of the rights and interests of shareholders by further improving the corporate governance system (in terms of increasing the value of assets), based on modern Kazakh and international standards.

**Responsibility to consumers** is to ensure reliable and highquality electricity and heat supply, as well as transparent justification of the tariff policy.

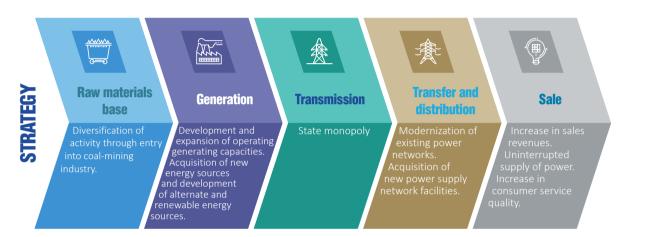
Responsibility to the environmental community and future generations is to reduce the negative impact on the environment through the introduction of environmentally friendly and safe technologies for generating, transporting electricity, energy saving, and improving the efficiency of the Company's environmental management.

**Responsibility to contractors and suppliers** – creating a transparent competitive environment and fulfilling all obligations imposed on the Company.

Responsibility to the staff, corporate social responsibility – ensuring a stable and competitive level of wages, creating decent and safe working conditions, opportunities for professional growth; assistance to socially vulnerable segments of the population.

### Strategy of Kazakhstan Utility Systems LLP

KUS group is one of the leading energy companies in the country. The strategic goal of KUS is to join top 3 largest energy companies of Kazakhstan in 5 years.



#### KPI of Kazakhstan Utility Systems LLP for 2020

Nº	Key performance indicator	UOM	Fact for 2017	Fact for 2018	Plan / Fact for 2019	Plan for 2020
1.	EBITDA	million tenge	52,085	35,099	37,908 / 38,941	37,204
2.	Capitalization	million tenge	345,844	233,060	251,709 / 214,180	247,035
3.	The average capacity of the electricity supply	MW	638.3*	631.8	625.8 / 660.4	668.0
4.	Volume of electric energy transport	million kWh	8,124	8,351	9,259 / 9,064	9,554
5.	Losses in networks	%	12.26	10.4	10/ 9.39	9.34

<sup>\*</sup> including the power supply of Sogrinsk CHPP

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### **Business** model

Using existing resources, by implementing a long-term sustainable development strateay. we create values for stakeholders.

#### Our resources (as of January 1, 2020)

#### **Production capacity**

The Group has a strong production base, which is a combination of power and heat generating sources, as well as power transmission networks, heating plants and substations.

#### Generation:

• installed electric power capacity of sources – 1,074.5 MW

available-864.3 MW;

• installed heat power capacity of sources –

2,770.7 Gcal/h.

available - 2,194.5 Gcal/h.

#### Transmission and distribution:

length of HV lines

0.4-220 kV - 33,235 km;

length of cable lines

0.4-110 kV - 2,444 km

number of substations is 421 units.

#### Capital

The company strives to effectively use the shareholders' capital and borrowed financing, ensuring proper profitability and stably performing the financial liabilities, which is confirmed by high credit ratings ("B+" from Fitch Ratings).

- 139,053 million tenge equity capital
- 857 million tenge issued bonds of KUS LLP
- 115,278 million tenge principal debt on loans and honds

#### Personnel structure

The basis of the Company's activity is professional employees who are committed to their business and share

• 8,687 people – the number of employees of the Group.

#### What we do?

Enterprises of the KUS Group form an industrial chain –from power and heat generation to their delivery to the end user. In 2019, the Company operated in four regions of the country. Effective interaction of all structural subdivisions of subsidiaries is provided.

Risk

#### Heat and power generation

The basis for heat and power generation of the Group consists of 3 combined heat and power plants. CHPP-1 and CHPP-3 are included in subsidiary organization of Karaganda Energocenter LLP, which is the only centralized supplier of thermal energy and the largest electricity supplier in Karaganda. Ust-Kamenogorsk CHPP is a subsidiary company of Shygys Energo LLP. The power and heat generated by Ust-Kamenogorsk CHPP covers 80% of the city's housing and utility services. Group assets play a significant role in the energy sector of these regions of operation.

#### Electric power transmission and distribution

The Group's power networks are a set of substations, switchgears and transmission lines with a voltage of 0.4–220 kV. Three subsidiary power grid companies provide electricity to urban, industrial and agricultural consumers in Karaganda, Turkestan and Mangistau regions.

Power retail enterprises of the Group carry out direct work on interaction with consumers, which are both individuals and large industrial companies. Electric power retail companies of the Group operate in Karaganda and Turkestan regions.

#### Investment activity

The Group implements several large-scale activities to modernize production facilities aimed at significantly improving the efficiency and reliability of equipment. Execution of the investment program allows us to reduce the regulatory technical losses, as well as to increase the reliability of power supply to regions covered.

#### Capital investments in 2010–2019 amounted to more than 230 billion tenge.

The installed capacity utilization rate increased **from 0.48%** to 0.76%.

#### **Competitive advantage**

- Strategic importance In 2019, the Group and its subsidiaries supply regions of presence with power and heat, where lives 6.5 million people of Kazakhstan's population.
- Being a vertically integrated, large scale and diversified, the Group operates to a maximum effect in order to provide qualitatiave services to its customers, which at the end of 2019 counted more than 1,076 thousand individuals and 113 thousand legal entities. In the regions of its presence, KUS occupies a dominant position.
- The possibility of concluding long-term purchase and sale contracts for electricity allows us to attract large industrial consumers with longterm development
- The Group has established itself as *one of the most* attractive issuers of debt obligations among operating companies present on Kazakhstan securities market.
- Absence of debt burden in foreign currency, and as a consequence, ability to provide flexible pricing policy.
- The Group successfully *diversifies its funding sources*.

### Value engineering (results of 2019)

#### Consumers

Consumers of KUS services in four regions of the Group's presence are more than 1.076 thousand individuals and over 113 thousand legal entities.

- **6,645** *million kWh* of electricity was produced.
- 5,584 thousand Gcal of thermal energy was produced.

#### Personnel

The Company is maintaining the status of a responsible employer, strives to create the best working conditions for its employees, providing them with the appropriate material and non-material remuneration, training and development of competencies.

- 14,740,580 thousand tenge labour remuneration
- 330,631 thousand tenge expenses for social support of employees.
- 6.107 people have completed training programs.

#### **Founders and creditors**

An effective system of corporate and risk management is aimed at maintaining the balance of interests of founders and creditors and Group's development.

- 128.512 thousand tenae interest paid on issued KUS bonds.
- 8.796.479 thousand tenge the interest paid on loans

#### Governmental bodies and regions of presence

The Company is a large employer and taxpayer in the regions of its presence, and also provides infrastructure development and supports local communities.

• 10,870,312 thousand tenge\* was the payment of taxes at the end of the year.

\*net of corporate income tax

- 43,837 thousand tenge was spent on social services
- Capital investments of the Group for the year amounted to 29.8 billion tenge.



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#### **Macroeconomic review**

Kazakhstan's economy grew by 4.5% in 2019. The gross domestic product reached 68.6 trillion tenge. First of all, the growth of the economy was due to the growth of investment and domestic demand.

Industrial production grew by 3.8%. According to the statistics Committee of the MNE of Kazakhstan, an increase in production was recorded in 15 regions of the Republic, while a decrease was observed in the Kyzylorda and West Kazakhstan regions. The largest growth was observed in Kostanay region (15.3%), where production in metallurgy and mechanical engineering increased in particular. And also in the city of Shymkent (15%), where the production of cottonseed oil, soft drinks, and petroleum products has increased.

In the mining and quarrying industry, industrial production grew by 3.7% in 2019. Non-ferrous metal ore production increased (16.9%), and technical services in the mining industry increased (19.5%). In the manufacturing industry, production increased by 4.4%. Production of beverages (10.2%), oil refining products (6.6%), basic precious and non-ferrous metals (6.8%) and mechanical engineering (20.9%) increased. In electricity, gas, steam and air conditioning, the industrial production index increased by 1.3%, mainly due to an increase in electricity production, transmission and distribution by 4.6%.

Inflation in 2019 was 5.4%. Prices for food products increased by 9.6%, non – food products – by 5%, paid services – by 0.7%. At the same time, the index of prices for housing services showed a decrease of 2.7%. In particular, the cost of electricity decreased by 4.3%, and for Central heating – by 10.5%.

In 2020, the Kazakh economy may experience a downturn due to a significant deterioration in commodity markets, as well as a decline in business activity during the introduction of a quarantine to fight the spread of COVID-19 coronavirus infection.

In the manufacturing industry, production increased by 4.4%. Production of beverages (10.2%), oil refining products (6.6%), basic precious and non-ferrous metals (6.8%) and mechanical engineering (20.9%) increased.



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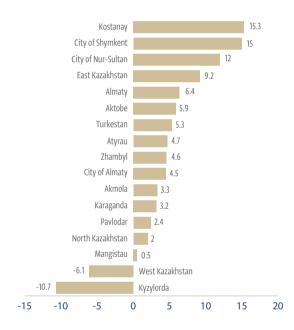
#### GDP dynamics



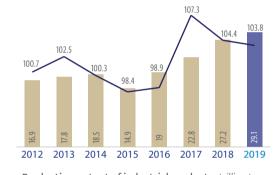
■ GDP, trillion tenge - VI, in % by previous year Consumer price index, %



#### Change in industrial production indexes by regions, year 2019 in % compared to year 2018



#### Indusrty dynamics



■ Production output of industrial products, *trillion tenge* - VI, in % by previous year

#### **Energy industry overview**

From January 1, 2019, the capacity market was introduced, which had a positive impact on the entire industry of the Republic as a whole. Now energy-producing organizations are able to enter into long-term offtake contracts for "capacity" and, accordingly, attract investment in the same or even greater volume without significantly increasing the final price of electricity for consumers. Stations that want to earn revenue in the capacity market are required to keep their capacity in readiness at all times, making timely repairs, upgrades or reconstructions. This has a positive impact on the reliability of the entire power system, both in the short and long term. The introduction

of the capacity market makes the Company's business more attractive from an investment point of view.

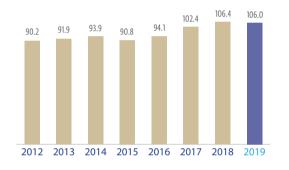
The installed capacity of Kazakhstan's power plants at the beginning of 2020 was 22,936 MW, which is 1,034 MW more than at the beginning of 2019. Available capacity increased by 434 MW to 19,329 MW.

According to the system operator KEGOC JSC, electricity generation in Kazakhstan in 2019 decreased by 0.7% and amounted to 106.03 billion kWh. At the same time, the decrease was observed for all types of generation with the exception of generation facilities using renewable energy sources, where there was more than a twofold increase. Production at thermal power plants decreased

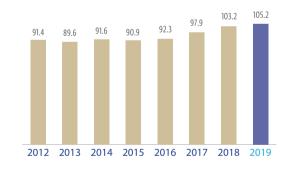
by 1% in 2019, but thermal power plants still account for 81% of total generation. At hydroelectric power plants, production decreased by 3.5%, and the share of hydroelectric power plants – 9.4%. Gas turbine power plants account for 8.5% of total generation in 2019. They reduced electricity production by 1.6%. The share of stations using renewable energy sources increased in 2019 from 0.5 % to 1.1%.

At the end of the year, KUS retains its share in the region of 6% in the total volume of electricity production in Kazakhstan.

### Dynamics of electric power generation, billion



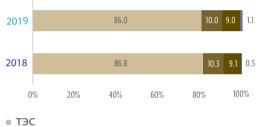
#### Dynamics of electric power consumption, billion kWh



Electricity consumption in Kazakhstan in 2019 compared to 2018 increased by 1.9% and amounted to 105.19 billion kWh. The increase in electricity consumption occurred in the Northern zone by 1,197.3 million kWh (1.8%), in the southern zone by 740.6 million kWh (3.4%), and in the Western zone by 26.9 million kWh (0.2%).

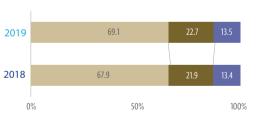
According to forecasts of RK Ministry of UES of Kazakhstan in the medium term will not experience shortages of electricity consumption growth will be covered by the commissioning of new capacities.

#### Structure of electric power output in Kazakhstan by types of electric power sources, billion kWh



- ГЭС
- ГТЭС
- СЭС, ВЭС, БГУ

#### Structure of electric power consumption, billion kWh



- Northern zone
- South zone
- West zone



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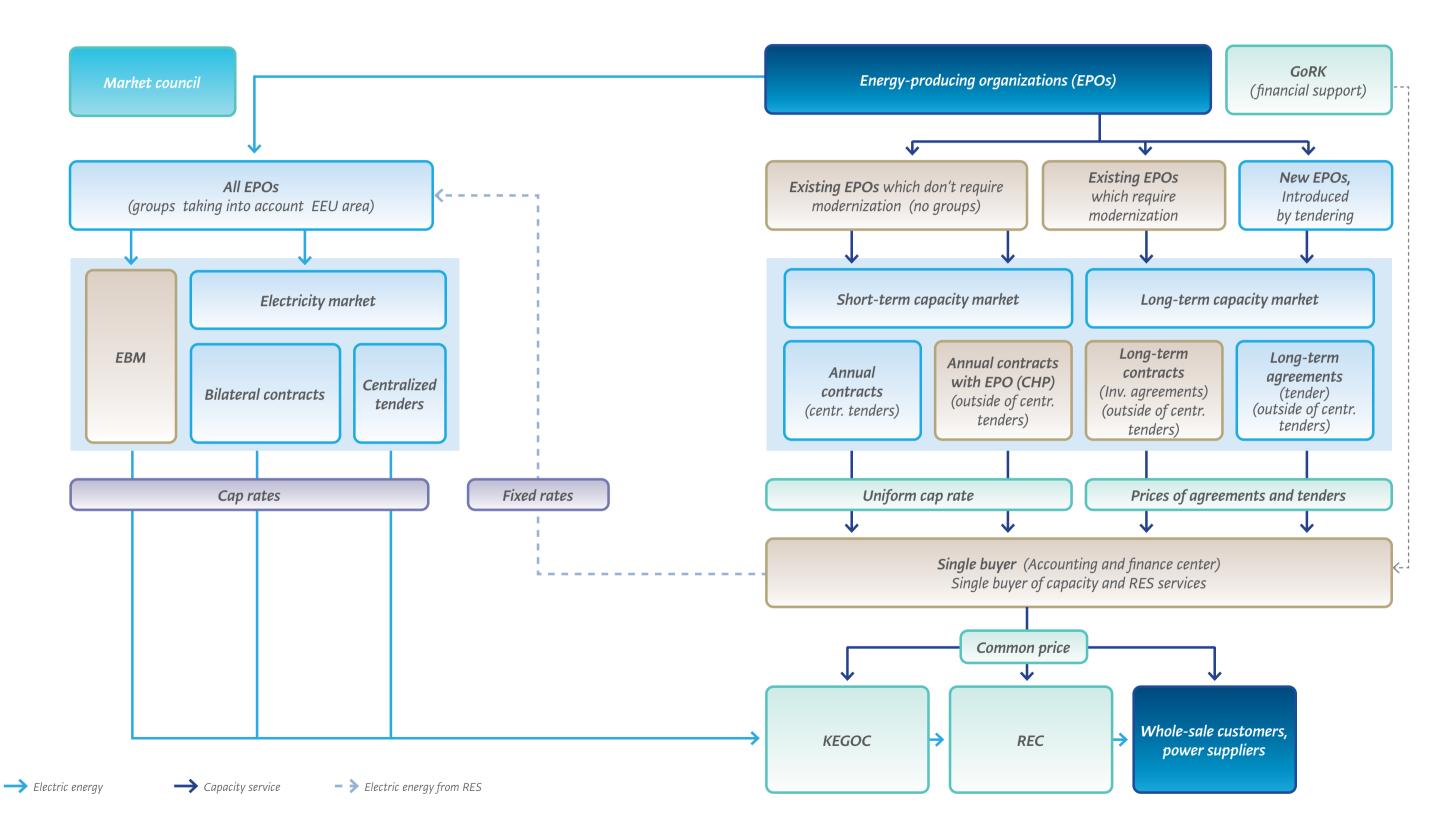
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#### **Capacity market structure**





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The volume of electricity production by the largest energy producing organizations, million kWh

Nº	Name	ame 2018 2019		Share in	Changes of 2019/2018	
				Kazakhstan	million kWh	0/ /0
1	Samruk-Energo JSC	31,703.10	30,200.30	28%	-1,502.8	-4.7%
2	Eurasian Group LLP	19,119.00	18,545.00	17%	-574.0	-3.0%
3	Kazakhmys Energy LLP	6,437.00	7,443.60	7%	1,006.6	15.6%
4	Central Asian Electric Power Corporation JSC	7,025.70	7,032.80	7%	7.1	0.1%
5	Kazakhstan Utility Systems LLP	6,376.80	6,645.40	6%	268.6	4.2%
6	Oil and gas companies	5,285.80	5,174.20	5%	-111.6	-2.1%
7	Kazzinc LLP	3,271.60	3,093.20	3%	-178.4	-5.5%
8	ArcellorMittal JSC	2,396.90	2,658.80	3%	261.9	10.9%
9	Zhambylskaya GRES JSC	1,792.40	1,878.80	2%	86.4	4.8%
	Total for the Republic of Kazakhstan	106,797.80	106,029.80	100 %	-768.0	-0.7%

#### The business environment

Tariffs for transmission and sale of electricity are regulated by the Committee for regulation of natural monopolies, protection of competition and consumer rights (KREMZK). The level of tariffs for products sold is an important external condition for doing business for the Group.

Government's obligation to provide subjects of natural monopoly with economically reasonable tariff is secured in legislation. In accordance with new law of the Republic of Kazakhstan "On natural monopolies", adopted on December 27, 2018, the tariff should be set for natural monopoly entities in such a way as to ensure recovery of costs for provision of regulated services and receipt of profit directed to development and effective functioning of natural monopoly entity.

#### **Pricing of subsidiaries**

#### Power plant

The tariff structure of power stations in 2019 in terms of electricity has undergone significant changes. So, since January 1, 2019, the market of electric power began to operate, in this connection, electric stations on a par with the previous product (electric energy) have a second item of income from the sale of services to maintain the availability of electric power. For this reason, there was a restructuring of costs that were previously compensated only by electricity, between the same electricity and capacity.

The tariff for electric energy of Karaganda Energocenter LLP (KEC) has decreased since the beginning of 2019 due to the above-described restructuring from 7.5 tenge/kWh to 5.88 tenge/kWh. At the same time, the maximum tariff has changed for the second time since November 2019 and increased to 6.7 tenge/kWh.

The tariff for the electric power of the KEC was divided into several components and amounted to the following values:

- tariff for centralized trading capacity 419,000 tenge/ MW per month;
- tariff for technological minimum 590,000 tenge/MW per month;
- tariff under the investment agreement 5,223,000 tenge/MW per month.

The KEC tariff for heat in 2019 did not change in comparison with 2018 and amounted to 1,604 tenge/Gcal.

Tariffs for electric energy of Ust-Kamenogorsk CHPP LLP (UK CHPP) have decreased from 7.5 tenge/kWh to 5.69 tenge/kWh since the beginning of 2019. At the same time, the maximum tariff has changed for the second time since November, 2019 and increased to 6.44 tenge/kWh.

The tariff for electric power of UK CHPP was divided into several components and amounted to the following values:

- tariff for centralized trading capacity 515,000 tenge/ MW per month;
- tariff for technological minimum 590,000 tenge/MW per month.

Since August 11, 2019, the tariff for the production of thermal energy of the UK CHPP has amounted to 2,754.92 tenge/Gcal and increased by 2.14% compared to the tariff as of 31.12.2018, which was 2,697.26 tenge/Gcal as of 31.12.2018. Tariffs for heat energy production are defined for the company as of 31.12.2020. From January 1, 2020, according to the Order of the head of the Department of the Committee for regulation of natural monopolies and protection of competition of the Ministry of national economy of the Republic of Kazakhstan for the East Kazakhstan region, the tariff for heat energy production was increased by 0.01% from 2,754.92 tenge/Gcal to 2,755.29 tenge/Gcal (an increase of 0.01%).

The average tariff for transmission service and distribution of Karagandy Zharyk LLP (KZh) for 5 years was approved at the 5.35 m/kWh, but according to the order of the head of Department of Committee on regulation of natural monopolies, protection of competition and consumers rights Ministry of national economy of the Republic of Kazakhstan in Karaganda region on January, 2019 was approved by the tariff reduction to 5.31 m/kWh.

The tariff for electricity transmission of Ontustik Zharyk Tranzit LLP (OZhT) decreased in 2019 compared to 2018 by 10% due to a General decline in prices in the power industry. In 2020, the tariff was approved at the level of 6.25 tenge/kWh.

The tariff for electricity transmission and distribution services of Mangistau Regional Electricity Network Company LLP (MRENC) is divided into consumer categories: for legal entities, for the population, for government organizations and for Elektrzhuyeleri LLP, which carries out power supply activities for individuals.

The tariff for 2019, due to the application of the compensating tariff, had different values. So, according to the Order of the acting Chairman of the Department of Committee on regulation of natural monopolies of the Ministry of national economy of the Republic of

#### Tariffs for heat and electric power of KEC



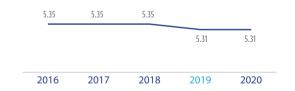
- Tariff for electric power of KEC, KZT/kWh
- Tariff for heat of KEC, KZT/Gcal

#### Tariffs for heat and electric power of UK CHPP



- Tariff for electric power of UK CHPP, KZT/kWh
- Tariff for heat of UK CHPP, KZT/Gcal

### Tariffs of KZh for electric power transmission, KZT/kWh



### Tariffs of OZhT for electric power transmission, *KZT/kWh*





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#### Tariff of MRENC for electric power transmission and distribution, KZT/kWh



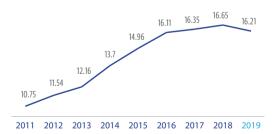
- 2018 01.01.2019 11.01.2019 01.01.2020 11.01.2020
- For legal persons
- For population
- For SME

#### Tariffs of KZhS for heat and electric power

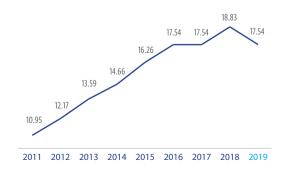


- Tariff for heat, KZT/Gcal
- Tariff for electric powerю, KZT/kWh

### Tariffs of RSC for electric power, KZT/kWh,



#### Tariffs of EP for electric power, KZT/kWh



Kazakhstan Mangistau region tariff from 1 January 2019 for legal persons, public and government organizations together with Elektrzhuyeleri LLP made up 4.75 tenge/ kWh, 2.49 tenge/kWh and 3.14 tenge/kWh, respectively. At the same time, from November 1, 2019, these tariffs amounted to 4.75 tenge/kWh, 2.28 tenge/kWh and 2.4 tenge/kWh, respectively. Similar tariffs from the beginning of 2020 are planned at the level of 4.69 tenge/kWh, 2.28

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In 2019, the tariff for electric power supplied by KaragandyZhyluSbyt LLP (KZhS) decreased by 5% compared to 2018 from 14.27 to 13.56 tenge/kWh due to a reduction in the maximum level of tariffs of energy-producing and energy-transmitting organizations.

The tariff for released heat in 2019 increased by 12% compared to 2018 from 3,740 to 4,189 tenge/Gcal.

tenge/kWh and 2.4 tenge/kWh respectively.

The tariff for electric power supplied by Raschetnyi servisnyi center LLP (RSC) at the end of 2019 decreased by 2.7% compared to 2018. A slight decrease in 2019 is due to a decrease in selling prices for electricity from energyproducing organizations and for transmission services from electric grid companies.

The tariff for electric power supplied by Energopotok LLP (EP) in 2019 decreased by 8.4% compared to 2018. The reduction in the tariff in 2019 is due to a decrease in the cost of electricity from power stations and the cost of transmission of electric energy over networks.

### **Operational results**

#### **Capacities**

In 2019, Group's production capacities represent a combination of power and heat generation sources, as well as energy transmission networks, heating plants and substations.

#### Generation:

- installed electric capacity of the sources is 1.066.5 MW. and the available capacity is 869.6 MW;
- installed heat capacity of the sources is 2,683.9 Gcal/h, and the available capacity is 2,174.5 Gcal/h.

#### **Transmission and distribution:**

- length of HV lines 0,4-220 kV 33,235 km;
- length of cable lines 0,4-110 kV 2,444 km;
- number of substations is 421 units.

#### Generation

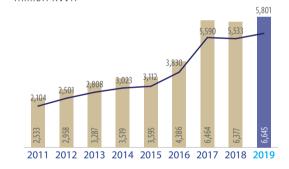
The volume of electricity generation in 2019 was 6,645 million kWh. Compared to 2018, there was an increase in the generation of Karaganda CHPP-1 and Ust-Kamenogorsk CHPP. The total volume of electricity produced by the Group's stations is 4.2 % higher than in 2018. Electricity sales by the stations amounted to 5,801 million kWh, which is also higher than last year's figures.

The production of thermal energy in 2019 amounted to 5,584 thous. Gcal. Total heat production decreased due to warmer weather conditions during the heating period in the regions where we operate. Sales of heat power by the Group's stations amounted to 5,454 thous. Gcal.

The specific consumption of conventional fuel for the supply of electric energy in 2019 increased by 2.33 kg fuel equivalent/kWh compared to 2018, and the specific consumption of conventional fuel for the supply of thermal energy decreased by 1.27 kg fuel equivalent/Gcal.

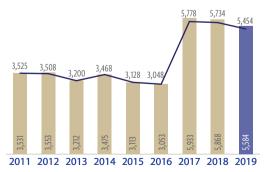
In addition, no accidents occurred in 2019, and the number of failures of the 1st degree was 1, failures of the 2nd degree - 11.

#### Electric power generation and sale, million kWh



- Electric power generation
- Sale of electric power

#### Heat generation and sale, thous. Gcal



- Heat generation
- Sale of heat



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#### Major clients in 2019

#### **Karaganda Energocenter LLP**

In total, 40 contracts for the supply of electricity were signed for Karaganda Energocenter LLP.

Name and location of consumers	The volume of sales of electric energy, thousand kWh	The volume of sales of electric energy, thousand tenge	Share in total electricity sales, %
KaragandyZhyluSbyt LLP	1,096,996	6,688,305	27.96
Karaganda Energosbyt LLP»	972,695	5,913,202	24.79
Energopotok LLP	492,923	3,011,470	12.56
Karagandy Zharyk LLP	277,160	1,694,128	7.06
Raschetnyi servisnyi center LLP	183,900	1,112,605	4.69
Energosnab XXI LLP	81,765	494,336	2.08
Karagandy Su LLP	74,522	453,766	1.90
Teplotransit Karaganda LLP	71,372	442,163	1,82
Yugenergoimpuls LLP	59,019	366,607	1.50
Energougol XXI LLP	56,494	344,717	1.44
Energosistema KT LLP	51,330	306,665	1.31
Garant Energo LLP	34,338	215,623	0.88
Ontustik Zharyk Tranzit LLP	34,124	201,869	0.87
Kazsbytgrupp LLP	24,069	142,974	0.61
Companiya Ergo LLP	20,398	119,938	0.52
Municipal utilities of Karaganda city LLP	8,378	51,729	0.21
Centralized bidding	1,320	7,932	0.03
Other	382,997	2,415,240	9.76
Total	3,923,803	23,983,270	100

#### **Ust-Kamenogorsk CHPP LLP**

In total, 37 contracts for the supply of electricity were signed for Ust-Kamenogorsk CHPP LLP.

Name and location of consumers	The volume of sales of electric energy, thousand kWh	The volume of electricity sales from VAT, thousand tenge	Share in total electricity sales, %
Raschetnyi servisnyi center LLP	47,562,985	321,910	2.54
Shygysenergotrade LLP	349,969	2,308,776	18.65
Energosnab XXI LLP	339,721	2,201,209	18.11
VK REC JSC	204,904	1,407,109	10.92
Karaganda Energosbyt LLP	169,324	1,128,987	9.03
AB Energo LLP (AB Energo)	166,414	1,092,937	8.87
Energopotok LLP	152,193	1,010,904	8.11
Ontustik Zharyk Tranzit LLP	130,117	857,764	6.94
Yugenergoimpuls LLP	78,190	511,017	4.17
Kazsbytgrupp LLP	50,886	329,543	2.71
GarantEnergo LLP	48,677	322,819	2.59
Other	138,189	921,494	7.37
Total	1,876,147	12,414,468	100

#### **Transmission and distribution**

Due to timely and high-quality implementation of repair and investment programs for 2019 for Karagandy Zharyk LLP, the increase in transformer capacity amounted to 80,000 kVA (commissioning of SS 110/10kV "Tikhonovka"), the percentage of depreciation of fixed assets, in comparison with 2018, did not increase and is 70.5 %, and regulatory losses decreased by 0.7% compared to 2018 and for 2019 amounted to 8.1%.

In 2019, the number of the 2<sup>nd</sup> degree refusals decreased by 112 units compared to 2018, and is 422 pcs. There were no accidents or failures of the 1<sup>st</sup> degree in 2019. There are no accidents in 2019.

According to the results of 2019, Ontustik Zharyk Tranzit LLP had a decrease in the number of technological violations by 28 cases, the total transformer capacity as of December 31, 2019 was 3,691 MVA. The depreciation percentage of fixed assets reduced by 1.6%.

Mangistau Regional Electricity Network Company JSC at the end of last year reduced the number of technological violations by 3 units compared to 2018, the total transformer capacity increased and amounted to 2,550.6 MVA at the end of 2019. Total depreciation of fixed assets decreased to 66.7%, and regulatory losses decreased by 4%. At the same time, no accidents were recorded during

*Electricity transmission volumes in 2019* 

Name		2019
	thousand kWh	thousand tenge
Karagandy Zharyk LLP	3,068,969	16,296,224
Ontustik Zharyk Tranzit LLP	2,763,528	16,387,722
Mangistau Regional Electricity Network Company JSC	3,231,326	13,866,251

#### Major consumers in 2019

#### **Karagandy Zharyk LLP**

Major customers and power transmission volume in 2019

viajor customers and power transmission volume in 2015	
Client name	The volume of sales, thousand kWh
KaragandyZhyluSbyt LLP	1,097,778
ArcelorMittal Temirtau JSC	712,332
AB Energo LLP	274,475
Raschetnyi servisnyi center LLP	229,909
Karaganda Energosbyt LLP	178,139
TEMK JSC	64,055
Karagandatsvetmet OP – the branch of Kazakhmys Corporation LLP	94,154
Teplotransit Karaganda LLP	71,372
Energougol XXI LLP	59,356
Karagandy Su LLP	47,940
Branch of "Satpayev Channel"	35,964
Other consumers	203,495



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#### **Ontustik Zharyk Tranzit LLP**

Major customers and power transmission volume in 2019

Client name	The volume of sales, thousand kWh
Energopotok LLP	2,337,109
Yugenergoimpuls LLP	132,747
Garant Energo LLP	140,371
EnergoSnab XXI LLP	68,677
Kazsbytgrupp LLP	46,568
KuatZhylu Ortalyk-3 SCE	34,254
3-Energoortalyk JSC	2,246
NC Kazakhstan Temir Zholy JSC	1,144
FShMES KEGOC JSC	397
Shar HPP JSC	15

#### **Mangistau Regional Electricity Network Company JSC**

Major customers and power transmission volume in 2019

Client name	The volume of sales, thousand kWh
Ozenmunaigas JSC	761,339
Mangistau Zharyk LLP	716,863
AllianceEnergoSnab-Aktau LLP	437,318
Mangistaumunaigas JSC	304,129
Karazhanbasmunai JSC	254,719
Electr zhuyeleri LLP	235,228
AktauEnergoSbyt LLP	145,319
Branch of Buzachi Operating Ltd	141,061
Karakudukmunay LLP	127,867
Alyaksandrovich LLP	37,528
Mangistauenergomunai LLP	29,865
Temirzholenergo LLP	24,472
MAEK-Kazatomprom LLP	14,207
NC Kazakhstan Temir Zholy	1,409

### Investment project

The implementation of measures to modernize capacities allows reducing regulatory technical losses, as well as improving the reliability of power supply in the covered regions. From 2010 to 2019, the Group invested more than 230 billion tenge. The installed capacity utilization rate for this period increased from 0.48% to 0.76% (which is significantly higher than the average rate for the Republic).

The volume of investments of **Karaganda Energocenter LLP** aimed at upgrading and reconstructing capacities in 2019 amounted to about 4.4 billion tenge. In 2019, major repairs were made with the replacement of worn-out components and mechanisms on the turbine unit of article 4. In addition, the third stage of the project to build up the dams of the 3<sup>rd</sup> section of the ash dump No. 2 was implemented. The project of construction of the 1<sup>st</sup> section of the ash dump of station No. 3 of the Karaganda CHPP-3 was completed.

The volume of investments of **Ust-Kamenogorsk CHPP LLP** in 2019 amounted to 1.7 billion tenge. The project for the reconstruction of ash dump No. 3 was successfully completed, and preparatory work has begun on the construction of a new ash dump No. 5. A number of measures were taken to replace the heating surfaces of the boiler unit No. 15 and the boiler unit No. 13. Swirlers of emulsifiers of boiler unit No. 15 were replaced. Replacement of high-pressure feed pipelines of the 5–7 stage was made.

The volume of investments of **Ontustik Zharyk Tranzit LLP** in 2019 amounted to 6.3 billion tenge. As part of the implementation of the investment program, the following activities were implemented:

- construction of 0.4–10 kV networks in localities: village of Karabastau Gumussu Kazygurt district; village of Zagambar, village of Pervomayivka of Tolebi district; village of Mahtaly of Almaly district, village of Darkhan, village of Tyn of Mahtaaral district; MD Ormanshy, MD. Akzhar, MD Tasken of the city of Shymkent; at the same time, power lines 0.4–10 kV (SIP) 51.64 km, KTPN 10/0, 4 kV 19 PCs were put into operation;
- construction of a closed 110/10-10 kV "Yassy" substation with a capacity of 2\*40 MVA with 110 kV lines in Turkestan (going to 2020);
- reconstruction of 110 kV HV line 42,580 km; 35 kV
   HV line 15,206 km;
- reconstruction of TS 35-110 kV 10 pcs; CTS, TS, DS 10/0, 4 kV – 140 pcs;
- reconstruction of the HV line 0,4-10 kV: complete replacement of supports, wires and insulators on the HV line – 10 kV – 145,140 km; HV line – 0,4 kV – 236,281 km.
- modernization of the 0.4 kV HV line with a length of 181.157 km using SIP;

 reconstruction of KL-10 kV – 6.45 km and KL-0.4 kV – 3.195 km cables.

For the operation of Ontustik Zharyk Tranzit LLP in the wholesale electricity market, the orec has been created with the coverage of 12 substations: SS-110/35/10 kV "Shaulder", SS-110/10 kV "Timurskaya", SS-35/10 kV "Ikan Station", SS-110/35/10 kV "Turkestan", SS-110/35/6 kV "HBI", SS-110/10 kV "Komsomol", SS-110/10 kV "50 years of October", SS-110/10 kV "Voskhod", TS-110/10 kV "Kazakhstan", SS-110/10 kV "Rissovkhoz No. 6", SS-110/10 "Syutkent", SS-110/35/10 kV "AK Altyn".

The retail electricity market automated control system was implemented using 0.4 kV networks using PLC technologies for transmitting data from electricity meters to USPD – 24 PCs. CTS TS, with coverage of 3,940 subscribers of Shymkent.

The volume of investments of **Karagandy Zharyk LLP** in 2019 amounted to 6.4 billion tenge. As part of the implementation of the investment program, the following activities were implemented:

- construction of TS 110/10kV "Tikhonovka". The increase in the total transformer capacity is 80 MVA.
- reconstruction of 110kV HV line "Karaganda CHPP-3".
   Reduced physical wear of the line from 79.8% to 0%.
   Estimated reduction of standard losses in the line by 27.6%
- technical modernization of the equipment of "Karabas"
   TS. Reduction of physical wear of the entire substation from 92 % to 57 %.
- purchase of cars and special equipment 52 units.
   Reducing the physical wear and tear of the company's fleet.

The amount of investments of **Mangistau Regional Electricity Network Company JSC** in 2019 reached to 10.4 billion tenge. As part of the implementation of the investment program, the following major events were implemented:

- construction of power lines 220 kV Aktau Karazhanbas with autotransformer 1x150 MVa at URPS-220/110/35/10 kV "Karazhanbas";
- construction of 110 kV transmission line from Uzen
   TS 220 kV to 110/35 / 6 kV Plato SS (1x18,7 km) with replacement of 1x40 MVa transformer;
- modernization (reconstruction) of 110 kV outdoor switchgear of TS 220/110/10kV "Uzen";
- replacement of power transformers on SS-35/6kV "Glinzavod", "Vostochnaya" 2x10 MVa to 2x16 MVa.
- modernization (reconstruction) of ZRU equipment 6.10 kV at SS "Opornaya", "Kuibyshevo", "Fort", "Dunga".



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### **Procurement**

Kazakhstan Utility Systems LLP is fully guided by the law of the Republic of Kazakhstan "On natural monopolies", including in the procurement of goods, works and services. In 2019, the Company launched a process for switching purchases of goods, works and services to an electronic format through electronic trading platforms, which in turn allowed the company to optimize a number of processes, as well as ensure transparency of procurement procedures.

ETS-Tender LLP (a subsidiary of B2B-Center) was chosen as the launch site, which has a number of advantages over other electronic services:

- ETS-Tender LLP passed the inspection of the information security Committee of the Ministry of digital development, innovation and aerospace industry of the Republic of Kazakhstan and received a certificate of compliance with information security requirements. The document confirms that the platform can operate in state-regulated industries and guarantees the confidentiality of client data.
- Kazakhstan Utility Systems LLP received access to the largest possible number of suppliers not only from Kazakhstan, but also from Russia for the "ETS-Tender".

These are clients of the ETS exchange and the B2B-Center platform, who participate in purchases of large government and commercial companies.

- The flexibility of the ETS-Tender platform made it possible to conduct any type of bidding, configure integration with the ERP system for accounting for purchased goods, and automate the work of all employees of the procurement departments of Kazakhstan Utility Systems LLP.
- Ability to create your own corporate page on the site "ETS-Tender" to combine purchases of a Group of companies and create a single channel of interaction with suppliers.

Volume of purchases of goods and services by natural monopolies in 2019:

- Karaganda Energocenter LLP 22.7 billion tenge;
- Ust-Kamenogorsk CHPP LLP 10.4 billion tenge;
- Karagandy Zharyk LLP 10.6 billion tenge;
- Ontustik Zharyk Tranzit LLP 8.3 billion tenge;
- Mangistau Regional Electricity Network Company JSC 10.5 billion tenge.

### Financial results of operations

#### **Revenue and expense analysis**

Basic data of the income statement, million tenge	2019	2018	2017
Revenue	134,469	128,639.0	97,337.0
Cost price	- 97,224	- 91,928.6	- 66,087.7
Gross profit	37,245.5	36,710.4	31,249.4
Administrative expenses	- 9,120.8	- 8,537.2	- 6,388.7
The cost of implementing	- 2,910.7	- 2,664.9	- 2,148.1
Financial expenses	- 9,812.0	- 8,631.7	- 4,812.5
Financial income	5,752.2	3,687.7	652.8
The foreign exchange loss of	- 6,685.0	- 3,316.6	- 30.3
Other income	536.0	676.7	18,941.4
Profit before tax	15,005.2	17,924.4	37,463.9
Income tax expense	- 4,394.4	- 4,324.8	- 3,973.1
Net profit	10,610.8	13,599.6	33,490.8

Revenue growth was 5% in 2019 and by the end of the year, revenue reached 134.5 billion tenge. 60% of the revenue structure is accounted for by the sale of electric energy. Revenue from this source last year decreased by 6% to 81.3 billion tenge — which is due to the growth of electricity generation and sales due to a reduction in tariffs.

However, a new revenue item has been added to the Group's revenue structure. Since January 1, 2019, the power market in the Republic of Kazakhstan has been divided into 2 sub-markets: the power market (actual sale and purchase of power at established tariffs) and the electric power market (sale and purchase of services to ensure the readiness of electric power to bear the load). The regulatory authorities of the LLP "Financial Settlement Center of renewable energy" (RFC) have determined a single buyer who performs centralized purchase of services for maintaining the readiness of electric power and centralized provision of services for ensuring the readiness of electric power to bear the load.

For power producers, this resulted in a new type of revenue for the provision of services to maintain the availability of power to a Single Buyer, and for wholesale consumers – a new item in cost in the form of the cost of services to ensure the readiness of electric power to bear the load purchased from a Single Buyer – which is reflected in the total cost of the Group.

The Company's revenue from maintaining the availability of electric power in 2019 amounted to 10.4 billion tenge, which provided an increase in total revenues. In the total revenue structure, the new type of revenue was 8%.

The cost price increased by 6% in 2019 to 97.2 billion tenge. Material costs in 2019 make up 41% of the cost price and decreased by 1% by 2018 to 40.2 billion tenge. Expenses for services for the transmission of electricity, heat and chemically treated water in 2019 decreased by 13% to 13.6 billion tenge. The new item of expenditure-services to ensure the readiness of electric power to bear the load – in 2019 amounted to 5% of the cost or 4.8 billion tenge.

Gross profit for the year increased by 1% to 37.2 billion tenge – there was a comparable increase in revenue and cost

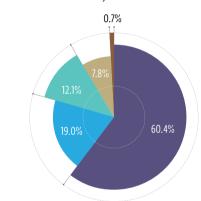
Net profit for 2019 amounted to 10.6 billion tenge, which is 22% lower than in 2018. First of all, the decrease in net profit is due to an increase in foreign exchange loss and financial expenses.

Dynamics of income, prime cost, gross profit, billlion KZT

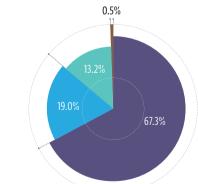


- Income
- Prime cost
- Gross profit

#### Structure of incomes, 2019







- Sale of electric power
- Transmission of electric power
- Sale of heat
- Income from maintenance of electric power availability
- Othe



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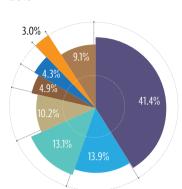
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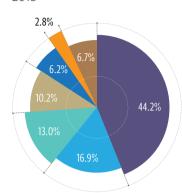
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### Structure of prime cost,



Structure of prime cost,



- Materials
- Services for transmission of electric power, heat and chemically treated water

Risk

- Wear and tear
- Salary and related taxes
- Services for provision of electrical capacity readiness to load
- Technolgical losses
- Repair
- Other

#### **Balance sheet analysis**

Basic balance data, million tenge	2019	2018	2017
Assets	322,118.0	299,815.2	235,307.8
Long-term assets	295,572.9	276,553.2	207,853.3
Fixed assets	231,091.2	215,004.1	203,751.9
Loans to related parties	61,351.5	58,511.3	
Long-term advances issued	2,127.5	1,905.7	3,152.1
Etc	1,002.7	1,132.0	949.3
Current assets	26,545.2	23,262.0	27,454.6
Inventory	4,101.4	4,194.2	3,786.1
Trade receivables	12,197.3	10,082.6	9,958.2
Cash and cash equivalents	4,363.2	5,458.6	6,444.5
Loans to related parties	3,129.5	-	-
Etc	2,753.7	3,526.5	7,265.7
Commitments	169,873.7	158,247.7	106,203.1
Long term liabilities	71,593.0	125,833.0	74,162.3
Bank loan	37,581.7	92,414.6	41,918.8
Deferred tax liability	31,328.8	30,361.3	28,913.8
Etc	2,682.5	3,057.2	3,329.7
Current liabilities	98,280.8	32,414.7	32,040.8
Trade payables	11,992.5	8,492.9	4,911.8
Loans and bonds	71,877.5	14,055.7	15,854.0
Etc	14,410.8	9,866.0	11,275.0
Capital	152,244.3	141,567.5	129,104.8
Authorized capital	11,636.4	11,636.4	11,636.4
Additional paid-in capital	9,239.1	9,239.1	9,239.1
Foreign exchange reserve	331.1	265.2	-
Retained earnings	117,846.2	109,479.6	96,714.4
Non-controlling interests	13,191.4	10,947.2	11,514.8

The group's assets at the end of 2019 amounted to KZT 322.1 billion, which is 7% higher than at the end of 2018. Non-current assets account for 92% of the balance sheet. In 2019, long-term assets increased by 7% to 295.6 billion tenge, which is mainly due to an increase in fixed assets –

which account for 78% of long-term assets. Current assets increased by 14% in 2019 to 26.5 billion tenge. The growth was mainly due to an increase in trade receivables by 21% to 12.2 billion tenge. Trade receivables account for 46% of current assets, another 16% is cash, and 15% is inventory.

#### **Analysis of key coefficients**

Key performance indicators	2019	2018	2017
Liquidity ratio			
Current ratio	0.21	0.64	0.65
The quick ratio (quick ratio)	0.17	0.51	0.54
Profit margins			
Net profit rate, %	7.9%	10.6 %	34.4%
Gross profit margin, %	27.7%	28.5%	32.1%
The basic ratio of return on assets (Basic earning power)	5.9%	7.6%	17.7%
Return on assets (ROA)	3.3%	4.5%	14.2%
Return on equity (ROE)	7.0 %	9.6%	25.9%
EBITDA, in billion tenge	38.9	35.1	52.1
EBITDA margin	28.9%	27.3%	53.5%
The coefficients of capital structure			
The coefficient of ownership capital	47.3%	47.2%	54.9%
The ratio of financial leverage	24.7%	65.3%	32.5%
Efficiency ratio			
Inventory turnover ratio	23.44	23.04	21.24
Turnover period of accounts receivable (in days)	30.24	28.43	33.09
Fixed asset turnover ratio	0.58	0.60	0.48
Asset turnover ratio	0.42	0.43	0.41
Percentage coverage ratio	1.94	2.65	8.65
Return on capital employed (ROCE)	8.52 %	8.55%	20.53%

<sup>\*</sup>Calculation of key indicators:

Current ratio is calculated as the ratio of current assets (excluding the prepayment for corporate income tax and other current assets) to short-term liabilities.

Quick liquidity ratio is calculated by dividing liquid assets (excluding the prepayment for corporate income tax and other current assets) for short-term liabilities.

Basic earning power = EBIT / assets

Return on assets = net profit / asset.

Return on equity = net profit / equity. Capital adequacy ratio = capital/assets.

Financial leverage ratio = long-term liabilities/equity

Interest coverage ratio = EBIT/interest due.

Return on capital employed = EBIT/(equity + long-term liabilities).



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Plans for 2020

The group's liabilities at the end of 2019 amounted to 169.9 billion tenge and increased by 7% by 2018. At the end of the year, 58% of liabilities are short-term (20% in 2018) and 42% are long-term (80%). The total amount of debt financing in 2019 amounted to 109.5 billion tenge, and increased by 2.6% by 2018. About 7% of loans are represented by issued bonds, the rest is accounted for by

The share of capital in the structure of the group's balance sheet in 2019 is 47%. At the end of the year, equity increased by 8% to 152.2 billion tenge. The increase is due to an increase in retained earnings by 8% to 117.8 billion tenge.

At the end of the reporting year, the Group maintains high profitability indicators. EBITDA for 2019 increased by 11% to 38.9 billion tenge. EBITDA margin was 29%. Return on assets at the end of the year was 3.3%, return on capital – 7%. The return on capital employed was 8.5% in 2019.

Liquidity indicators in 2019 decreased slightly due to the reallocation of part of the debt obligations to short-term ones. However, the Group has sufficient liquidity at the end

Dynamics of assets and laibilities, billion KZT



- Assets
- Liability
- Capital

of the reporting period. The indicator of current liquidity at the end of 2019 is 0.21, rapid liquidity - 0.17.

The group also maintains a stable financial position, with a 47.3 % equity share in the balance sheet structure. The financial leverage ratio, which shows the dependence on borrowed funds, stood at 24.7% at the end of the year, compared to 65.3 % in 2018.

### Plans for 2020

- 1. Implementation of measures to update the long-term Issuer default rating (IDR) in foreign and national currencies.
- 2. Activities to attract international strategic partners to implement the Company's long-term development
- Active promotion of Company's legal interests. Submission of all required Company's draft amendments to legislation for consideration of relevant associations (Atameken, KEA, KAZENERGY) and authorized body.
- 4. At Karaganda CHPP-1, overhaul of two boilers and turbo generator No.4 will be conducted. Other equipment will undergo minor repairs.
- The following activities are planned at Karaganda CHPP-3:
- overhaul of boilers of st. 1, 2 with replacement of heating surfaces;
- overhaul of turbine unit of st. 2 with replacement of condenser tube bundles;
- minor repair of all boiler and turbine units;

- implementation of 4<sup>th</sup> stage of building of 3<sup>rd</sup> section of the ash dump area №3.
- The following activities are planned at Ust-Kamenogorsk CHPP:
- replacement of the water economizer of the 1<sup>st</sup> stage of the boiler unit article 13:
- replacement of boiler unit burners article 14;
- replacement of swirlers emulsifiers of the boiler unit article 12:
- maintenance of all boilers and turbo units;
- development of a project to replace the steam pipeline 140 ΔΤΔ ·
- purchase of a bulldozer.

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- 7. Karagandy Zharyk LLP plans the following events:
- reconstruction of 220kV outdoor switchgear 220/110/35/10 kV "Saran" TS;
- Reconstruction of 110kV HV line "Karaganda New City" -9 km;
- Reconstruction of electric networks 0,4-6-10 kV -



- Technical modernization of equipment 7 SSs: "Household", "Mikhailovka-2", "Prishakhtinskaya", "Engels", "Yubileynaya", "Abay-Household". "Tokarevka":
- Overhaul of 9 HV lines of 35-110-220 kV: 220 kV HV line CHPP-3 Zharyk op.1-op.54; 110 kV HV line KarGRES-2 – Kalagir with branch line at SS "Yaltinskaya"; VL-110 kV HV line N. City – Melkombinat 1,2 C; 110 kV HV line Santekhnicheskaya – Pumping stations; 110 kV HV line Shakhan - Kirova 1,2 C; 35 kV HV line Branch lines at TSES-1 from 35 kV HV line Karaganda – Maikuduk; 35 kV HV line Pobeda – Engels; 35 kV HV line Prishakhtinsk – Shakhtinskaya 1,2 C; 110 kV HV line CHPP-3 – Yugo-Vostok 1,2 C with a total length of 344 km.
- 8. Ontustik Zharyk Tranzit LLP plans the following events:
- construction of 10-0.4 kV networks (in micro district Zhuldyz, MD. Tasken-2, MD. Tasken-3, Badam, Bazarkakpa settlement, Martobe settlement, Shymkent);
- construction and commissioning of SS-110-10/10 kV "Yassy" with KL-110 (transitioning from 2019);

- reconstruction of 110 kV HV line, 35 kV HV line, 0,4-6-10 kV HV line, including 0.4 kV HV line using SIP;
- reconstruction of 6-10-0,4 kV cable lines;
- reconstruction of 35-110 kV TS;
- reconstruction of DS, TS, CTS 10-6/0.4 kV;
- implementation of the ASCAE system;
- major repairs of buildings of SS-Zhuan tube OPU; • construction of the building of the Abai UGPP.
- 9. Mangistau Regional Electricity Network Company JSC plans the following events:
- implementation of SCADA system at SS-220/110/10kV Uzen;
- construction of power lines 10 kV, length of 10.5 km in the area of
- design of reconstruction of the 110 kV Beineu-1 HV line with a length of 2x178.9 km;
- design of reconstruction of 110 kV L-Sh-1 and 2, 2x131 km long;
- modernization of the 10 kV, 6 kV closed distribution unit (CDR);
- implementation of ASCAE system at eight substations.

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### Corporate governance principle

The Group considers development of corporate governance as the main factor in improvement of competitiveness and achievement of economical efficiency.

The most important principles of corporate governance for the Group are:

- ensuring a balance between influence on adoption of managerial decisions, responsibility for decisions made and interests of a participant in corporate relations;
- establishment of standards for reasonable and qualified management and proper control;

- optimization of production structure and maximizing the effective use of the Group's capital;
- ensuring transparency of the Group's financial and business operations and reliability of reporting indicators:
- increase of investor confidence, improvement of the investment climate and increase of volumes, improvement of the structure and quality of investments.

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### Management structure

The Company's management structure consists of three blocks: The General meeting of participants, the Supervisory Board, and the Executive body.

The general meeting of participants is the supreme body of KUS, which makes decisions on the most important issues of Company activities changes in the charter, equity capital, brand name, formation of the executive body, early termination of its powers, election or termination of the Supervisory Board, approving financial statements, pledging property of the Company/Group and other.

#### Membership and capital structure

Participants of Kazakhstan utility systems LLP are:

- Magda Kamalovna Idrissova, the share of ownership of the Company – 99%,
- Zhazira Makhambetovna Ismailova, the share of ownership of the Company – 1%.

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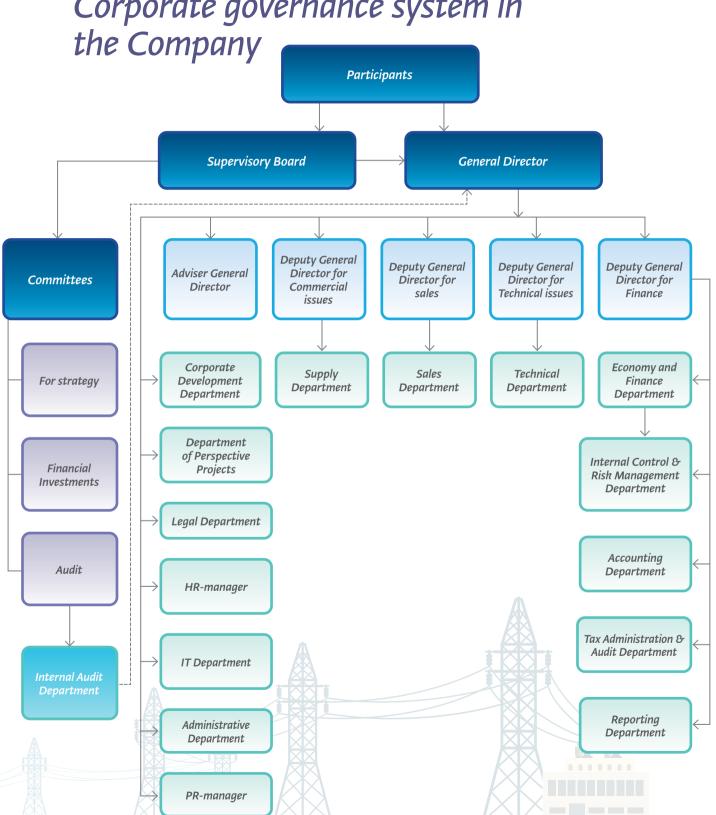
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### The Supervisory Board

The Supervisory Board of the Company conducts general management of Company activities, control over activities of the Company's executive body, control over financial and business activities. The exclusive competence of the Supervisory Board includes the following:

- determination of priority directions of activity andapproval of the development strategy, mediumterm development plan of the Company, as well asmonitoring the implementation of the Company strategy, plans and budgets;
- making a decision on completion of one or more consecutive transactions for acquisition and/or disposal of the Company's property, the total value of which is 25 percent or more of the total book value of all the fixed assets held by the Group;
- determination of the Company's production and financial policies in the form of approval of certain financial and production documents of the Company, financial and production/technical norms and standards:
- monitoring the quality and independence of theexternal auditor;
- determination of the amount of payment forexternal auditor services
- other matters provided for by internal rules of the Company.

The purpose of the Supervisory Board is to monitor the activities of the Company's executive body, including implementation of Company interests and protecting the rights of participants, establishing the principles and norms of Company's operations, and ensuring understanding and compliance of Company obligations to participants and others.

In 2019, the Supervisory Board met 4 times. The key issues which had focused the attention of the Supervisory Board:

- consideration and approval of the budget of income and expenses of KUS LLP:
- review and approval of the forecast performance report for 2018, taking into account the actual results of financial and economic activities for 9 months;
- review and approval of the report on the actual results of financial and economic activities of KUS LLP for the 1st guarter of 2019:
- review and approval of the report on the actual results of financial and economic activities of KUS LLP for the results of the 2<sup>nd</sup> quarter of 2019 and the 1<sup>st</sup> half
- adjustment of the budget and KPIs of KUS LLP for 2019 based on the results of financial and economic activities for the 1st half of 2019;
- preliminary approval of the audited financial statements for the KUS group of companies for 2018.



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#### **Composition of the Supervisory Board**



Dinmukhamet Appazovich Idrissov The Chairman of the Supervisory Board Born on December 29, 1964.

- From February 6, 2014 till present The Chairman of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From April 1, 2010 to March 12, 2019 The Chairman of the Supervisory Board of Ordabasy Group LLP.
- From March 13, 2019 to the present Chairman of the Board of Ordabasy Group LLP.



Sultan Aitpekovich Akhanov Supervisory Board member

Born on January 31, 1984.

- From December 2017 till present Deputy General Director for Finances of Kazakhstan Utility Systems LLP.
- From September 2015 to December 2017 Managing Director of Ordabasy Group LLP.
- From June 2011 to September 2015 founder, CEO of the Group of companies"Kazsphere."
- From September 2010 to June 2011 Director General of the Kazakh-Malaysian Chamber of Commerce.



Askar Akhilbekovich Kanafin Supervisory Board member, Strategy Committee member Born on November 27, 1972.

- From February 6, 2014 to February 24, 2020 Supervisory Board Member of Kazakhstan Utility Systems LLP.
- From November 1, 2013 to December 2018 Chairman of the Board of Directors of Ordabasy Group LLP.
- From September 2006 to January 2012 CEO of Group of companies "Resmi" JSC.
- From August 1, 2005 to August 31, 2012 Supervisory Board Member of Innova Investment LLP.
- From May 3, 2004 to August 31, 2012 Member of the Board of Directors of Investment Financial House "Resmi" JSC.



Adilbek Galimzhanovich Akhmetov Member of the Supervisory board. Born on July 16, 1979.

- From February 24, 2020 to the present a member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From 2015 to 2017 Adviser to the General Director, Karagandy Zharyk LLP.
- From 2017 to 2018 Head of the supply service of Kazakhstan Utility Systems LLP.
- From 2018 to the present-Deputy General Director for commercial affairs of Kazakhstan Utility Systems LLP.



Assiya Moldabayevna Salimova Supervisory Board member, Chairman of Audit Committee Born on October 13, 1970.

- From February 6, 2014 to the present Supervisory Board Member of Kazakhstan Utility Systems LLP.
- From November 20, 2013 to August 2019 Deputy Chair of the Executive Board –Compliance Director of Ordabasy Group LLP.
- From November 1, 2006 to February 1, 2013 financial director of Kazpharm LLP.
- From August 2019 to the present holds the position of Deputy Chairman of the Board of Ordabasy Group LLP – Chief to staff.

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#### **Selection and assignment**

Participants of KUS LLP have the right to nominate candidates for members of the Supervisory Board.

The Supervisory Board has the right, at its discretion, to include candidates in the list of candidates for the positions of members of the Supervisory Board in the absence of candidates proposed by Participants. The number of candidates proposed in the proposal to nominate candidates to the Supervisory Board may not exceed the number of members of the Supervisory Board.

The structure and quantitative composition of the Supervisory Board is determined by the General meeting of participants (GMP). The number of members of the Supervisory Board cannot be less than four. The Supervisory Board may include independent members. the number of which is determined by the company's GMP.

Requirements for candidates to the Supervisory Board include:

- work experience, knowledge and qualifications required for making decisions that fall within the competence of the Supervisory Board;
- sufficient time for effective and proper performance of their duties in the Supervisory Board and its Committees:
- the ability to Express an independent opinion and defend it if a member of the Supervisory Board believes that this is in the Company's interests;
- good business reputation and positive achievements in the business and / or industry environment;
- knowledge of the specifics of the Company's business and industry:
- compliance with independence requirements (for independent members of the Supervisory Board).

Only an individual can act as a member of the Supervisory Board. It cannot simultaneously be a member of the Executive body. Members of the Supervisory Board may be elected from among the following:

- Participants-individuals;
- individuals proposed (recommended) for election to the Supervisory Board as representatives of Participants;
- individuals who are not a Participant and are not proposed (recommended) for election to the Supervisory Board as a representative of the Participant.

An individual who is a participant, member of a management body, or employee of a legal entity competing with the Company cannot be elected to the Supervisory

The Supervisory Board may not be elected a person who was recognized guilty in Commission of crimes in the sphere of economic activities or crimes against state power, interests of state service and service in local governments or to which administrative punishments for offenses in the field of entrepreneurial activity or finances, taxes, securities market.

All members of the Supervisory Board must officially take office and regularly improve their professional knowledge and skills.

Determination of the number of Committees under the Supervisory Board, election of their chairmen and members, as well as early termination of their powers is within the competence of the Supervisory Board. Members of the Supervisory Board and, if necessary, experts with the necessary professional knowledge to work in the Committee are elected to the Committees

#### **Managing conflicts of interest**

A member of the Supervisory Board, when exercising his rights and performing his official duties, must promptly inform the Supervisory Board of KUS LLP of the occurrence of a conflict of interest in connection with decisions to be taken by the Board.

A member of the Supervisory Board must comply with the following rules and requirements regarding conflicts of interest when exercising his / her rights and performing his

- immediately inform the Chairman of the Supervisory Board in writing of any personal, commercial or other interest (direct or indirect) in transactions, contracts, projects related to KUS LLP (or its subsidiaries);
- do not receive gifts, services or any advantages from individuals or legal entities that represent or may be considered as remuneration for decisions or actions taken or performed by a member of the Supervisory Board within the framework of his / her official powers, other than symbolic tokens of attention in accordance with the generally accepted rules of courtesy or Souvenirs during official events;
- not to disclose confidential, insider and other official information that becomes known to a member of the Supervisory Board in connection with the performance of their respective duties, the persons who do not have access to such information and to use it in their own interests or the interests of third parties, as in the period of performing the duties of member of

the Supervisory Board, and within 3 (three) years after completion of the KUS LLP;

- comply with all the rules and procedures stipulated by the internal documents of KUS LLP and related to the security and safety of confidential information of KUS LLP;
- timely provide the Supervisory Board with complete and accurate information about the activities and financial position of KUS LLP;
- in the case of independent members of the Supervisory Board, refrain from actions that result in such members ceasing to be independent. If, as a result of a change in circumstances, an independent member of the Supervisory Board ceases to be such, he must notify the Supervisory Board in writing within five working days.

#### Job evaluation

The work of the Supervisory Board and each of its members is evaluated in accordance with the criteria developed by the Supervisory Board's nomination and remuneration. Committee

Evaluation of the performance of each member of the Supervisory Board contains the following criteria:

- regular attendance at meetings of the Supervisory Board:
- the level of its readiness for meetings;
- participation activity;
- independence and objectivity of judgments;
- · compliance with ethical standards;
- personal contribution to the constructive discussion of issues considered at the meetings of the Supervisory Board that contributed to the adoption of effective decisions of the Supervisory Board;
- compliance with the principle of loyalty.

The Supervisory Board must annually assess the performance of the Supervisory Board and each member of the Supervisory Board separately and submit reports to the GMP of KUS LLP for consideration.

#### **Supervisory Board Committees**

As of December 31, 2019, there are three committees under the Supervisory Board of KUS LLP:

- Audit Committee;
- 2) Committee for Finances and Investment;
- 3) Strategy Committee;
- 4) Nomination and Remuneration Committee (not

In 2019, committees of the Supervisory Board of KUS LLP met four times. The main points that were discussed by the Supervisory Board committees:

- review of the audited financial statements of KUS LLP and the consolidated financial statements for the KUS Group for 2018:
- review of the actual results of the Company's financial and economic activities for the first half of 2019:
- review of the company's key performance indicators for 2019.
- review and approval of the forecast performance report for 2018, taking into account the actual results of financial and economic activities for 9 months;
- approval of the report on the actual results of financial and economic activities of KUS LLP for the results of the 2<sup>nd</sup> quarter of 2019 and the 1<sup>st</sup> half of 2019.

Audit Committee analyzes the process of preparation of the Group's financial statements, analyzes the reliability and effectiveness of internal control and risk management systems, and the effectiveness and independence of external and internal audit. Its area of responsibility is ensuring that the Group complies with the legislation of the Republic of Kazakhstan.

#### Committee members:

- Assiya Salimova committee Chairwoman;
- Gulnara Nazkhanova committee member;
- Sultan Akhanov committee member:
- Vladimir Ussenko committee member.

**Committee for Finances and Investment** is responsible for raising funds, establishing an effective evaluation of the funds raised, evaluating investment projects, and overseeing the Group's financial and business operations. It meets at least once a quarter.



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#### Committee members:

- Sultan Akhanov committee Chairman;
- Olzhas Zhunussov committee member;
- Vladimir Ussenko committee member.

**Strategy Committee** makes recommendations on determining the strategic and priority directions for the Group's development, and evaluates the prospects of investment projects and their impact on the Group's value increase. It meets at least once every six months.

#### Committee members:

- Dinmukhamet Idrissov committee Chairman;
- Askar Kanafin committee member;
- Nabi Aitzhanov committee member:
- Sultan Akhanov committee member.

**Nomination and Remuneration Committee.** Currently, the Nomination and Remuneration Committee has not been formed The Company plansto create this committee in the medium term.

#### **Deputy General Director for Technical Issues**

#### Vladimir Ivanovich Ussenko

#### Born on June 7, 1960.

- From January 2010 till present Deputy General Director for Technical Issues of Kazakhstan Utility Systems LLP.
- From January 2009 to January 2010 Head of the Corporate Management Department of Kazakhstan Utility Systems LLP.
- From June to September 2008 Head of the Electric Power Stations Department of Kazakhstan Utility Systems JSC.
- From September 2003 to March 2008 senior dispatcher of the regional dispatch center of KEGOC JSC – Almaty interregional electric networks.

### **Executive Body**

The Executive Body of the Company is managed by Director General, who is accountable to participants, acts on behalf of and in the interests of the Company and solves all current issues of Company activities, except those that fall within the competence of the General Meeting of Participants.

General Director represents the Company interests, manages the Company property and financial resources, concludes agreements (contracts), including labor ones, issues powers of attorney, opens current and other accounts in banks, approves the staffing table, issues orders and decrees, gives instructions mandatory for all employees of the Company.



#### **Deputy General Director for Financial Affairs**

#### **Sultan Aitpekovich Akhanov**

#### Born on January 31, 1984.

- From December 2017 till present Deputy General Director for Finances of Kazakhstan Utility Systems LLP.
- From September 2015 to December 2017 Managing Director of Ordabasy Group LLP
- From June 2011 to September 2015 founder, CEO of the Group of companies"Kazsphere."
- From September 2010 to June 2011 General Director of the Kazakh-Malaysian chamber of Commerce.

#### **General Director and his deputies**



#### **General Director**

#### Nabi Yerkinovich Aitzhanov Born on September 11, 1980.

- From April 12, 2010 till present General Director of Kazakhstan Utility Systems LLP.
- From 2008 to April 2010 General Director of Ontustik Zharyk Tranzit LLP
- From 2006 to 2008 Director of Energosbyt LLP.
- From 2005 to 2006 Deputy Director, Director of Energopotok LLP.



#### **Deputy General Director for Commercial Affairs**

### Adilbek Galimzhanovich Akhmetov Born on July 16, 1979.

- From 2015 to 2017 Adviser to the General Director, Karagandy Zharvk LLP.
- From 2017 to 2018 Head of the supply service of Kazakhstan Utility Systems LLP.
- From 2018 to the present

  Deputy General Director for commercial Affairs of Kazakhstan Utility Systems LLP.



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**Deputy General Director for Sales** 

### Zharmukhamed Dinmukhametuly Appaz Born on September 16, 1994.

- From February 2020 to the present Deputy General Director for sales of Kazakhstan Utility Systems LLP.
- From August 2018 to the present Vice-Chairman of Dragon Fortune Pte Ltd.
- From October 2017 to December 2018 Director for corporate development of AltynEx Company JSC.
- From May 2017 to August 2017 economist of AK Altynalmas JSC.

### Description of the Executive body's work

In 2019, the participants of KUS LLP met 11 times.

The main issues that were focused on by the participants of KUS LLP:

- review of the audited financial statements of KUS LLP and the consolidated financial statements for the KUS Group for 2018:
- review and approval of internal regulatory documentation of KUS LLP.

### Remuneration information

Kazakhstan Utility Systems LLP does not pay remuneration to members of the Supervisory Board, but provides compensation for travel expenses to members of the Supervisory Board during the period when they perform their duties related to functions of the Supervisory Board members and committee members of the Supervisory Board of the Company in accordance with the legislation

of the Republic of Kazakhstan, based on supporting documents.

Remuneration to members of the executive body of Kazakhstan Utility Systems LLP for 2019 was 68,546 thousand tenge (in the form of wages according to the staff schedule).

### Internal audit

The Company has an internal audit department (IAD) which carries out internal audit in the Company and its subsidiaries.

In its activities, IAD is guided by principles of independence and objectivity, competence and professionalism, as well as by international professional standards of internal audit and Code of business conduct of the Company. Independence and objectivity of IAD is achieved by the corresponding organizational status, which provides for direct functional subordination and accountability of IAD to the Supervisory Board and administrative subordination and accountability to General Director of the Company. Audit Committee of the Supervisory Board of KUS LLP directly supervises the activities of IAD.

In 2019, IAD conducted the following works:

- analysis and reconciliation of all consumers (legal entities) of subsidiaries for 2018–2019, strengthening and automating control of consumption volumes and closing accounts receivable:
- analysis of contractors of subsidiaries in Karaganda;
- analysis of contractors of subsidiaries of the Turkestan region and Shymkent;
- checking the execution of investment and repair programs for all up of subsidiaries.

### Corporate ethics

Company considers it necessary to introduce standards of effective business practices, allowing it to occupy a leading position in energy market of Kazakhstan. We understand that honesty, integrity and fulfillment of potential to the maximum are the key factors for achieving sustainable long-term development of the Group.

Group's Code of conduct (Code) is based on the principles of good faith and describes the standards of behavior expected from employees. The Code is binding on all employees of the Group and applies to interaction both within the Group and with external stakeholders.

#### Ethics of the Group:

- honesty and objectivity,
- conscientiousness,
- commitment to development,
- respect and trust,
- responsibility,
- care,
- · competence and professionalism,
- patriotism.

For the purpose of implementation of its ethics, the Group is guided by the following principles:

- compliance with legislation of the RK,
- protection and respect for rights and interests of participants and investors,
- respect for rights and interests of employees,
- interaction with business partners based on long-term and mutually beneficial cooperation,
- avoiding conflicts of interest,
- maintenance of confidentiality of the information,

- · protection and use of Group's property,
- responsibility for compliance with safety, health and environmental requirements,
- effective organization, management and control of the Group's activities.
- optimal use of available resources and risk analysis and management.
- compliance with high standards of planning, control and reporting with principle of transparency and strive to safeguard assets, including business information.

Employees are required to report any violations, including issues and situations that may be considered unsafe, unethical or resulting in conflict of interest. Management of the Group undertakes to ensure careful, objective and competent consideration of received reports.

Employees, among other things, may report problems/ violations to Audit Committee of Company's Supervisory Board through ethical hotline:

Phone: + 7 (777) 388-28-33E-mail: z.raimbekov@kus.kz

Auditor of Internal audit department is responsible for processing of information received through hotline and for submission of such information to Audit Committee of the Supervisory Board.

The Supervisory Board shall revise provisions of the Code once every three years, analyze the extent to which they are implemented in practice, and, if necessary, makes proposals to the Executive body for making amendments and/or additions to the Code.



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### Risk management system

Risk management system of KUS Group of Comapnies is based in accordance with the **COSO ERM** international concept and is aimed to risk management and opportunities that significantly effect on creation and preservation of the Group's of Comapnies value. The main purpose of the risk management in the KUS Group of Comapnies is to achieve the greatest earning yield at admission of the controlled risks' level. The risk management is directed at revealing, prevention and minimization of events which may negatively impact on the achievement of the purposes of the Group of Companies.

One of the important elements in the risk management system are the structural subdivisions (hereinafter referred to as SS) of subsidiaries represented by each of their employees. Employees of subsidiaries on a daily basis work with risks, manage them and monitor their potential impact in the sphere of their functional duties. Structural subdivisions are responsible for implementation of the risk

management plan of actions, timely identification and reporting on significant risks in the sphere of their activity and making proposals on risk management including the introduction into the plan of actions

### Principles of building a risk management system

**System approach.** Risk management is an ongoing, dynamic process that is applied to the whole Group and its Companies at each level of management and in each subdivision of KUS and its SSs.

#### Supervisory function of the Supervisory Board.

The Supervisory Board is an active management body of the Company that provides risk management control.

**Responsibility for the risk management.** Each employee of the Group and its Companies is aware of purposes

and tasks of risk management and is aware of his/her personal responsibility with regard to risk management within the scope of his/her authority, competence, and requirements of the Risk Management Manual.

**Separation of decision-making levels.** Decisions to minimize risks are made at different levels of management depending on the significance of risks.

**Reference to targets.** Risk management is used in the development and formation of the Group's of Companies strategy and is carried out on the basis of strategic goals and objectives of specific processes and functions.

**Timely reporting.** The movement of risk information for decision-making is from the lower control levels to higher levels. The prompt provision of information is carried out on a regular basis.

Creation of a corporate risk-oriented culture. Management

of the Group, Internal Control and Risk Management and the SC's Risk Supervisors ensure dissemination of risk management knowledge and skills in the Group of Companies. The KUS Group of Companies is provided with an opportunity for effective information exchange and introduction of communicative norms in the framework of corporate risk management.

The relationship between target categories. Risk management provides the achievement of objectives by one or more separate categories but at the same time overlapping.



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#### Risk management

Risk management system

Principles of building a risk management system

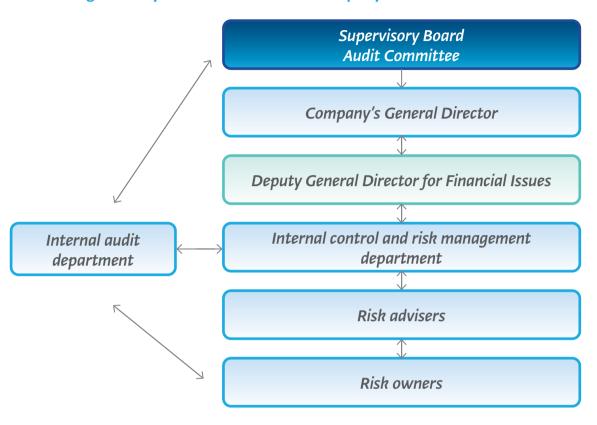
Risk management system structure

in the Company

Internal control system

Risk classification

#### Risk management system structure in the Company



#### **Internal control system**

The internal control system (hereinafter referred to as the ICS) is part of the corporate governance system, covering all levels of management, all processes and operations of the Group of companies. The QMS is integrated into the processes and daily operations of the Group of companies and includes procedures

for immediately informing the appropriate level of management of any significant deficiencies and weaknesses in control, along with details of corrective actions that have been taken or should be taken. Within the framework of updating the ICS, the group of companies conducted design evaluation and testing of the operational effectiveness of control procedures.

### Risk classification

After identifying the sources of risks, risks are identified for each of them, being classified into main 4 categories:

- 1) Strategic risks are the risks of not achieving longterm corporate goals of the Group of Companies due to inadequate monitoring of implementation of strategies, and inadequate response to changing external conditions;
- **2) Operational risks** are the risks of losses arising from deficiencies or errors in the internal business processes of the Group, in actions of employees and other
- persons, in operation of information systems, or due to external influences;
- 3) Legal risks are the risks arising as a result of violation of the legislation of the Republic of Kazakhstan, rules, regulations, prescribed procedures, internal policies, instructions and ethical standards. Legal risks also relate both to objectives in the field of compliance with requirements, and to objectives in preparation of the reporting (reliability and timing);

4) Financial risks are the risks, arising from management of financial resources of the Group of companies, such as monetary funds, investments, debt instruments and derivative financial instruments. They include risks associated with the structure of capital, decrease in profitability, currency fluctuations, interest rates, credit risk, and liquidity risk.

The identified risks are reflected in the Map of risks against their significance:

**Red zone** – risks are critical for the Group of companies **Yellow zone** – the risks with a low probability of occurence

Main risks affecting implementation of business strtegies

			-				
	Name of risk	Description of risk	Key risk management activities				
			<ol> <li>Operation of the Labour Protection and Occupational safety System in accordance with OHSAS 18001.</li> </ol>				
			2. Qualification inspection.				
			3. Work order system.				
			4. Inspection of work places.				
			5. Periodical and obligatory medical examination of employees.				
	Violation of the Labour Protection and Occupational Safety Rules	Inability to provide safe and healthy working conditions	6. Compliance with requirements of the legislation on industrial safety at hazardous production facilities.				
			<ol> <li>Control over conclusion of contracts for compulsory insurance against accidents in performance of labor, official duties; compulsory insurance of the legal liability of the employer – annually.</li> </ol>				
			<ol> <li>Provision of the production staff with milk, provision of water and drinking regime, protective clothing, special footwear, PPE, detergents and disinfectants, first-aid kits, normative and technical documentation (NTD).</li> </ol>				
		Supply problems of heat and power energy due to the equipment failure	Timely detection of defects as a result of inspections of equipment (planned and unplanned).				
			2. Equipment testing.				
			3. Conduction of current, capital and emergency repairs.				
	Technological disturbances		<ol> <li>Implementation of the investment program on modernization and reconstruction of equipment (reduction of equipment deterioration).</li> </ol>				
			5. Availability of an emergency reserve of key hardware.				
			6. Measures to prepare for the autumn-winter period (AWP).				



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The group maintains an open dialogue with all interested parties. Striving for development in harmony with the environment, the Company takes into account the information received from stakeholders and their interests in the course of making key decisions.

Stakeholders largely guide the Group's business strategy. The higher the contribution of stakeholders, the greater the legitimacy and sustainability of the KUS. Interaction with stakeholders allows you to make decisions at both the micro and macro levels. Stakeholders provide useful feedback on the Company's impact on economic, environmental and social issues that affect the group's sustainable development and life in the regions where it operates. Cooperation with stakeholders occurs on a daily basis in the course of the Company's activities.

#### Interaction with key stakeholders



#### **CONSUMERS**

(consumers of all types of products and services of the KUS Group)

#### Our approach

The group supplies power to thousands of private and commercial customers who rely heavily on the reliable operation of the KUS. Interaction helps to better understand customer needs, as well as ways to ensure continuous service improvement. The KCC takes into account the current and future needs of all energy consumers in the regions where it operates.

#### The tools of interaction

Customer feedback system.

#### Expectations and interests

- Uninterrupted energy supply,
- Balanced pricing policy.



#### **OWNERS**

#### Our approach

KUS members own the Company and expect to get a return on their investment. The group strives to maintain a constructive dialogue with participants and regularly interacts with them to understand their long-term vision and ensure that it is taken into account when making decisions. KUS takes care that the corporate management system meets international standards and the wishes of the participants.

#### The tools of interaction

- Work of the Supervisory Board;
- Reporting.

#### Expectations and interests

- Economic performance;
- Long-term sustainable development.

Marketing activity

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Interaction with stakeholder



### WORKERS Our approach

# The KUS Group employs more than 8,700 people. The success of a Company depends on the overall talent, skills, and values of its employees. The Group creates a framework for continuous two-way feedback and engaging employees at all levels on key issues that

affect them. The company strives to be a supportive and attractive employer that people want to work for. We also ensure freedom of participation in collective agreements and receive significant feedback in the course of interaction with trade unions.

#### The tools of interaction

- Internal communication channels;
- Meetings and negotiations with trade union representatives.

#### Expectations and interests

- Ensuring safe working conditions;
- Transparent and effective remuneration system:
- Training and development;
- Non-discrimination.



#### **GOVERNMENT**

Our approach
The KUS works constructively with the government and regulatory agencies. Regulators play a Central role in shaping the energy sector. Their participation is particularly important in creating a sustainable energy system that supports the country's long-term development goals. The KUS ensures high-quality interaction with regulatory authorities to protect the long-term interests of energy consumers and develop in

accordance with the emerging expectations of

Risk

management

#### The tools of interaction

- Working group;
- Conversation;

society as a whole.

- Appeals, inspections by Supervisory authorities:
- Conducting meetings.

#### Expectations and interests

- Support for government policy in the field of energy development;
- Compliance with legislation;
- Growth of payments to the budget.



### SUPPLIERS AND CONTRACTORS

#### Our approach

KUS relies on its supply chain to implement investment projects and ensure successful operations. The Group's goal is to build strong relationships with suppliers and contractors so that they can maximize cost effectiveness and improve positive economic, social and environmental outcomes, which is important for socio-economic development in the regions where they operate and ensure the transition to a low-carbon economy.

#### The tools of interaction

- Conducting meetings and negotiations:
- Conclusion of contracts.

#### Expectations and interests

- Economic performance;
- Term cooperation;
- Compliance with business ethics standards;
- Transparent purchasing practices.



#### **SOCIETY**

#### Our approach

The group is committed to building a responsible business. Mature bilateral relationships with communities in the regions where the company operates become an important basis for corporate strategic decisions in the Company, as well as for making and fulfilling daily obligations to society. The KUS interacts with communities on social, environmental, and other energy and business issues.

The company also ensures effective interaction with the media and strives for maximum openness of its activities.

#### The tools of interaction

- Informing about the Company's activities;
- Conducting meetings;
- The answers to the queries;
- Feedback channel.

#### Expectations and interests

- Social policy and support for local communities:
- Careful use of natural resources;
- The transparency of business;
- Economic performance.

### Marketing activity

Kazakhstan Utility Systems LLP, which is one of the leaders in its segment of activity in the country, pays special attention to the formation and preservation of its positive image, both in the energy market of the republic and among its consumers. Power and heat are socially significant products that affect the complex socio-economic development of the country. Given that the energy industry has always attracted the attention of the public and the media, the Company cultivates an ideology of openness and transparency in all its activities.

In accordance with the media plan of Kazakhstan Utility Systems LLP, various events, as well as information about the current work of the Company, are brought to the public by electronic and print media, as well as through social networks.

The company's information policy focuses on working with regional media, as maintaining a positive image of the company's subsidiaries is primarily important among residents of the regions where the Group operates.

According to the media plan, production activities
(implementation of investment programs, modernization of production, repair campaign of CHPP, construction of new power grids, reconstruction of substations, activities of sales companies and other information events) of subsidiaries of the KUS Group are covered in regional media: TV channel stories, articles in Newspapers and on Internet information portals. Along with this, information about the work of the Company and its subsidiaries is published on the official website of Kazakhstan Utility Systems LLP.

#### The result of targeted PR activities is:

- Favorable level of customer loyalty to KUS LLP and its subsidiaries in the regions where it operates;
- Dynamic increase of brand awareness of "Kazakhstan Utility Systems";
- The ability of consumers and other interested audiences to learn about the events of the KUS Group in a timely manner;
- Increasing the attractiveness of the Company as an employer and the ability to attract qualified personnel;
- Strengthening corporate cohesion, creating and supporting the group's employees' sense of responsibility and commitment to the fundamental values and ideology of the KUS Group.

The Kazakhstan Utility Systems group conducts large-scale work to improve the quality of providing electricity and heat to its consumers, which requires constant lighting in the information field. Among the significant events and facts published in the media that aroused the greatest public interest in 2019:

- Successful implementation of investment programs of KUS group subsidiaries during the year;
- Maintenance campaign of the CHPP in preparation for the upcoming 2019–2020 heating season;
- Modernization of the power grid and construction of new energy facilities by power transmission companies:
- Growth in the number of consumers of sales companies:
- Use of new technologies at the production facilities of the KUS Group:
- Presentation of state and industry awards to employees of the Kazakhstan Utility Systems Group;
- Participation of KUS Group employees in national and regional industry events;
- Strict compliance of the Group's enterprises with the environmental legislation of the Republic of Kazakhstan

The company's image is focused on the current values of the modern society in which KUS operates. Taking these values into account allows us to form an effective policy of interaction with all external and internal contractors: consumers, partners, our own employees, and society. At the same time, given the dynamic situation, KUS is constantly working to adapt its image to the new conditions and needs of the energy market. Forming a positive image of the Company and maintaining it at the proper level is an important task of Kazakhstan Utility Systems LLP, which determines the status of the organization, the success of its activities in the market, the loyalty of consumers and partners, and the competitiveness of the Company's energy products.



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Due to the scale and specifics of its operations, the Group has a significant impact on the quality of life in the regions where it operates. Therefore, much attention is paid to the issues of corporate social responsibility (CSR) in the implementation of operational activities.

#### **Key CSR principles:**

- Quality presentation of services, which, ultimately, is a guarantee of active social and economic development of the areas of presence;
- Fair and timely remuneration of the Company's employees, as well as ensuring safe working conditions and creating all conditions necessary for career growth, personal and professional development of each employee;
- Responsibility for preservation of the environment in front of the government and society as a whole.

CSR principles are observed in all business processes of the Group, are an integral part of business planning and an indispensable tool for preventing abnormal and conflict situations.

The group strives to conduct an open, transparent business, perfectly comply with the legislation of the Republic of Kazakhstan and comply with international CSR standards.

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### **Human Resources Management Policy**

Through effective HR management technologies, KUS strives to create high-quality human resources that meet the Group's strategic goals, strengthen human capital, and create additional competitive advantages for the Group.

#### **Basic principles of Personnel policy:**

- Proactivity.
- Transparency and openness.
- Integration.
- Continuity.
- The motivation of the employees.
- The relationship between the interests and goals of the Group and employees.
- · Communication with employees.
- Personnel support system.

The Group creates conditions for employees' interests in the success of the common cause, encourages their

initiative, and provides opportunities for realizing the potential, career and professional growth in various fields

The purpose of the incentive and remuneration system is to attract, retain and motivate employees to ensure that the Group successfully fulfills its mission and achieves its business goals at optimal cost.

For the effective development of the Company, the human resource management process is integrated with all business processes.

The group respects and values its employees, takes care of them and takes into account their needs and requirements, and contributes to the creation of favorable working conditions that meet the requirements of safety.



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KUS strives to provide open communication with employees. To build effective communication, all channels and information resources in each Company that is part of the Group are used. This ensures that employees are regularly informed about the Group's news, mission, strategy, immediate plans and development prospects. In case of significant changes related to the Group's activities, employees will be informed using information resources, meetings and the Group's internal newspaper.

The system of recruitment and promotion of employees in the Group ensures a high level of professionalism of employees and transparency of recruitment procedures. Career development of employees is carried out on

the basis of an objective assessment of their work results, business qualities and professional competence. The group ensures openness at all stages of the human resource management process.

In the Group, the human resources system is built in accordance with regulatory, methodological and legal documents that regulate and create conditions for its effective functioning. Strict compliance with, implementation and application of the norms of the current Labor Code of the Republic of Kazakhstan makes it possible not to discriminate against employees, and not to allow complaints about the practice of labor relations.

### Number of personnel

The number of employees of the Group as at 31 December 2019 was 8,687.

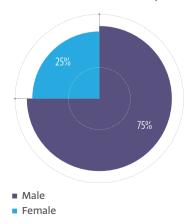
The share of employees under the age of 40 is 51.1% of the total number. The share of employees in the age

category over 60 years is 7.3%. The structure of the Group's staff is characterized by a high proportion of men – 75%. Men in the category of "workers" make up 79% due to the specifics of their activities.

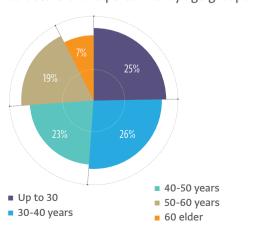
#### Number of personnel by the Group Companies, persons



#### Gender structure of the personnel



#### Structure of the personnel by age groups



#### Staff structure by category

Social group		Chief E	Chief Executives		Specialists, officials		Workers	
		persons	0/ /0	persons	0/ /0	persons	0/ /0	
	Total	635	100	2,012	100	6,040	100	
Age group	Up to 30 years	60	9	437	22	1,674	28	
	30-40 years old	181	29	701	35	1,388	23	
	40-50 years old	165	26	444	22	1,370	23	
	50-60 years old	175	28	351	17	1,110	18	
	Over 60 years	54	9	79	4	498	8	
Gender groups	Men	528	83	1,180	59	4,787	79	
	Women	107	17	832	41	1,253	21	

In 2019, the Group employed 1,591 people, including 1,305 workers, 254 specialists, and 32 managers.

Structure of employed employees in 2019

Social group Total		Chief Ex	Chief Executives		Specialists, officials		Workers	
		persons	0/ /0	persons	0/	persons	0/ /0	
		32	100	254	100	1,305	100	
Age group	Up to 30 years	5	16	128	50	664	51	
	30-40 years old	17	53	78	31	309	24	
	40-50 years old	9	28	31	12	186	14	
	50-60 years old	1	3	17	7	129	10	
	Over 60 years	0	0	0	0	17	1	
Gender groups	Men	22	69	134	53	1,090	84	
	Women	10	31	120	47	215	16	

The turnover rate in the Group of companies for 2019 was 17.03%, which is 3.15% higher than in 2018. The reasons for increase in turnover were the relocation of employees to another place of residence, or entering a high-paying job in other organizations.

In order to reduce the turnover rate, the following measures are being taken:

- material and non-material incentives for qualified employees;
- improving the conditions of social guarantees in accordance with the collective agreement;
- stable economic environment in the Group of companies;
- healthy psychological atmosphere;
- opportunity for career growth.

#### Staff turnover in 2019

Total:	1,479	100	1,175	79	304	21
Workers	1,113	75	930	63	183	12
Specialists, officials	313	21	201	14	112	8
Chief Executives	53	4	44	3	9	1
	Person	0//0	male	0/	female	0/
Category of personnel		Total		From them:		From them:
2						



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#### Staff training and development

Professional development of employees is carried out through the processes of career planning, personnel reserve management.

The personnel training system is aimed at providing employees with the theoretical knowledge and practical skills necessary to achieve the Group's strategic goals.

#### Main goals of training:

- improving the efficiency of the staff;
- ensuring the professional level of staff required by the position;
- ensuring the accumulation and transfer of knowledge within the company:
- increase employee loyalty to the company;
- preparation of the personnel reserve.

For the purpose of a structural approach to staff training and development, an Annual training plan for a calendar year is approved. The plan includes training related to professional development, training for a profession, recertification, obtaining a related specialty to ensure timely training of new personnel and performance of work.

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In 2019, 6,107 people were trained, which is 70.3 % of the total number of employees, including 3,107 people of production staff who completed mandatory training, which was 50.88 % of the total number of employees who completed training.

In 2019, the total cost of training amounted to 39.1 million

#### Employees trained in 2019

Category of personnel	Men	Women	Subtotal
Chief Executives	554	86	640
Specialists, officials	639	180	819
Workers	4,255	393	4,648
Total	5,448	659	6,107

#### Training information

Category of personnel		Total number of training hours		Average number of training hours per employee		
	Total	Men	Women	For all employees	Men	Women
Chief Executives	21,309	18,823	2,486	33,3	34,0	28,9
Specialists, officials	23,080	16,963	6,117	28,2	26,5	34,0
Workers	142,207	131,118	11,089	30,6	30,8	2,4
Total	186,596	166,904	19,692	30,6	91,3	65,3

#### **Attracting young professionals**

The Group supports mentoring as an effective measure to improve professional skills, especially for young professionals. Specialists train and share their accumulated skills and knowledge with their colleagues.

For these purposes, each student and new employee is assigned a mentor, according to the agreements on dual training, the program of personnel adaptation within the Group.

In total, the Group employs 1,378 young professionals. 443 people were recruited in 2019.

Structure of accepted young specialists in 2019 by education

Subtotal	443	100%
Secondary education	142	32%
Higher education	127	29%
Technical/professional	174	39%

The group conducts activities aimed at attracting young professionals to achieve an optimal combination of young initiative workers and experienced, highly professional employees.

For example, every year in November, Ust-Kamenogorsk CHPP LLP holds a competition "Best young employee of the year". Young professionals present their presentations containing the following information: the specifics of their immediate work, a description of the workplace, and suggestions for improving and improving productivity. Each presentation is evaluated by the Commission members on a scale from 1 to 10 points, and during a constructive conversation with the contestant, they ask questions about their professional activities. The results of testing and presentation are entered in the competition list and signed by the contestant and the judging panel. According to the results of two competitions, prizes are distributed. Such events have a beneficial effect on the desire of young professionals to develop professionally and see new horizons for building a career within Companies.

#### Motivation and remuneration of staff

Remuneration conditions in the Group are set in such a way as to motivate employees to perform effectively and must be competitive in order to attract highly qualified specialists. The remuneration system is transparent and clear.

In 2019, the average salary increase in the Group was 6.5%. The Group has a flexible payment system aimed at meeting the key performance indicators of each employee on a monthly basis. This payment system allows you to encourage employees to work effectively, bring innovations to everyday activities to increase productivity.

The percentage of deviation of the base rate for men and women on average is 45.85% due to the specifics of the activity.

#### Base rate ratio in 2019

Staff category			Base rate ratio		
	male	female	% deviations		
Executives	603,403	459,586	43		
Specialists	171,456	167,745	49		
Workers	120,280	97,828	45		

#### Non-financial motivation

Every year, events are held to award awards, certificates of honor, and titles in order to increase motivation for effective work and encourage employees to achieve high production results in the group's subsidiaries.

At the end of 2019, 367 employees were awarded for their effective work. Corporate awards have been allocated 244 employee state awards to 44 employees, the award-winning CIS electric Power Council – 12 employees, award-winning KEPA – 69 employees (of them awarded the title "Merited power engineer" – 11 employees, the title of "Honorary power engineer" – 19 employees, diplomas – 39).

#### Social support for the Group's employees

The main and most valuable resource of the group of companies Kazakhstan Utility Systems are our employees. The company has implemented a number of measures aimed at ensuring decent working conditions and developing a system of motivation, as well as social support

The social package for the Group's employees includes:

- Provision of social leave and financial support to employees in the event of marriage or death of close
- Health protection of employees, prevention of diseases and provision of medical assistance to employees, accident insurance;
- Preserving and enhancing the experience and traditions of power engineers, developing sports in the workforce of the Group of companies with the involvement of family members of employees;
- Cash bonuses in honor of a professional holiday, payment of bonuses at the end of the year and according to the personal merits of employees to the Group of companies;
- Partial compensation for the cost of lunch for employees of the Group of companies.

For the Group of companies in 2019, the total number of employees who took social leave to care for a child before the age of 3 (three) years was 121 people (including 2 men). Of these, 46 employees have started performing their work



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## Interaction with trade union organizations

The Group of companies has established and operates trade Union organizations and concluded collective agreements to ensure social protection of employees. In 2019, 5,613 employees were members of a trade union and were covered by Collective agreements – 63 % of the total number of employees of Companies.

In the Group of companies, collective agreements provide social guarantees and benefits for employees who are members of a trade union, their family members, as well as pensioners and veterans of enterprises, namely:

- financial assistance in connection with the death of a close relative, the birth of the first child, treatment, anniversary, retirement;
- payment of 50% for health resort treatment:
- payment of 50% of the cost of vouchers to children's health camps;
- new year gifts, gifts for March 8, Nauryz;
- if the Company is in a positive financial condition, payment is made for the rental of gyms, swimming pools, wellness events and services;
- if there is a net profit, it is possible to provide interestfree loans to employees in need to improve their housing conditions:
- providing a one-day vacation on the "Knowledge Day" for employees-parents who bring up children studying at elementary school;
- additional paid leave for single parents; mothers who are not married and raising a minor child; who have a large family, i.e. a family with four or more minor children living together; victims of nuclear tests at the Semipalatinsk nuclear test site (upon presentation of the appropriate certificate); who are raising a disabled child-one of the parents.
- ocial leave with the preservation of average earnings when registering a marriage; the death of close relatives; the birth of a child; on the "Day of knowledge" to one of the parents (guardian);
- payment of a one-time benefit to an Employee (or members of his family at his death) who suffered as a result of an accident related to production and issued an accident report in the form determined by the authorized labor body, and establishing the degree of fault of the Employer - 100%.

• material social assistance in the following cases, not related to the production, provided documentary evidence: in case of death of an Employee his family members; to Employees in difficult situations (serious illness or operation, accident, fire, and etc.); Workers in case of death of relatives; to Employees upon dismissal at retirement age; 1 time per year, with the acquisition of the trade Union group of vouchers to rest homes, or vouchers for health resort treatment of Employees or improvement of their children in children's camps located on the territory of the Republic of Kazakhstan the payment is equal to 50% of the tour price, but not more than 10,000 tenge in the provision of trade Union of the relevant documents; in the birth of children to treatment and medical services.

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- drivers are charged extra fees for their qualifications;
- educational leave is provided for the preparation and passing of exams for students studying in educational organizations in specialized energy specialties;
- at the same time, including employees in the following cases: at the end of the year, for years of service: for the uninterrupted supply of electric power to consumers in the autumn-winter peak load (working capacity); for economy of materials; for performing particularly important tasks; and to significant anniversaries, government holidays of Kazakhstan.

## **Health and safety**

One of the main business principles for the Group is to prioritize the life and health of employees. The main goal is to avoid accidents with employees of the Company and

The management of Kazakhstan Utility Systems LLP adheres to the following principles in the field of health and safety:

- We put the safety of station employees and contractors
- We comply with the requirements of the legislation of the Republic of Kazakhstan and support continuous training, improving the culture of employee safety.
- We strive to preserve the health of every employee.
- We openly talk about the company's activities in the field of health and safety.

All personnel of the OS services of subsidiaries are competent, qualified specialists, most of whom are certified under the IMS system: OHSAS 18001, ISO 14001, ISO 9001, IOSH and Nebosh international standards. Also, our specialists constantly undergo advanced training at various special courses and trainings in the area of OS and EP. Specialists participate in the HSE activities of various levels.

Protecting employees from injuries and occupational diseases is an integral part of risk management and is coordinated by senior management. In 2019, no accidents were registered at the Group's enterprises.

## **Labour Safety System**

- Kazakhstan Utility Systems LLP adheres to the policy of zero tolerance for violations of the fundamental (basic) rules and norms in the area of labor safety and health. The zero tolerance policy is a certain level of responsibility for violation of the basic rules of OS, up to and including termination of the contract (employment contract or contract with the contracting organization). Violation of the cardinal rules, the identification of the fact of the use of alcoholic beverages (the presence in the blood above zero ppm) are grounds for resolving the issue of termination of an employment contract. Measures for violation of safety and environmental protection rules for the employees of contractors are defined in the standard HSE Annex for works / services on the customer's territory. Each employee must comply with and require from others to comply with all laws and regulations on labor safety and accident prevention that are enacted at the enterprise
- The right to suspend work is a process that empowers every employee of a subsidiary and contracting organization with the authority to stop work as soon as a situation is noted which is, in his opinion, unsafe. The right to stop work also includes the obligation of all employees and contractors to stop their work as soon as an employee or contractor asks to do so, applying the right to stop work. A shutdown is considered the last chance to prevent incidents and, consequently, serious injuries and deaths. As soon as the right to stop work was applied, the work shall be immediately suspended, the reason for the work stoppage shall be explained, work safety analysis shall be carried out in order to identify and determine, if necessary, additional control measures to reduce risks. Employees are encouraged and thanked for the identified risks and the suspension of work for the sake of safety.

- **Preventive safety** use of a work safety analysis form to assess risk to qualitatively study each stage of work, identify existing and potential hazards and risks at each stage of work, and identify risk control measures to reduce and eliminate hazard and risk.
- Check-lists of hot works, work at height, HD, works in confined spaces, and so on.
- 1C: Safety Walk (Ust-Kamenogorsk CHPP LLP) is a program for registering rounds in the area of HSE. The process of rounds by employees of the enterprise, as well as the results achieved, are entered into the registration program of Safety Walk to identify unsafe actions and conditions at crew workplaces, as well as to keep records of the detected violations.
- Application of the LOTO system. Every year, thousands of workers in various industries are killed or injured during repair or maintenance of industrial equipment under the accidents with an uncontrolled supply of energy. The LOTO system is a monitoring system for hazardous energy sources in order to ensure the safety of people, to protect the equipment, to ensure its uninterrupted operation. The system is based on the processes of multiple inspections of each important stage of control of hazardous energy sources carried out by competent and authorized persons in order to ensure proper disconnection from hazardous energy sources. The LOTO is recommended for use by the International Labor Organization (ILO) as the most effective system of industrial safety during repair and maintenance work, which makes it possible to almost completely eliminate the risks associated with human factors, while providing equipment and blocking the supply of dangerous energy.
- Annual purchase of suits for protection against electric arc. The set is selected in accordance with the nature of the hazard and operating conditions. The set includes: a jacket made of fire-resistant material, a suit or overalls made of fire-resistant material, heatresistant gloves, heat-resistant helmet with a protective screen for the face, a balaclava.
- Sets for protection against the effects of an electric arc provide a chance to save lives and to preserve health during erroneous actions of operating personnel, as well as in emergency situations and allow to extend the time of evacuation from the danger zone. Also, protection sets help to reduce the likelihood of accidents in organizations of the power industry, including fatal ones.



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## Corporate social responsibility

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- Conducting monthly OS and environmental
  - days is one of the opportunities for staff training, practical skills training, as well as informing staff on the importance of issues in the area of labor safety, occupational safety and environmental protection in their daily work.
  - Safety days are also an opportunity to get feedback on the effectiveness of measures taken to improve the safety culture and ecology. At the beginning of the calendar year, a schedule of days for OS is drawn up, which is approved by the plant management and includes the most topical topics on labor safety and ecology in the area of energy and related production areas. The schedule is drawn up in such a way that employees of all structural divisions of the enterprise and employees of contracting organizations performing work at the enterprise take part in the events every month
- Training in the CTC (Ust-Kamenogorsk CHPP). A large
  role in the training of personnel and contractors is
  played by the Corporate Training Center (CTC). It is
  worth noting training of the contracting personnel.
  Operating and construction contractors form a
  large part of the Company's team, and it is critically

important that they share the safety culture of the Group. Training in the CTC is a kind of foundation from which all further work begins with the employees of contracting organizations.

- Weekly issue of the HSE newsletters.
- Conducting testing during the qualifying exams under the program.

### **HSE Bonuses**

The quarterly OS bonus for the personnel of the enterprise is given in case of absence of accidents with employees of the enterprise and contracting organizations. In order to motivate contractors personnel to work safely, the Company reserves the right to determine the best contracting organization or employee of the contracting organization for a certain period of time and to provided bonuses.

### Certification

The Kazakhstan Utility Systems LLP group of companies is certified for compliance with the ISO 9001 quality management system, ISO 14001 environmental management, and OHSAS 18001 environmental safety.

# Corporate event

Employees of the Group of companies annually take an active part in professional, as well as sports and Wellness events held at the Company level separately, as well as at the regional and regional levels.

According to a long-standing tradition, **Karaganda Energocenter LLP** took part in citywide events dedicated to the celebration of Nauryz meiramy in 2019. Festive events were held in the city Park, the alleys of which became an aul. Installed yurts became a real decoration of the celebration. The Yurta of Karaganda Energocenter LLP houses the exposition of the regional historical and local history Museum, which turned out to be lively and informative. There were installed exhibits-household items, and Handicrafts that appeared not as silent artifacts: visitors were shown how they used to farm, prepare flour, and make skins. The company's girls in national costumes were recognized as the most beautiful.

In turn, **KaragandyZhyluSbyt LL**P congratulated consumers and treated them to national dishes. In the foyer of the enterprise, a dastarkhan was laid for all consumers who came that day, and in the office courtyard, a huge samovar, placed on splinters, blew smoke from the chimney. The celebration of the national holiday in KaragandyZhyluSbyt LLP was accompanied by fun songs, dances and playing musical instruments. Veterans of the energy sector of the Karaganda region were invited to the celebration.

In General, the team was divided into 4 villages – Sary ARKA, AK Otau auyly, Birlik auyly, Dostyk auyly. Each of the villages presented their own musical, yocal and dance numbers.

The solemn part of the celebration of Nauryz meirama was held in The Company's gym, national sports competitions were organized, such as asyk ATU, oktau tartys, lifting weights and Arkan Tartu. Each of these games was

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particularly interesting, but otou Tartu more interesting, as there were involved women. Not without Arkan Tartu, where men already performed. All participants of the concert program received certificates of honor and gifts.

On March 27, 2019, Zhaksylyk Omar, Akim of
Ust-Kamenogorsk, presented a letter of thanks to
Ust-Kamenogorsk CHPP LLP for active participation
in the celebration of Nauryz Meiramy. The Yurt of UstKamenogorsk CHPP LLP was designed in the theme of
"Equestrian culture", in this connection, it presented
attributes from the life of nomads: jargak shalbar, tone
(rider's clothing), Kamcha, bridle, saddle, and so on.
Also, the hunter's feathered pet, the Golden eagle, took
its place in the Yurt. In addition to hundreds of citizens,
the Yurt was visited by the mayor of East Kazakhstan region
Danial Akhmetov and the mayor of Ust-Kamenogorsk
Zhaksylyk Omar, who appreciated the stylized Yurt of UstKamenogorsk CHPP.

On April 19, **Karaganda Energocenter LLP** organized a visiting donor Day together with the Karaganda regional blood center.

On May 16, **Ust-Kamenogorsk CHPP LLP** power engineers held an environmental action. As part of the campaign, the station employees planted more than 200 elm seedlings, and also cleaned the surrounding area. Participation in such actions is a good tradition for power engineers of Ust-Kamenogorsk CHPP LLP.

**Karaganda Energocenter LLP** took part in the environmental challenge "Birge – Taza Kazakhstan!" and actively supported this environmental movement.

Energy companies have made their contribution by taking part in the eco-challenge. Employees of the energy-producing company went on a subbotnik and liquidated a spontaneous dump in the area of Bolshaya Mikhaylovka, on Mostovaya Street. During the subbotnik, employees of Karaganda Energocenter LLP manually collected 125 bags of garbage, and with the help of motor vehicles loaded and removed 96 cubic meters of solid household waste.

Employees of **Ust-Kamenogorsk CHPP LLP** took part in the regional festival "ZAVODNAYA MOLODEZH-2019", the event was held within the framework of the year of youth in Kazakhstan and the "Rukhani Zhangyru" government program. The festival was attended by teams consisting of working youth from different enterprises of the region.

titing, In honor of the children's protection Day,

KaragandyZhyluSbyt LLP held a competit

to of

KaragandyZhyluSbyt LLP held a competition for children's drawings on the theme "Summer" for the first time. The art competition was attended by 30 children of employees in two categories: from 3 to 6 years, and from 7 to 10 years. For two weeks, participants drew with watercolors, gouache, colored and simple pencils. They presented whole story compositions in drawings: children depicted the sea, fishing, camping, boating. As it turned out, young artists in the summer not only relax and have fun, but also help their parents in the country and garden, play sports. The results of the competition were summed up on May 31. All the works submitted to the jury were reviewed with great interest. Each work was special, distinguished by its originality and spontaneity. The greatest activity was shown by the children of the employees of the plots. Each drawing met the criteria of the competition, and in its own way colorfully revealed the theme. The winners received certificates and gifts, and each contestant received a consolation prize – a set of pencils and drawing albums.

On June 1, **Karaganda Energocenter LLP** held a Children's holiday for young residents of Karaganda. The celebration took place in the Karaganda theater of Musical Comedy. An entertainment and animation program was held here on the square. The children were met by animators-heroes of their favorite cartoons. Children were waiting for quizzes, riddles, unusual contests, and a dance flashmob.

On Sunday, June 16, the team of Cycling enthusiasts of Karaganda Energocenter LLP took part in the annual festival of Cycling culture and healthy lifestyle "VeloSiti 2019".

Young specialists of Karaganda Energocenter LLP became participants of a field camp within the framework of the year of youth. The Grand opening of the Youth trade Union camp was held at the Cosmonaut recreation center in Temirtau. This is the first dialogue platform organized by the youth Council "Keleshek" at the trade Union center of the Karaganda region, designed to discuss topical socioeconomic issues of concern to young Karaganda residents.

On June 5, the volleyball team of **Ust-Kamenogorsk CHPP LLP** became the first two-time champion of the Ust-Kamenogorsk business League. Nine teams took part:

Ust-Kamenogorsk CHPP LLP, 1C-Rating LLP, Trial LLP,
Orica-Kazakhstan LLP, Ust-Kamenogorsk Titanium and
Magnesium Combine JSC, volleyteam, Volleyplus Squadra,
Bakyrchik Mining Enterprise LLP, the Eastern technical and humanitarian College.



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On June 27, the volleyball team of Ust-Kamenogorsk CHPP LLP took the second place in the beach volleyball tournament.

June 22–23 – volleyball Tournament was held among employees of the largest industrial enterprises of Ust-Kamenogorsk.

On August 16, the team of Ust-Kamenogorsk CHPP LLP won the city beach volleyball tournament, organized on the sandy grounds of the Aina recreation center of the Bukhtarma reservoir. Ten teams participated in the tournament: "Orica". "Trial". "Nomad". "Energia" (team of Ust-Kamenogorsk CHPP), "Avtomobilist", "Safari", "CSKA", "1-C rating", "Traktor", "TMK" (Titanium-magnesium plant).

In October, 9 employees of **Karagandy Zharyk LLP** took part and took second place in the Republican professional competitions on the basis of Mangistau Regional Electricity Network Company JSC.

On November 16, Ust-Kamenogorsk hosted the traditional annual chess tournament within the framework of the 45th Spartakiad of power engineers of the East Kazakhstan region, which was attended by almost all energy companies in the region. The team of Ust-Kamenogorsk CHPP LLP took the first place in the tournament.

On December 5, the team of Ust-Kamenogorsk CHPP LLP won the first place in the regional volleyball tournament among power engineers. In addition to Ust-Kamenogorsk CHPP LLP, teams of such energy enterprises as Teploviye seti JSC, Shulbinskaya APS LLP, Ust-Kamenogorsk APS LLP, Sogrinsk CHPP LLP took part.

On December 24, an employee of Ust-Kamenogorsk CHPP LLP entered the top three in the competition for the best young power engineers in the East Kazakhstan region. KEGOC JSC hosted the contest "Best young employee in the power industry of East Kazakhstan region", which was attended by young employees of such major

energy enterprises as KEGOC JSC, Ust-Kamenogorsk CHPP LLP, VK REC JSC, Ust-Kamenogorsk APS LLP, and others.

According to the results of the corporate competition "Best young employee of Ust-Kamenogorsk CHPP-2019", employees of the Partnership took first and second place.

On December 12, 2019, on the eve of the energy Day in Kazakhstan, KaragandyZhyluSbyt LLP held a competition on professional skills "The Best controller for energy supervision KaragandyZhyluSbyt LLP". The purpose of the competition is to improve professional skills among energy supervision supervisors, improve the image of the profession, develop mentoring and training methods, and strengthen the corporate spirit in the Company. Each of the participants presented their own division and prepared carefully. Thanks to this competition, each participant has a great opportunity to demonstrate their skills and professionalism, to show the result of teamwork. Participants of the competition represented 5 divisions of the Company – Maikuduk, Central, South-Eastern. Prishakhta sections, and the technical sector for servicing legal entities. According to the results of 4 stages of the competition, excellent preparation and high creative abilities of participants, a creative approach to completing homework were noted.

Every year to celebrate the professional day of the power Engineer in Ontustik Zharyk Tranzit LLP, Energopotok LLP, internal sports competitions are held in various sports, among which are popular: volleyball, table tennis, (triathlon), (shooting), mini-football, swimming, chess, fishing. In December, the XV Republican competitions of professional skills among operational and repair personnel for the operation of distribution networks, as well as a children's poetry contest of their own composition on the theme "Electrical safety at home and on the street!" among schoolchildren.

# Charity and sponsorship

The group of companies is an active participant in social projects aimed at supporting the population in the regions where it operates.

In 2019, Raschetnyi servisnyi center LLP provided benefits for electric energy consumption within the framework of a Memorandum with local Executive bodies to provide charitable assistance to veterans of the World War II.

Every year on the eve of May 9, Ontustik Zharyk Transit LLP holds a solemn event with financial incentives to honor participants of the great Patriotic War, the war in Afghanistan, participants of the labor front and persons equated to them.

On the eve of May 9, Karaganda Energocenter LLP congratulated veterans of the World War II and home front workers who dedicated their lives to the development of energy in the region after the war with the holidays defender of the Fatherland Day and the great Victory Day. 30 veterans received a gift of monetary assistance and cards with warm greetings.

From year to year, on the eve of May 9, Ontustik Zharyk Tranzit LLP holds a solemn event with financial incentives to honor participants of the great Patriotic War, the war in Afghanistan, participants of the labor front and persons equated to them.

Also, in honor of the celebration of the day of the elderly of the Republic of Kazakhstan, a one-time incentive is paid to all non-working pensioners of the Partnership, the action is held every year.

Every year, Kurban-Ait provides financial assistance from the funds of the Partnership to 10 poor families in the Suzak district and an orphanage located in the Sairam district of South Kazakhstan region.

Every year MRENC JSC provides assistance to poor families, veterans of the great Patriotic war, Afghan soldiers, as well as labor veterans and pensioners who previously worked in the energy sector. Charitable assistance was provided to the Corporate Fund "Fund for support of disabled children",

financial assistance to the pupils of Shkolnik Center, charitable assistance to "KASPIY" football club, took part in a citywide clean-up. The employees of Mangistau distribution power grid company JSC took part in the campaign of blood donation. Also, we carried out repair work in the historical object – the "Olzha Kyz" mausoleum.

Every year in October, Energopotok LLP provides financial assistance to former employees-pensioners of the Company in honor of the celebration of the "Day of the elderly".

For the holiday of June 1 – children's day. KaragandyZhyluSbyt LLP provided sponsorship assistance to large families, children with disabilities of employees. Gifts were collected (dolls, balls, soft toys), as well as fruit baskets (apples, pears, bananas).

We also provided sponsorship to the children of the baby House in the form of fruit baskets.

In July 2019, Energopotok LLP provided financial assistance to the Company's employees who were affected by the emergency situation in Arys, and The Company's staff took an active part in charity fundraising to provide material assistance in the form of food and first-aid kits, clothing and

In August, Karagandy Zharyk LLP provided sponsorship to the Saken Seifullin Foundation.

On August 22, KaragandyZhyluSbyt LLP held a charity event dedicated to the day of celebration of Kurban Ayt and the Day of knowledge. During the campaign, 55 children received backpacks with school supplies. They were mostly children from large families of employees and families with disabled children. Students who received gifts were satisfied, and parents expressed their gratitude.

In October, Ust-Kamenogorsk CHPP LLP provided annual assistance to the Abode veterans' Home located in the village of Tarkhanka. The company donated 14 tons of coal to the institution.



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Karaganda Energocenter LLP

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**Energy saving** 

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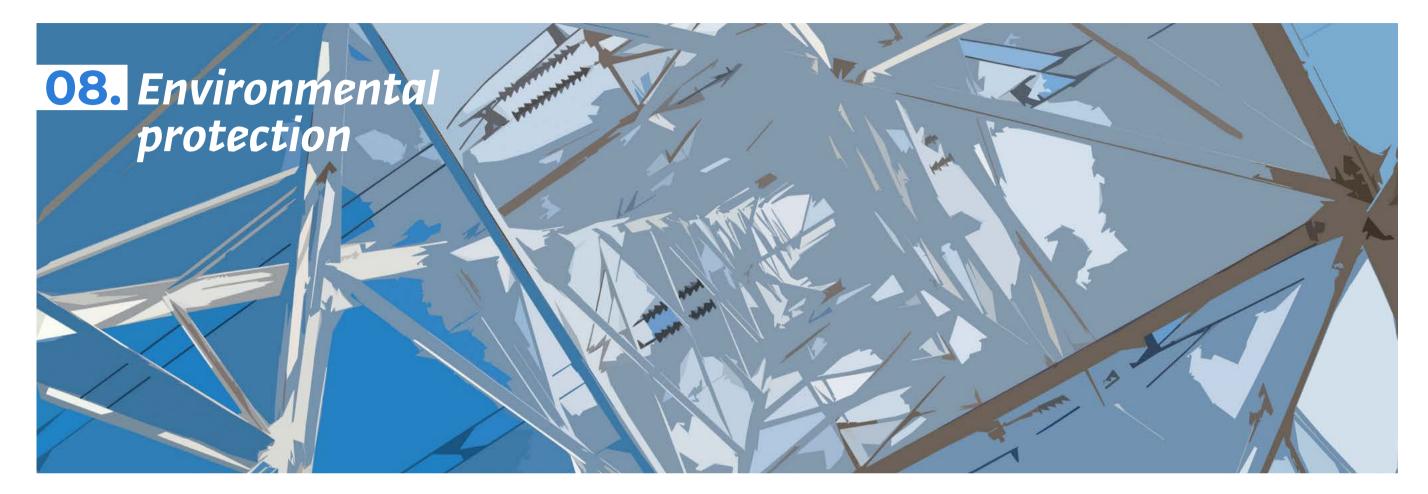
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The most noticeable impact on the environment has the coal generation of energy. In accordance with the principle of materiality in disclosing information, in this annual report, the Company discloses environmental protection issues with regard to subsidiary energy generating assets.

# Karaganda Energocenter LLP

Karaganda Energocenter LLP views environmental protection activities as an integral part of its daily work, fully recognizing the need to maintain environmental balance and ensure environmentally sustainable social and economic development of society. In 2018, the company successfully confirmed compliance of the current environmental management system with the requirements of ISO 14001.

Responsible attitude to the environment is the key principle of the Environmental Policy of Karaganda Energocenter LLP. The objectives of this policy are to minimize the negative impact on the environment, increase the level of environmental safety, responsibility for ensuring environmental protection, energy saving and rational use of natural and energy resources in the activities of the enterprise. The management of Karaganda Energocenter LLP assumes responsibility for implementation of the commitments made by the Environmental Policy to continually improve policies and prevent pollution, as well as to comply with applicable legal and other requirements to which Karaganda Energocenter LLP relates in its environmental aspects. Each employee of the Company, as well as an employee of contracting organizations

working in the interests of the Company, is familiar with the Environmental Policy of Karaganda Energocenter LLP.

Karaganda Energocenter LLP annually forms the Environmental Program, which defines the necessary environmental measures, as well as the costs of their implementation.

In 2019, the following measures were taken to protect the environment by the company itself and the third-party organizations:

### Karaganda CHPP-1

- Operating and commissioning tests of DCS of boilers BKZ-50 No. 1–5 and PTVP-100 No. 1–3;
- Revision and repair of worn-out units, removal of suckers on the control UNIT of boilers BKZ-50 №1–5;
- Revision and repair of worn-out units, removal of suckers on the control UNIT of PTVP-100 boilers № 1–3;

- Monitoring of impact on atmospheric air at the border of sanitary protection and residential zones;
- Carrying out instrumental and laboratory measurements of emissions of harmful substances into the atmosphere from boilers BKZ-50 and PTVP-100;
- Periodic watering of the territory of the works performed on the ash dump using special vehicles;
- Rational use of water resources, reducing the risk of excess water losses;
- Dust suppression of section 2 of the dry storage ash dump with the development and transportation of
- Extending the life of the ash dump with the GZU system:
- Soil cover monitoring;
- Dust suppression in the development of ash and slag waste from the existing ash dump No. 1 with the GZU system loamy soil;
- Disposal of waste to interested individuals and legal entities for processing, disposal and disposal;



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## Environmental protection

Karaganda Energocenter LLP Ust-Kamenogorsk CHPP LLP Energy saving

- Conducting radiation quality tests of ash and slag waste, fuel oil and coal;
- Repair and revision of clarified water pumps;
- Repair and partial replacement of KVC shut-off valves.

### Karaganda CHPP-3

- Repair and partial replacement of burner devices on the boiler unit:
- Revision, replacement of worn-out components, removal of suckers on ash collecting plants;
- Instrumental measurements of emissions of harmful substances into the atmosphere from the station's boilers:
- Monitoring of impact on atmospheric air at the border of sanitary protection zones:
- Maintenance and inspection of the stationary gas analysis complex SGK-509;
- Steam irrigation to reduce emissions from coal transfer:
- Mode-setting tests of ash-collecting installations;
- Disposal of waste to interested individuals and legal entities for processing, disposal and / or disposal;
- Conducting radiation quality tests of ash and slag waste, fuel oil and coal:
- Revision and repair of the steam-spraying plant on belt conveyors;
- Repair and partial replacement of burner devices.

The risk management system is successfully operating, aimed at ensuring continuity and stabilization of activities by limiting the degree of impact of internal and external negative factors on the activities of Karaganda Energocenter LLP. In order to prevent a negative impact on the environment, an annual assessment of environmental risks is carried out and measures are taken to reduce them, which, by the end of 2019, were fully implemented.

When considering construction projects, reconstruction, modernization of equipment and facilities of Karaganda Energocenter LLP, an assessment is made for the completeness of all types of environmental impact and the development of measures to reduce them.

All the environmental risks of Karaganda Energocenter LLP in 2019 were under controlled conditions, the specification of risks is defined in the register of environmental aspects of the enterprise.

The dimensions of the sanitary protection zones of CHPP-1 and CHPP-3 are determined in accordance with the sanitary and epidemiological requirements for the establishment of

a sanitary protection zone of production facilities, approved by order of the MNE RK No. 237 dated March 20, 2015. Based on these rules, CHPP-1 belongs to the enterprises of the  $2^{nd}$  hazard class with an area of the sanitary protection zone (SPZ) -500 m. CHP-3 belongs to the enterprises of the  $1^{st}$  hazard class with an area of the sanitary protective zone (SPZ) -1,000 m.

On the basis of Article 40 of the Environmental Code of the Republic of Kazakhstan and in accordance with the sanitary classification of industrial facilities of the CHPP-1 and CHPP-3 industrial sites, they are classified as the 1<sup>st</sup> category.

## **Atmospheric air protection**

Karaganda Energocenter LLP is a large user of natural resources and has a significant impact on the atmospheric air of Karaganda.

In accordance with the requirements of the environmental legislation of the Republic of Kazakhstan for CHPP-1 and CHPP-3, regulatory documents (MPE, EIA) were developed and maximum permissible concentrations (MPC) were established.

To reduce the anthropogenic impact on the environment, all boilers of CHPP plants are equipped with an ash collection system. The implementation of measures for the reconstruction of ash collection facilities has significantly reduced ash emissions.

In accordance with the requirements of the Technical Regulations, a stationary gas-analytical complex is installed at the boilers of CHPP-3, which allows for continuous monitoring of the concentrations of harmful substances in the flue gases at each boiler unit.

In order to comply with the requirements of the environmental legislation of the Republic of Kazakhstan and maintain project emissions of pollutants at CHPP-1 and CHPP-3, operational monitoring is performed, which includes: calculation of emissions into the environment from stationary sources, recording of products, consumption of raw materials and materials, hours of work of each piece of equipment, the quality and composition of the burned fuel.

Gross emissions from stationary sources in 2019 amounted to 37,688 tons with the established standard of 46,394 tons

According to the Code of the Republic of Kazakhstan "On taxes and other obligatory payments to the budget", emissions from mobile sources are not calculated, the amount of fuel used is the basis for calculations of payments for emissions from mobile sources. Transportation of workers, raw materials, materials used for the Company's activities and performance of work is carried out over short

distances and does not have a significant environmental impact.

In 2019, tax payments for pollutant emissions from stationary sources amounted to 275.6 million tenge, from mobile sources (transport) – 855.2 thousand tenge.

Types of emissions (tons / year)	2017	2018	2019	
Karaganda CHPP-1				
Total, including:	2,700.496	3,220.002	3,127.648	
Ash (inorganic dust SiO2-70-20%)	528.749	609.290	570.604	
Nitrogen oxides (NOx)	366.261	381.310	442.226	
Sulfur dioxide (SO2)	1,579.958	1,972.691	1,851.133	
Carbon monoxide (CO)	72.963	105.691	106.695	
Other	152.565	151.020	156.99	
	Karaganda CHPP-3			
Total, including:	30,267.124	32,838.118	34,529.684	
Ash (inorganic dust SiO2-70-20%)	5,188.492	5,346.376	5,180.189	
Nitrogen oxides (NOx)	8,785.880	8,801.135	9,521.171	
Sulfur dioxide (SO2)	15,638.848	17,927.338	19,013.234	
Carbon monoxide (CO)	515.198	463.489	512.570	
Other	138.706	299.780	302.52	
Total for Karaganda Energocenter LLP	32,967.620	36,058.120	37,657.332	

In accordance with the requirements of the environmental legislation of the Republic of Kazakhstan, an inventory of greenhouse gas emissions from burned fuel (coal, fuel oil) was carried out at CHPP-1 and CHPP-3 in 2019.

The verified reports were submitted to the authorized bodies in the field of environmental protection within the established time frame.

For 2019, Karaganda Energocenter LLP was thrown into the atmosphere 5,851,953 tons (expressed in CO2) greenhouse gases, including:

### Karaganda CHPP-1:

- carbon dioxide (CO2) 382,041,172 tons;
- methane (CH4) 2,694 tons (expressed in CO2 57);
- nitrous oxide (N2O) 5,143 tons (expressed in CO2 11,605).

### Karaganda CHPP-3:

- carbon dioxide (CO2) 5,443,585.35 tons;
- methane (CH4) 38,799 t (t EQ. CO2 843);
- nitrous oxide (N2O) 76,973 tons (expressed in CO2 24,677).

As a result of its activities, Karaganda Energocenter LLP does not emit ozone-depleting substances that affect climate change.

### **Waste management**

In the course of production activities at CHPP-1 and CHPP-3, industrial and household wastes are generated, which are related to green and amber hazard levels.

In accordance with the requirements of the environmental legislation of the Republic of Kazakhstan for CHPP-1 and CHPP-3, regulatory documents on waste management were developed (LRW, waste management program, hazardous waste passports).

Enterprises generate more than 28 types of waste. In 2019, a total of 1,477,578.885 tons of industrial and household waste were generated at CHPP-1 and CHPP-3.



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### Environmental protection

Karaganda Energocenter LLP Ust-Kamenogorsk CHPP LLP Energy saving

### Volume and types of waste generated in 2019

Waste of the amber hazard level	Waste of the green hazard level
50.636 tons	1,477,528.279 tons
used ion exchange resins;	bottom-ash waste;
used mercury-containing lamps;	non-ferrous scrap;
used mercury-containing devices (thermometers);	ferrous scrap;
used lead batteries;	stubs of welding electrodes;
waste from a medical center of class "B";	used tires;
oily rags;	household solid waste;
used car filters;	used air filters;
waste oil;	food waste;
containers from under paintwork materials;	thermal insulation waste;
used wooden railway sleepers.	construction waste;
	waste from the operation of office and electronic equipment;
	used workwear;
	crop waste;
	woodworking waste;
	waste of rubber products;
	insulating materials waste;
	abrasive metal dust;
	abrasive products scrap.

In accordance with the requirements of the environmental legislation of the Republic of Kazakhstan and regulatory documents, the Company records generation, permits, accumulation, storage, alienation of industrial and household waste.

In 2019, 29,604 tons of industrial and household waste were neutralized, disposed of and reused at the industrial sites of the stations, 2,121,637 tons of waste were transferred to third-party organizations on a contractual basis for disposal, and 1,474,380,672 tons of ash and slag waste were placed in storage tanks (ash dumps). The ash and slag waste of CHPP-1 is placed on a 24 ha ash dump, which is a hydrotechnical structure. In 2016, the Department of government assets and procurement of the city of Karaganda transferred the 40 hectare dry storage ash dump to Karaganda Energocenter LLP on a contractual basis for trust management. According to the project, the end of operation of these ash dumps is planned for 2027–2028.

Ash and slag waste from CHPP-3 is stored in the 1st and 2nd sections of ash dump No. 2 with an area of 188.5203 ha. The service life of the 1st and 2nd sections of ash dump No. 2 ends in 2020. In 2016, IP "INFORM TECH" developed the project "Reconstruction of ash dump No. 2 of Karaganda CHPP-3 by building the enclosing dam of the 3rd section". The implementation of this project will extend the life of the ash dump No. 2 by 3.5 years.

In total, as of December 31, 2019 - 11,985,595.89 tons of ash and slag waste were accumulated in the ash dumps of the stations, including:

- CHPP-1 969,728.721 tons;
- CHPP-3 11,015,867.170 tons.

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At the same time, payments for emissions for the placement of ash and slag waste in 2019 amounted to 61,478 million tenge.

In 2019, the revenue from the sale of industrial and household waste amounted to 12.6 million tenge.

### Water resources

In accordance with the technological process at CHPP-1 and CHPP-3, there is a circulating water supply system.

To compensate for losses in the circulating water supply

Water consumption indicators, thousand tons

system and household needs, CHPP-1 and CHPP-3 use potable water. At CHPP-1, water comes from ArcelorMittal Temirtau JSC and Karaganda su LLP. Water supply to Karaganda CHPP-3 is provided on a contractual basis from the treatment facilities of Karaganda su LLP.

Indicator	CHPP-1	CHPP-3
Water consumption	577.4	16,014.4
Expenditure on technological needs	577.4	15.8
Consumption for economic and household needs	42.2,	180.3
Recycling water supply	3,240.6	610,450
Reuse	570.5	1,630

Household wastewaters of CHPP-1 and CHPP-3 are discharged on a contractual basis to the treatment facilities of Karagandy Su LLP. Discharges to the terrain and water bodies are not carried out.

During the production environmental control at the stations, the quality of the incoming water is continuously monitored from Karagandy Su LLP and Arcelor Mittal Temirtau JSC, as well as the SWS. According to the results of the monitoring, the incoming and transferred water meets the sanitary and epidemiological requirements.

Every month, the sampling is carried out at the plants of sewage from fecal and storm sewerages, clarified water coming from the ash disposal areas, circulating water. The quality of these waters meets the requirements of OMR.

In accordance with the requirements of the Water and Environmental Codes of the Republic of Kazakhstan, surface and ground waters are monitored in the ash disposal areas of CHPP-1 and CHPP-3. According to the results of the monitoring conducted by an independent accredited organization in 2018, no significant impact on groundwater and surface water was detected.

### **Land resources**

The main impact on soil re-pollution can have the bottomash waste generated during the combustion of fuel in the boiler furnaces and stored in the ash disposal areas of CHPP-1 and CHPP-3. In order to prevent the risk of soil contamination at the plants, the annually measures are taken to prevent dusting of the ash disposal areas.

At the end of the heating season, at CHPP-1 to prevent dusting of the ash disposal area, the work is carried out to coat the bottom-ash waste with loamy soil (loam layer min 30 cm).

At the ash disposal area of CHPP-3 in order to prevent dusting of the bottom-ash waste daily monitoring of the water level in the bowl and alluvial of ash beaches is conducted.

According to the results of the monitoring of the soil cover, conducted in 2019 by an independent accredited organization, no significant impact of CHPP-1 and CHPP-3 on soil resources was detected.



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# Ust-Kamenogorsk CHPP LLP

Ust-Kamenogorsk CHPP LLP is an essential service enterprise in Ust-Kamenogorsk, the main activity of which is the heat and power production. In addition to providing heat to the residential sector of Ust-Kamenogorsk, the company is a source of heat and power for a number of industrial enterprises in the city (UKMC Kazzinc LLP, UMP JSC and others). In the process of production activities, the coal of Kazakhstan deposits is used. Environmental safety of production is one of the priorities in the business of Ust-Kamenogorsk CHPP LLP.

# Policy in the field of environmental protection

As an essential service enterprise, Ust-Kamenogorsk CHPP LLP strives to maintain a balance between reliable heat supply, environmental safety of production and social responsibility of business. Preservation of a favorable environment by preventing its pollution and improving environmental quality indicators, as well as rational use of energy resources, are the priority goals of the integrated enterprise policy in the field of quality, ecology, energy management, health and safety.

The company has implemented and successfully operates an integrated management system based on four international standards: ISO 9001; ISO 14001; ISO 50001; OHSAS 18001. In 2019, Ust-Kamenogorsk CHPP LLP successfully passed an inspection of the integrated management system, and the compliance of the functioning environmental management system with the requirements of the international standard ISO 14001:2015 (ST RK ISO 14001-2016) was confirmed.

The company annually updates the list of environmental aspects of its divisions and the company as a whole, defines lists of environmental risks and opportunities associated with significant environmental aspects, sets goals and objectives in the field of environmental protection, and annually assesses their implementation. The personnel of Ust-Kamenogorsk CHPP LLP, as well as contractors, are regularly trained in current environmental requirements:

- training sessions are held in the structural divisions of the station;
- monthly the days of occupational safety and environmental protection;
- newly hired personnel are trained in the framework of courses for newcomers held in the Corporate training center (CSC);

 before starting work on the territory of the plant, the personnel of contractors must undergo a training course in the CSC, which is used to familiarize them with the current environmental requirements.

Ust-Kamenogorsk CHPP LLP operates in accordance with the requirements of the environmental legislation of the Republic of Kazakhstan, performs environmental measures to reduce the impact of the company's activities on the environment. The action plan for environmental protection has been approved by the Committee for environmental regulation and control of the Ministry of energy of the Republic of Kazakhstan.

In 2019, Ust-Kamenogorsk CHPP LLP implemented the following environmental protection measures in 9 areas of environmental protection:

- reconstruction of fuel supply aspiration systems;
- implementation of the project to reduce nitrogen oxide emissions from the boiler unit article 15:
- replacement of swirlers emulsifiers boilers St. No. 13, 15:
- maintenance of an automated emission control system:
- repair of ash collecting installations of high pressure boilers
- reconstruction of car dumper No. 1 with provision of dust cleaning and reequipment of car dumper No. 2
- inventory of greenhouse gas emissions;
- verification of the greenhouse gas inventory report by an independent accredited organization;
- restoration of the fan cooling tower:
- reconstruction of storm sewers
- monitoring of wastewater emissions and monitoring of water bodies:
- acquisition of sets of means for elimination and prevention of spills of pollutants (sorbents);
- development and implementation of a project to equip reagent storage tanks with level detectors;
- landscaping of the territory;
- development of a waste management program for production and consumption;
- reconstruction of the waste dump No. 3
- designing and carrying out preparatory works for the construction of a new ash dump;
- construction of ash dump No. 5 (beginning);
- use of ash and slag waste;
- major repairs of ash pipelines;
- transfer to solid waste disposal;
- radiation monitoring of solid fuel;

- Supervisory audit of the environmental management system;
- observations of the deformation of the earth's surface in the area of the ash dump No. 3:
- conducting environmental studies: environmental control (monitoring of environmental quality) at the location of the ash dump and industrial site;
- pumping wells and sampling water at the location of the ash dump and industrial site;
- conducting field measurements and research at the border of the SPZ of ash dump No. 3;
- professional development of specialists in the field of environmental protection;
- environmental advertising, promotion and education.

The actual cost of implementing environmental protection measures for 2019 amounted to 792,515 million tenge.

Ust-Kamenogorsk CHPP LLP cooperates with the Society Council of the East Kazakhstan region, with the KAPUR and KEA associations, and the chamber of entrepreneurs of the East Kazakhstan region to address environmental issues and improve environmental legislation.

The company's staff participates in actions to clean up territories and green the city. In 2019, the company's staff supported the initiative of the Department of ecology for East-Kazakhstan region to eliminate areas of unauthorized disposal of unattended waste detected by the space monitoring system.

In 2019, Ust-Kamenogorsk CHPP LLP also supported the initiative of the Minister of ecology, geology and natural resources of the Republic of Kazakhstan and cleared 12 hectares of the city's territory from orphan waste, as well as planted 200 seedlings within the framework of the "Birge – Taza Kazakhstan" campaign.

## **Atmospheric air protection**

The main activity of Ust-Kamenogorsk CHPP LLP is the production of heat and electricity. In accordance with the Sanitary and epidemiological requirements for the establishment of a sanitary protection zone of production facilities (approved by the order of the MNE of the Republic of Kazakhstan dated March 20, 2015 No. 237), the enterprise is classified as a hazard class 1 enterprise with a standard sanitary protection zone of 1,000 meters. In accordance with the Environmental code of the Republic of Kazakhstan, Ust-Kamenogorsk CHPP LLP belongs to 1st category facilities.

Emissions to the environment of Ust-Kamenogorsk
CHPP LLP in 2019 were produced on the basis of the permit
for emissions to the environment for 2019–2020 dated
December 26, 2018 No. KZ20VCZ00223422.

Ust-Kamenogorsk CHPP LLP constantly implements measures aimed at reducing emissions to the environment.

In the period from 2004 to 2012, the ash collecting units at all nine boilers of the station were replaced with emulsifiers of the 2<sup>nd</sup> generation. The implementation of this measure allowed to increase the efficiency of coal ash capture from outgoing flue gases to 99.1%. At the same time, the implementation of this measure made it possible to increase the efficiency of capturing sulfur dioxide without adding special reagents.

In the period from 2009 to 2013, high-pressure boilers (article 11–15) were reconstructed with the introduction of high-concentration dust supply technology in order to reduce emissions of nitrogen oxides into the atmosphere. The implementation of this measure allowed reducing the concentration of nitrogen oxides in the outgoing flue gases by up to 20%.

In 2019, the project to reduce nitrogen oxide emissions from the boiler unit No. 15 was completed. The implementation of design solutions has reduced the concentration of nitrogen oxides in the flue gases leaving the boiler by more than 20%.

Ust-Kamenogorsk CHPP has implemented all acceptable best available technologies according to the list approved by the order of the Minister of energy of the Republic of Kazakhstan No. 155 dated November 28, 2014.



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Karaganda Energocenter LLP Ust-Kamenogorsk CHPP LLP Energy saving Ust-Kamenogorsk CHPP LLP carries out industrial environmental control (IEC) of emissions to the environment on the basis of the developed program of industrial environmental control. IEC is carried out by a private sanitary-industrial laboratory accredited on conformity to requirements of GOST ISO/IEC 17025-2019 in accordance with the requirements of RK legislation, as well as with the involvement of accredited laboratories outside organizations.

The volume of gross emissions from stationary sources in 2019 amounted to 16,145 tons with the established standard of 17,846 tons per year.

In 2019, accrued tax payments for emissions of pollutants into the atmosphere from stationary sources amounted to 225,536.3 thousand tenge; from mobile sources (transport) – 848.9 thousand tenge.

Emissions of pollutants (tons/year)	2017	2018	2019
U	st-Kamenogorsk CHPP LLP		
Total, including:	13,917.538	14,853.291	16,145.474
Sulfur dioxide (SO2)	7,521.222	7,976.945	8,823.561
Nitrogen dioxide (NO2)	3,770.589	4,014.725	4,275.604
Nitric oxide (NO)	613.549	652.393	694.785
Ash (inorganic dust 70-20 % SiO2)	1,853.949	2,062.245	2,161.544
Carbon monoxide (CO)	135.244	121.710	165.927
Other	22.985	25.273	24.052

Based on the results of the inventory of greenhouse gas emissions for 2019, the volume of greenhouse gas emissions was:

- carbon dioxide (CO<sub>2</sub>) 2,953,930,253 tons;
- methane (CH<sub>4</sub>) 21,527 tons (452,074 tons of CO<sub>2</sub> equivalent);
- nitrous oxide (N<sub>2</sub>O) 42.734 tons (13,247.451 tons of CO<sub>2</sub> equivalent).

In accordance with the requirements of Environmental legislation of Kazakhstan, Ust-Kamenogorsk CHPP LLP, regulatory documents on waste management (standards for waste disposal, hazardous waste passports, waste management program), as well as comply with the requirements of environmental legislation of Kazakhstan on waste management.

The company generates 27 types of waste. In 2019, a total of 243,960,421 tons of waste were generated at Ust-Kamenogorsk CHPP.

### **Waste management**

During the production activities of Ust-Kamenogorsk CHPP LLP, production and consumption wastes related to the green and amber hazard levels are generated.

*Volume and types of waste generated in 2019* 

Amber hazard level waste	Green hazard level waste
9,504 tons	243,950.917 tons
used mercury-containing lamps;	ash and slag waste;
waste transformer oil;	scrap;
waste turbine oil;	waste and scrap brass;
used diesel oil;	copper waste and scrap (cable waste);
industrial waste oil;	waste and scrap of aluminium (scrap cable);
used lubricating and cooling liquid;	cationic resins from treatment plants;
oil sludge;	waste of rubber products;
lead-acid batteries, whole or broken;	waste of equipment and pipelines lining;
oiled rags;	woodworking waste;
used sealing liquid;	plastic waste and scrap;

Amber hazard level waste	Green hazard level waste
sewage treatment plant precipitation;	construction and repair waste;
acid solution;	electronic scrap waste;
	waste and waste paper paper and cardboard;
	solid waste;
	culvert and other glass waste.

In 2019 sent to third parties under contracts 2,439.296 tons of waste disposed of by co-incineration with coal 2,393 tons, placed in the ash disposal area No. 3,241,721.600 tons of ash waste.

In total, as of January 1, 2020, 2,238,328.809 tons of ash and slag waste were accumulated at the operating ash dump No. 3 of Ust-Kamenogorsk CHPP LLP.

Ash and slag waste is placed in the existing ash dump with an area of 31.6 ha.

In 2017, a working project for the reconstruction of the existing ash dump No. 3 was developed, which provides for building up the dam and extending its operation life.

In 2019, the reconstruction of ash Dump No. 3 to build up the dam was completed, including through the use of accumulated ash and slag waste. Work is underway on the preparation and construction of a new ash dump No. 5.

Accrued tax payments for the placement of ash and slag waste in 2019 amounted to 20,141.5 thousand tenge.

## Water resources management

The existing technical water supply system of the CHPP is direct-flow and reverse with a fan cooling tower.

Water use indicators in 2019, thousand tons

The source of water supply for Ust-Kamenogorsk CHPP LLP is the Ulba River (its own water intake), the recycling water supply system, networks of Oskemen-Vodokanal SCE and Atamanovskyi vodozabor JSC of Ulba metallurgical plant JSC (UMP).

Technical water from the Ulba river is used for cooling the main and auxiliary equipment; making up the reverse system of wet ashing removal; making up the cooling tower; transferring water to third-party consumers; making up for losses of steam and condensate in medium-pressure boilers. Drinking water from the government enterprise "Oskemen-Vodokanal" is used to feed the city's heat networks (Ust-Kamenogorskiye teplovye seti JSC) and for the economic and drinking needs of the CHPP. Artesian water of UMP JSC is used for the technological needs of thermal power plants (to compensate for steam losses to consumers of UMP JSC, Kazzinc LLP), to feed the city's heat networks (Ust-Kamenogorskiye teplovye seti JSC).

In the direct-flow cooling system, water is discharged into the Ulba River after passing the technological cooling cycle of the main and auxiliary equipment.

The circulating water supply system uses a fan cooling tower, which was commissioned in 2012, as a cooler.

UK CHPP
50,146.8
40,486.6
3,903.2
5,757
44,458.8
172.2
5,515.8



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Karaganda Energocenter LLP Ust-Kamenogorsk CHPP LLP Energy saving Standard-clean waste water is formed when cooling the main and auxiliary equipment and is partially sent to the circulating water supply system with a cooling tower, and partially diverted to the Ulba River through venting No.162. Discharge of waste water in the Ulba River (venting No.162) is carried out through a closed collector.

The volume of discharge of standard and clean wastewater in the Ulba River in 2019 amounted to 37.472 million m³. The amount of discharge of pollutants (oil products) in the Ulba River in 2019 was 1,325 tons with the established standard of 1.95 tons.

Tax payments for the discharge of pollutants into the water body amounted to 8.1 thousand tenge.

In accordance with the program of industrial environmental control, the company monitors the emissions of pollutants into the water body (Ulba river), as well as monitoring the contamination of underground water through observation wells in the area of the ash dump and industrial site.

According to the results of the PEC for 2019, the company worked in compliance with the established standards for wastewater discharge, the impact on the company's groundwater pollution is insignificant and is assessed as acceptable.

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### Land resources

In order to determine the impact of the company's activities on land resources, according to the PEC program, the content of pollutants in the soil is monitored in the area where the ash dump is located. According to the results of soil cover monitoring for 2019, the impact of the activities of Ust-Kamenogorsk CHPP LLP on soil resources is estimated as acceptable.

To determine the dust load of ash dump No. 3 on the adjacent territory, snow cover is monitored. According to the results of monitoring of snow cover in 2019, the impact on the surrounding area is insignificant and is estimated as acceptable.

# Energy saving

## **Karaganda Energocenter LLP**

The main task of energy saving and energy efficiency of Karaganda Energocenter LLP is to reduce the amount of energy consumed, including reducing energy consumption for own needs, reducing specific resource expenditures for the production of power and heat, reducing fuel resources for heat and power, improving the mechanisms for monitoring energy consumption and equipping Karaganda Energocenter LLP with power and heat metering devices.

In 2019, Karaganda Energocenter LLP implemented a number of organizational and technical measures aimed at the rational use of energy resources.

### CHPP-1

## 1. Replacement of thermal insulation and walling with a modern CHP-1

Replacement of insulation is performed to reduce the actual heat loss through the brickwork, as well as reduce suction cups. As a result, the saving of coal amounted to 5,9375 thousand tons.

### 2. Replacement of heating surfaces of BKZ CHPP-1

One of the reasons for reducing the efficiency of boilers is the increased loss of heat energy by outgoing gases, due to the deafened heating surfaces of the convective part of the boiler and to reduce heat losses with outgoing gases, the deafened heating surfaces of the convective part of the boiler were replaced. As a result, coal savings amount to 4.805 thousand tons.

### 3. Overhaul of the boiler BKZ-50-39F St. No. 2.

The drum was repaired with complete disassembly of the drum devices, removal, manufacture, installation of air heater coil packages, manufacture, removal, installation, manufacture of the boiler outer skin, replacement of direct sections of the fire extinguishing line of the VZP.f Tr 32 x 4 mm., manufacture and replacement: single wavelength compensators rectangular cross-section; plot and elements of the duct; and duct elements; the top 4 cubes of the heater; frame elements and metal shield when the mass of the element in excess of 0.02 to 0.05 tons; mounts (steel plates) discharge belts; water economizer coils, removal, manufacture and installation of new drainage pipes, removal and installation of shut-off valves, replacement of the dust-coal burner nozzle, dismantling and installation

of brickwork in the area of the water economizer 1 St., dismantling and installation of brickwork in the area of the water economizer 2 St. As a result, coal savings amount to 0.855 thousand tons.

### 4. Overhaul of the boiler PTVP-100 St. No. 2.

Repair with full replacement of coils ((half-section) is performed. Manufacture of reservoirs (cameras), replacement of the upper chambers of the screens, removing and installing oblivi boiler, removal and installation of outer sheets oblivi boiler removing and installing the metal grid. As a result, coal savings amount to 0.577 thousand tons

#### 5. Overhaul of the turbine PR-6-35/5 St. No. 5.

Repairs were made to the high-and medium-pressure automatic shut-off valve (locking and regulating, shut-off), the control and protection system, fireplace seals, diaphragms, rotary diaphragm, RVD with cleaning from deposits, thermal and mechanical treatment, oil system of turbo-unit tubes.

### CHPP-3:

### 1. Overhaul of the boiler BKZ-420-140-5 No. 3.

Repairs were made with the replacement of 8 burners, repair of rotating mechanisms of hammer mills (MMT) with the replacement of bearings and replacement of 4 augers of raw coal feeders (PSU). As a result, fuel economy is: coal – 1,851 thousand tons; fuel oil – 0.075 thousand tons.

### 2. BKZ boiler overhaul-420-140-5 article 5.

Repair of defective coils of the water economizer 2<sup>nd</sup> stage, replacement of muffled packages of LPP, HPP, GPP, repair of rotating mechanisms: hammer mills – 4 pcs. with the replacement of bearings, PSU-4 pcs, ash trays – 2 pcs, replacement of burners – 8 pcs. Repair of shut-off valves with replacement of Du20 Ru140 – 20pcs. Repair of insulation of defective sections of flues 478 m², Repair of insulation of defective sections of heating surfaces 183m². As a result, fuel economy is: coal – 3,702 thousand tons; fuel oil – 0.15 thousand tons.

## 3. Overhaul of the t turbine-110/120-130-3 St. No. 4 with generator TVF-120-2UE.

Performed a typical repair flow part, repair RSD with the cleaning from sediments of the Central hole of the rotor, removing and planting discs (stages No. 18, 19, 20, 21, 22, 23) replacement binding wire, replace the rivets on the rotor blades of stages, regulation, repair of LDPE with 30 replacement coils, the examination on possible further operation of the turbine, replacement of the pipe system

of the main beams and repair of equipment ctei t/a. As a result, this led to an additional production of 40,000 thousand kWh.

## **Ust-Kamenogorsk CHPP LLP**

In 2019, Ust-Kamenogorsk CHPP LLP implemented a number of organizational and technical measures aimed at rational use of energy resources.

 Performance of capital repairs of KA of article 13 with replacement of water-inlet, steam-outlet pipes and obmurovochny isolation.

Due to the presence of large suckers in the furnace at the level of 20%, the KA-13 could only carry a long-term permissible steam load at the level of 260 t/h. After the overhaul of the boiler unit of article 13 with the replacement of the wall insulation, as well as the replacement of water and steam pipes, the suction to the furnace was reduced to the level of 13%, the boiler was able to carry a long-term steam load of 300T/h. Also, the gross efficiency of the boiler unit increased from 91.5% to 92.2%, which led to coal savings of 1,159 thousand tons, and financial savings in monetary terms of 6.19 million tenge.

 Major repairs of the Boiler unit No. 15 with replacement of the side screen panels, replacement of the frequency-controlled drive (PSD) of the dust feeders and replacement of the swirlers of emulsifiers.

Implementation of measures on BU-15 to replace the side panels of screens, replacement of variable frequency drives (VFD) dust feeders, and replacing the swirlers of emulsifiers made it possible to achieve long carry the rated load on the boiler is 500 t/h, and also to increase gross efficiency of the boiler from 91.1% to 91.5%, which led to the saving of coal in the amount of 0.5 thousand tons, and cost savings in monetary terms in the amount of 2.96 million tenge.

 Implementation of technical measures on the BU-15 to reduce the formation of condensate on the flue gas path after the ash collecting devices (DCS) of the boiler.

In the period January–April 2019, 3 forced shutdowns occurred at the boiler unit No. 15 due to the appearance of vibration on the smoke pumps. The reason was the condensation in the path of flue gases after DZUU, with ensuing buildup of ash on the impellers of the exhaust fans, which led to increased vibration due to imbalance of the machine induced draft fan and the subsequent shutdown of the boiler for cleaning, loss of heat and electrical energy, as well as additional costs of fuel for the fire.

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Karaganda Energocenter LLP Ust-Kamenogorsk CHPP LLP Energy saving The following technical measures were implemented to eliminate the cause of these shutdowns:

- Elimination of irregularities and suckers in the hatches above the drop catchers (elimination of the probability of splashdown);
- Redistribution of heating air in the collection box using diaphragms;
- Transfer of the hot air intake behind the RVP from the hot zone (≈ 400 deg. instead of 350);
- Elimination of suckers in the suction path of the smoke pumps;
- 5) Regulation of water distribution by emulsifier bodies.

As a result of technical measures, the boiler stops for cleaning the smoke pumps were eliminated, which led to a reduction in losses of heat and electricity generation and reduced additional fuel oil costs for kindling, and in general led to financial savings in monetary terms in the amount of 30.86 million tenge.

## 4. Repair and restoration of four sections of the fan cooling tower

After the repair and restoration of four sections of the fan cooling tower, the efficiency of technical water use was increased by reducing the specific water consumption for cooling equipment by 45.2% (from 64.4 to 35.30 tons/MW).

## Karagandy Zharyk LLP

In connection with implementation of the energy management system based on the international standard ISO 50001, Karagandy Zharyk LLP established requirements for conducting periodic energy analysis and energy planning to improve the energy efficiency of production within the current integrated management system of Karagandy Zharyk LLP.

Energy analysis is carried out on the basis of monitoring and measuring energy consumption.

Information on the results of the implementation of the action plan for energy saving and energy efficiency for 2019 by Karagandy Zharyk LLP

Name of event	Actual investments	Actual effect of savings from the implementation of		
	for the reporting period (including	name of the power resource	es for the reporting period in natural expression	
	VAT), tenge			
Disable in modes of small loads of transformers on substations with two and more transformers.	0	power (kWh)	1,644,324	
Equalization of phase loads in electrical networks				
0.38 kV	0	power (kWh)	10,959	
Replacement of incandescent and DRL lamps with led				
lamps	2,767,392	power (kWh)	593,879	
Reduction of power consumption for own needs of				
substations (convectors)	1,264,286	power (kWh)	250,027	
Reconstruction of 110kV HV line «Karaganda CHPP-3"	1,003,299,620	power (kWh)	2,759,300	
Construction of 110/10kV «Tikhonovka» TS	175,671,391	power (kWh)	0	
The construction of additional tap from the 110 kV HV				
line «Saran - GLP-1» in the direction of «Tykhonivka» TS	497,376,291	power (kWh)	498,800	
Recertification audit	1,250,000	-	,-	
Retraining and advanced training of personnel	7,176,815	-	,-	

## **Ontustik Zharyk Tranzit LLP**

Information on the results of the implementation of the energy saving action plan for 2019 of Ontustik Zharyk Tranzit LLP

Name of event	Actual investments	Actual effect of savings f	rom the implementation of	
	for the reporting	activities for the reporting period		
	period (including	name of the newer recourse	in natural oversection	
	VAT), tenge	name of the power resource	in natural expression	
	,,0-			
Replacement of overloaded, installation and				
commissioning of additional power transformers on				
existing TS, CTS 10 6 kV	245,614,886	power (kWh)	146,120	
Replacement of underloaded power transformers				
with existing TS, CTS 10 6 kV	5,110,133	power (kWh)	11,400	
	3,110,133	power (mm)	11,100	
Replacement of wires on overloaded 0.4 kV HV lines	188,776,652	power (kWh)	763,646	
Replacement of wires on overloaded 0.4 kV HV lines				
using SIP)	1,396,809,973	power (kWh)	1,594,182	
		· · · · · · · · · · · · · · · · · · ·		

## Mangistau Regional Electricity Network Company JSC

Information on the results of the implementation of the action plan for energy saving and energy efficiency for 2019 of Mangistau distribution grid company JSC

Name of event	Implementation period (month,	Actual investments for the reporting period (including VAT), million tenge	Actual effe	Actual effect of savings from the implementation of activities for the reporting period		
	year)		name of the power resource	in natural expression, (kWh)	in monetary terms (including VAT), tenge	
220/110/10 kV «Uzen» SS modernization (reconstruction) of 110 kV outdoor switchgear	2019	58,323,000	power	71,533	849,812.04	
110/6 kV «Promzona» SS modernization (reconstruction) of CDR-6 kV	2019	16,854,000	power	21,456	304,248.35	
35/6 kV «Glinzavod» SS replacement of power transformers	2019	266,600,007	power	358,034	4,253,443.92	
35/6 kV «Vostochnaya» SS replacement of power transformers	2019	266,985,819	power	358,034	4,253,443.92	
Load equalization of power line phases 0.38 kV	2019		power	416,500	4,948.02	
Repair of HV lines and SS (replacement of AC wire insulators)	2019			107,420	1,276.14	
Replacement of overloaded transformers with existing DS, TS	2019			517,200	6,144.33	



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# CONSOLIDATED STATEMENT OF PROFIT OR LOSS and other comprehensive income FOR THE YEAR ENDED 31 DECEMBER 2019

## (in thousands of Tenge)

<b>3</b> /			
	Notes	2019	2018
Revenue	6	134,469,242	128,639,008
Cost of sales	7	(97,223,720)	(91,928,630)
	·	(37,223,723)	(3.,323,033)
Gross profit		37,245,522	36,710,378
General and administrative expenses	8	(9,120,755)	(8,537,171)
Selling expenses	9	(2,910,741)	(2,664,901)
Finance costs	10	(9,812,009)	(8,631,683)
Finance income	11	5,752,203	3,687,716
Other income, net		535,983	676,690
Foreign exchange loss, net	29	(6,685,027)	(3,316,643)
PROFIT BEFORE INCOME TAX EXPENSE		15,005,176	17,924,386
Income tax expenses	13	(4,394,367)	(4,324,836)
NET PROFIT FOR THE YEAR		10,610,809	13,599,550
Other comprehensive income for the year			
Items that will be subsequently reclassified to profit or loss:			
Foreign exchange differences on translation of foreign operations		65,989	265,151
OTHER COMPREHENSIVE INCOME FOR THE YEAR		65,989	265,151
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		10,676,798	13,864,701
Profit for the year attributable to:			
Company owners		8,366,583	12,731,185
Non-controlling interests	21	2,244,226	868,365
		10,610,809	13,599,550
Total comprehensive income attributable to:			
Company owners		8,432,572	12,996,336
Non-controlling interests	21	2,244,226	868,365
		10,676,798	13,864,701

### CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2019

### (in thousands of Tenge)

	Notes	31 December 2019	31 December 2018
ASSETS			
NON-CURRENT ASSETS:			
Property, plant and equipment	14	231,091,162	215,004,134
Advances paid	15	2,127,506	1,905,698
Loans given to related parties	28	61,351,522	58,511,332
Other non-current assets		835,592	1,030,162
Deferred tax assets	13	167,068	101,879
Total non-current assets		295,572,850	276,553,205
CURRENT ASSETS:			
Trade accounts receivable	16	12,197,346	10,082,632
Inventories	17	4,101,448	4,194,232
Loans given to related parties	28	3,129,486	_
Advances paid	15	452,973	1,103,116
Prepaid corporate income tax		361,847	527,282
Other current assets	18	1,938,904	1,896,114
Cash and cash equivalents	19	4,363,170	5,458,604
Total current assets		26,545,174	23,261,980
TOTAL ASSETS		322,118,024	299,815,185
EQUITY AND LIABILITIES			
EQUITY:			
Charter capital	20	11,636,404	11,636,404
Additional paid-in capital	20	9,239,137	9,239,137
Reserve of exchange differences		331,140	265,15
Retained earnings		117,846,186	109,479,603
Equity attributable to owners of the Company		139,052,867	130,620,295
Non-controlling interests	21	13,191,410	10,947,184
Total equity		152,244,277	141,567,479
NON-CURRENT LIABILITIES:			
Loans and debt securities issued	22	37,581,671	92,414,556
Deferred tax liabilities	13	31,328,779	30,361,273
Other non-current liabilities	23	2,682,525	3,057,173
Total non-current liabilities		71,592,975	125,833,002
CURRENT LIABILITIES:			
Loans and debt securities issued	22	71,877,493	14,055,724
Trade accounts payable	24	11,992,472	8,492,942
Other accounts payable and accrued liabilities	25	12,215,664	7,919,908
Other taxes payable	26	1,692,887	1,759,318
Corporate income tax payable		502,256	186,812
Total current liabilities		98,280,772	32,414,704
TOTAL LIABILITIES		169,873,747	158,247,706
TOTAL EQUITY AND LIABILITIES		322,118,024	299,815,185

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CONSOLIDATED STATEMENT OF CHANGES IN OWNER'S EQUITY FOR THE YEAR ENDED 31 DECEMBER 2019

(in thousands of Tenge)

	Charter capital	Additional paid-in capital	Foreign currency translation reserve	Retained earnings	Equity attributable to equity holders of the parent	Non-controlling interests	Total
As at 31 December 2017	11,636,404	9,239,137	_	96,714,432	117,589,973	11,514,800	129,104,773
Effect of IFRS 9 Financial Instruments	_	_	<del>-</del>	(1,387,077)	(1,387,077)	(14,918)	(1,401,995)
Balance restated at 1 January 2018	11,636,404	9,239,137		95,327,355	116,202,896	11,499,882	127,702,778
Net profit for the year	_	_	-	12,731,185	12,731,185	868,365	13,599,550
Other comprehensive income for the year	_	_	265,151	_	265,151	_	265,151
Total comprehensive income for the year	-	_	265,151	12,731,185	12,996,336	868,365	13,864,701
Adjustment resulting from change in non-controlling interest	-	_	-	1,421,063	1,421,063	(1,421,063)	_
As at 31 December 2018	11,636,404	9,239,137	265,151	109,479,603	130,620,295	10,947,184	141,567,479
Net profit for the year	-	_	-	8,366,583	8,366,583	2,244,226	10,610,809
Other comprehensive income for the year	_	_	65,989	_	65,989	_	65,989
Total comprehensive income for the year	_	_	65,989	8,366,583	8,432,572	2,244,226	10,676,798
As at 31 December 2019	11,636,404	9,239,137	331,140	117,846,186	139,052,867	13,191,410	152,244,277



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### CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2019

### (in thousands of Tenge)

	Notes	2019	2018
OPERATING ACTIVITIES:			
Sale of services and goods		146,402,097	138,865,328
Other proceeds		1,637,524	2,083,942
Total cash inflow		148,039,621	140,949,270
Payments to suppliers for goods and services		(82,142,361)	(78,273,105)
Salary payments		(12,947,407)	(11,652,464)
Other payments to the budget		(10,870,312)	(10,708,690)
Other payments		(3,337,886)	(3,991,236)
Total cash outflow		(109,297,966)	(104,625,495)
Cash from operating activities before received and paid interest and corporate income tax		38,741,655	36,323,775
Interest received		248,761	274,552
Interest paid on loans and debt securities issued		(8,796,479)	(7,131,984)
Corporate income tax paid		(3,052,762)	(2,586,231)
Net cash generated from operating activities		27,141,175	26,880,112
INVESTING ACTIVITIES:			
Sale of property, plant and equipment		53,468	161,848
Return of loans issued		_	166,250
Prepayment for disposal of subsidiary		_	543,456
Other proceeds		_	595,884
Total cash inflow		53,468	1,467,438
Purchase of property, plant and equipment and materials for major repair and advances paid for acquisition of non-current assets		(26,545,625)	(20,440,335)
Purchase of intangible assets		(9,845)	(23,289)
Net cash outflow on acquisition of subsidiaries		(1,014,334)	(1,181,312)
Other payments		<del>_</del>	(10,709)
Total cash outflow		(27,569,804)	(21,655,645)
Net cash used in investing activities		(27,516,336)	(20,188,207)

### CONSOLIDATED STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 31 DECEMBER 2019 (CONTINUED)

### (in thousands of Tenge)

	Notes	2019.	2018
FINANCING ACTIVITIES:			
Financial aid received	22	3,747,000	2,367,003
Loans received	22	22,907,620	82,919,316
Other proceeds		217,949	_
Total cash inflow		26,872,569	85,286,319
Repayment of loans	22	(26,681,485)	(35,710,827)
Redemption of debt securities issued	22	_	(1,500,000)
Issuance of a loan to an entity under common control	28	(500,000)	(51,941,315)
Financial aid given to the related party		_	(2,980,466)
Repayment of financial aid received	22	(20,000)	(776,384)
Dividends payment	20	(6,700)	(22,923)
Other cash outflow		(255,000)	(179,620)
Total cash outflow		(27,463,185)	(93,111,535)
Net cash used in financing activities		(590,616)	(7,825,216)
NET CHANGE IN CASH		(965,777)	(1,133,311)
CASH AND CASH EQUIVALENTS, at the beginning of the year	19	5,458,604	6,496,398
Effect of changes in allowance for expected credit losses on cash and cash equivalents		22,537	(66,978)
Effect of changes in foreign exchange rates on cash balances held in foreign currencies		(152,194)	162,495
CASH AND CASH EQUIVALENTS, at the end of the year	19	4,363,170	5,458,604

The full version of audited consolidated financial statements for the year 2019 is available on the website of Kazakhstan Utility Systems LLP (www.kus.kz / Investors Relations / Financial Performance).



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### **Abbreviations**

**ACL** – aerial cable line

**APR** – accidents prevention rules

**APT** – auxiliary power transformer

**ASCAE** – automated system for commercial accounting of electric power consumption

**BWHS** – boiler-water heating shop **CEC** – corporate education center

**CHPP** – combined heat and power plant

**CL** – cable line

**CPS** – condensation power station

**CSR** – corporate social responsibility

**DHW** – domestic hot water **DP** – distribution point

**EBIT** – earnings before interest and taxes

**EBITDA** – earnings before interest, taxes, depreciation and amortization

**EIA** – environmental impact analysis

**EP** – Energopotok LLP

**EP** – environmental protection

**EPC** – engineering, procurement and construction

**EPPN TOR** – Electric power plants and networks technical operation rules

**ESC** – energy service company

ETL – electricity transmission line

FS – feasibility study

**Gcal** – gigacalorie

**Gcal/h** – gigacalorie per hour GDP – gross domestic product

**GMP** – general meeting of participants

**IDR** – issuer default rating

IEC – industrial ecological control

ITS – integrated transformer substation

**KASE** – Kazakhstan Stock Exchange JSC **KEGOC** – Kazakhstan Electricity Grid Operating Company JSC

km - kilometer

**KPI** – key performance indicator

**KUS** – Kazakhstan Utility Systems LLP

**kV** – kilovolt

kWh - kilowatt-hour

KZh - Karagandy Zharyk LLP

**KZhS** – KaragandyZhyluSbyt LLP

**LE** – legal entity

**LLP** – limited liability partnership

**m** – meter

MNE RK – Ministry of National Economy of the Republic of

Kazakhstan

**MPE** – maximum permissible emissions

MRENC – Mangistau Regional Electricity

NetworkCompany JSC

MTS – municipal transformer substation

MVA – megavolt-amper

**MW** – megawatt

**NEN** – National electric network

**OD HVEPS** – operating department of high voltage electric

power systems

OHL – overhead line

**OZh** – Ontustik Zharyk LLP

**OZhT** – Ontustik Zharyk Transit LLP

**PC** – performance coefficient

**POL** – petroleum, oil and lubricants

**PP** – private person

**PTO** – power transmitting organization

**REC** – district electric power systems

**REM** – retail energy market

ROA – return on assets

**ROE** – return on equity

**ROCE** – return on capital employed

**RPGC** – regional power grid companies

**RPS** – renewable power sources

RST – Raschetnyi servisnyi center LLP

SB – subsidiary

**SCHPP** – Sorginsk CHPP LLP

**SKR** – South-Kazakhstan region

**SPZ** – sanitary protection zone SS – substation

**SSIC** – self-supporting insulated conductor

**TPP** – thermal power plant

TR – Turkestan region

**TS** – transformer substation

**UK CHPP** – Ust-Kamenogorsk CHPP LLP

**VI** – volume index

**WPP** – wind power plant

**KEA** – The Kazakhstan Electricity Association

**KEC** – Karaganda Energocenter LLP

**OS** – occupational safety

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