

# 2020

Developing the power  
industry, we develop  
the country

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# Key indicators



\* Gain from a bargain purchase of subsidiaries (in accordance with IFRS standards).

# Key events of the year 2020 and realization of priority tasks

01

## Kazakhstan Utility Systems LLP

- 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 as "B+". The rating outlook is "Stable".

- Reconstruction of the discharge chute No. 5 of the conveyor 5/2.
- Construction of a complete transformer substation (CTS) with power supply networks for coastal pumping station No. 2 (purchase of equipment).

02

## Karaganda Energocenter LLP

- KEC LLP has signed an investment agreement for the expansion of the Karaganda CHPP-3 with the Ministry of Energy of the Republic of Kazakhstan.
- At Karaganda CHPP-3, the project for increase in number of dams in the third section of the ash dump No. 2 was completed.

04

## Ontustik Zharyk Transit 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 been completed and put into operation.
- Construction of 10-0.4 kV electric networks in the residential areas of Zhuldyz, Badam, Tasken, Bazarkakpa, Martobe, city of Shymkent has been completed.
- The 110 kV HV line was reconstructed with a total length of 9 km.
- Reconstruction of the 35 kV HV line with a total length of 27.75 km was carried out.
- A number of transformer stations (TS) were reconstructed: TS 110/35/10kV "Samsonovka", TS 110/35/10kV "Shaulder", TS 110/35/10kV "Abay-Bazar", TS 110/35/6kV "No. 4", TS 110/35/6kV "Cementnaya", TS 35/10kV "KSHT", TS 35/10kV "Kaitpas", TS 35/10kV "Slavyanka", TS 35/10 kV "Darmino", TS 110/35/10 kV "Turkestan".

05

## Karagandy Zharyk LLP

- 220 kV outdoor switchgear 220/110/35/10 kV "Saran" TS — with the use of SF6 circuit breaker instead of S and SCB.
- Replacement of supports and wires along the entire route of the 110 kV HV line "Karaganda — New City".
- Technical modernization of the SS equipment in the amount of 34 pcs.
- Overhaul of the 35/110/220 kV HV line — 10 pcs.

06

## Mangistau Regional Electricity Network Company JSC

- Power lines — 10 kV with a length of 10.5 km in the area of Warm beach was put into operation;



## Key events after the reporting date

- On March 4, 2021, the international rating agency Fitch Ratings confirmed Kazakhstan Utility Systems LLP's long-term issuer default ratings (IDR) in foreign and national currencies as "B+". The rating outlook is "Stable".
- On April 6, 2021 Kazakhstan Utility Systems LLP has fully repaid its obligations under the issued bonds in the amount of 856,744 thousand KZT.

# 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. Currently, there is a fairly optimistic and predictable situation in the energy sector of the republic. The regulator and energy market participants are taking fundamental, timely measures to meet the demand for energy resources. In particular, domestic stations are constantly upgrading fixed assets and generating assets. In the coming years, stable investment in the energy system of the republic by market participants will continue. I can say with confidence that the KUS Group completed the year of 2020 with indicators demonstrating a stable growth and progressive development of all three of its divisions — generation of electricity and heat, their transmission and sale to end consumers. This indicates a verified financial policy and successful implementation of investment programs of subsidiaries included in the structure of KUS LLP. The constant task of the KUS structure is to ensure the growth of the capitalization of the companies that we control, as well as to increase the capacity of our traditional power industry.

Kazakhstan Utility Systems LLP, being one of the largest players in the country's energy market, makes every effort for the comprehensive development of the domestic energy system. Investment in CHPPs owned by Kazakhstan Utility Systems LLP is aimed at increasing the power and heat capacity of stations, reconstruction and modernization of equipment, the use of innovative, modern approaches in the management of energy assets and advanced international experience in this field. The implementation of investment projects of subsidiaries of Kazakhstan Utility Systems LLP, focused on the transmission and distribution of power, creates a multiplicative effect, which, of course, will have a positive impact on the social and economic development of those regions in which these companies operate. Kazakhstan Utility Systems LLP also conducts systematic work aimed at improving the quality of customer service by sales companies. The priorities for these organizations are constant feedback from subscribers online, the use of high technologies in order to automate services and increase the comfort of serving consumers.

The strategy of KUS LLP assumes the following areas of development: further implementation of large-scale investment programs at existing facilities, expansion of generating capacities along with the construction of new power networks. The population of our republic is steadily increasing, and the domestic economy is showing annual growth. It is natural that energy consumption in the country will only increase. Accordingly, energy companies are imposed a special responsibility and an additional duty. The power sector has always been and is a strategically important industry that directly affects the life and well-being of citizens.

We are fully aware of our responsibility and the task of providing uninterrupted and high-quality energy to residents of those regions where the KUS Group presents.

I am convinced of the further successful development of the company and its promising future, I sincerely wish the entire team of the KUS to realize their goals and objectives set for it and I believe in achieving high results.



**Dinmukhamet Idrissov**

**Chairman of the  
Supervisory Board**



# 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, we are pleased to present you this annual report, which contains economic indicators and dynamics of the KUS Group's production activity for the year 2020. In this report, we have fully covered the entire range of goals and solved tasks that we set for and achieved in the reporting year.

I hope that the information presented in our annual report will allow you not only to get acquainted in detail with the activities of the Kazakhstan Utility Systems Group and analyze the business situation of our company, but also serve as an impetus for establishing mutually beneficial cooperation with new partners and continuing effective interaction with our traditional partners.

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.

Our company, which many people in Kazakhstan know by the abbreviation "KUS", has been one of the main players in the electric power sector of the republic for many years. 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. Since its foundation, the KUS has demonstrated only

positive growth. This is facilitated by the large and time-consuming work of the entire team of the company. The main priority of our development has always been and is the use of innovative solutions at our production facilities, a scientific and an innovative approach. This, without exception, applies to all subsidiaries that are part of the KUS Group.

Speaking about specific figures, I will only say that over the past 10 years, the production of electricity at KUS Group's heat power plants has increased by 172% and the heat energy — by 70%. During the same period, more than 9,100 kilometers of power transmission lines, as well as more than 2,000 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 4.6 billion kWh or by 52% over the past 10 years. The number of subscribers of the KUS group's sales companies has increased by more than 350,000 over the past decade.

In 2020 alone, the increase in the volume of electricity transport by power transmission companies compared to 2019 amounted to 4.8% or 438 million kWh. The volume of electricity sales by the KUS group's sales companies in the reporting year exceeded by 3.3% or 123 million kWh compared to 2019. The number of subscribers of the KUS sales companies has increased by about 30,000 in 2020.

We have confirmed our credit ratings: the international rating agency Fitch Ratings has confirmed the long-term issuer default ratings in foreign and national currencies at "B+" level and the national long-term rating "BBB (kaz)". The outlook for the ratings is "Stable".

To achieve such results, we were largely supported by the economic conditions in the industry market that are being created in the republic. For this, we are grateful to the Government of the Republic of Kazakhstan and the relevant ministry separately.

Despite the fact that in the conditions of the global pandemic and the corresponding restrictions, 2020 was not an easy year for all participants of the industry markets, we completed it with a good financial result and effectively implemented the planned investment measures. We do not stand still and are constantly developing, we strive to meet the requirements of our customers as much as possible, because we understand that providing high-quality power supply services is the only key to success. All our efforts are aimed at this. Step by step, we are moving towards the goal.

As of the end of 2020, it is possible to connect a large number of new consumers on the territory of the location of our assets. Modernization of stations' equipment, construction and reconstruction of power grids actively contribute to the development of the economy of the regions where the KUS operates. Our further actions are aimed only at improving the positions achieved. As part of the plans to modernize our generating and grid assets, we will continue investment injections, mainly aimed at improving the power, and especially the environmental efficiency of our facilities.

All the work carried out by us would not have been efficient without comprehensive support and trust of the Supervisory Board of KUS Group, for what we are very grateful. I am confident that a joint work of the Kazakhstan Utility Systems' team will allow not only to achieve goals but to prepare a basis for more dynamic development of the Company.



**Nabi Aitzhanov**

**General  
Director**





01. Chapter

Annual report

2020



# 01

## About company

Kazakhstan Utility Systems LLP is a successful vertically integrated company in the power and heat sector in the Republic of Kazakhstan.



## 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 2020, 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 105 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 2020. The number of employees of the Group's Companies in 2020 is 8.7 thousand people.

### The Group's Segments



#### Generation

- Karaganda Energocenter LLP
  - ▶ Karaganda CHPP-1
  - ▶ Karaganda CHPP-3
- Shygys Energo LLP
  - ▶ Ust-Kamenogorsk CHPP LLP
- Zhuzimdyk Wind Farm LLP

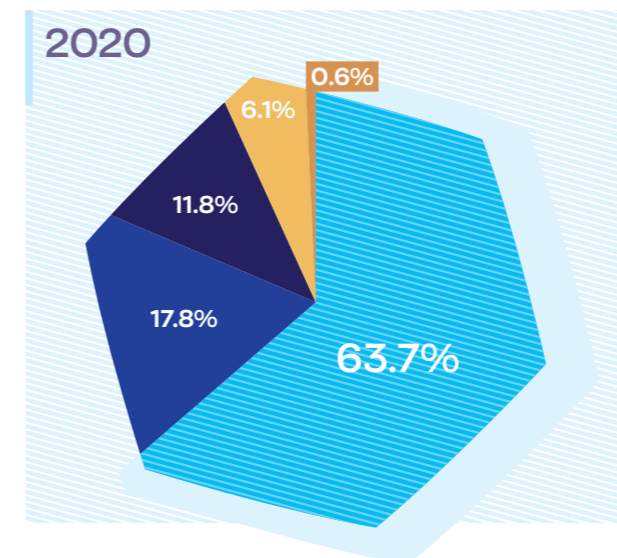
#### Transmission and distribution

- Karagandy Zharyk LLP
- Ontustik Zharyk Transit LLP
- Mangistau Regional Electricity Network Company JSC

#### Sale

- Karagandy ZhyluSbyt LLP
- Raschetnyi servisnyi center LLP
- Energopotok LLP

Structure of incomes



- Sale of electric power
- Transmission of electrical power
- Income from maintenance of electric power availability
- Sale of heat
- Other

## Profiles of subsidiaries

### GENERATION

#### Karaganda Energocenter LLP

is a company that combined two power plants of the Group — Karaganda CHPP-1 and Karaganda CHPP-3.

The total number of employees of KEC LLP  
**1,289**

#### Karaganda CHPP-1

Electric power:

**24 MW**  
installed

**24 MW**  
available

Heat power:

**392 Gcal/h**  
installed

**235,8 Gcal/h**  
available

#### Karaganda CHPP-3

Electric power:

**670 MW**  
installed

**546 MW**  
available

Heat power:

**1,432 Gcal/h**  
installed

**1,078.8 Gcal/h**  
available



## TRANSMISSION AND DISTRIBUTION

### Ust-Kamenogorsk CHPP LLP

Electric power:

**372.5 MW**  
installed

**320.8 MW**  
available

Heat power:

**859.9 Gcal/h**  
installed

**859.9 Gcal/h**  
available

The number of employees is  
**552**

### 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 the Zhuzimdyk wind farm  
**40 MW**

### 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 of Karaganda and Karaganda region:

0.4-220 kV HV-line  
**5,181 km**

0.4-35 kV CL  
**1,737 km**

substations of 220/110/35 kV  
**105 units**

TS, PTS, DB 6-10/0.4 kV  
**2,232 pcs**

The service area is  
**21,400 km<sup>2</sup>**

The number of employees  
**1,616**

### Ontustik Zharyk Transit LLP

is a regional power grid company in Shymkent and 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  
**22,986.373 km**

0.4-110 kV CL  
**657.661 km**

Substations of 110-35 kV  
**253 units**

TS, PTS, DB 6-10/0.4 kV  
**5,915 pcs**

Service transformer  
**358 pcs**

The number of employees  
**3,383**

### 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  
**5,414.165 km**

0.4-35 kV CL  
**40.234 km**

substations of 220/110/35 kV  
**66 units**

Packaged transformer substation of 6-10/0.4 kV  
**428 pcs**

Service transformer  
**132 pcs**

The number of employees  
**721**



**SALE**

**KaragandyZhyluSbyt LLP**

is a power supply company in Karaganda and Karaganda region.

**2 district and 2 city sales areas.**

Number of heat supply subscribers:

**153,538**

individuals

**4,714**

legal entities

Number of power supply subscribers:

**194,596**

individuals

**8,308**

legal entities

Number of subscribers for domestic hot water (DHW):

**129,425**

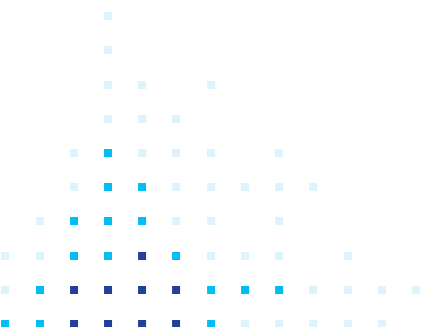
individuals

**2,373**

legal entities

The number of employees

**294**



**Raschetnyi servisnyi center LLP**

is a power supply company in Karaganda region.

**2 district and 1 city sales area.**

Number of power supply subscribers:

**60,672**

individuals

**1,761**

legal entities

The number of employees

**50**

**Energopotok LLP**

is a power supply company in Shymkent city and Turkestan region.

**21 regional and 5 city sales areas.**

Number of power supply subscribers:

**640,361**

individuals

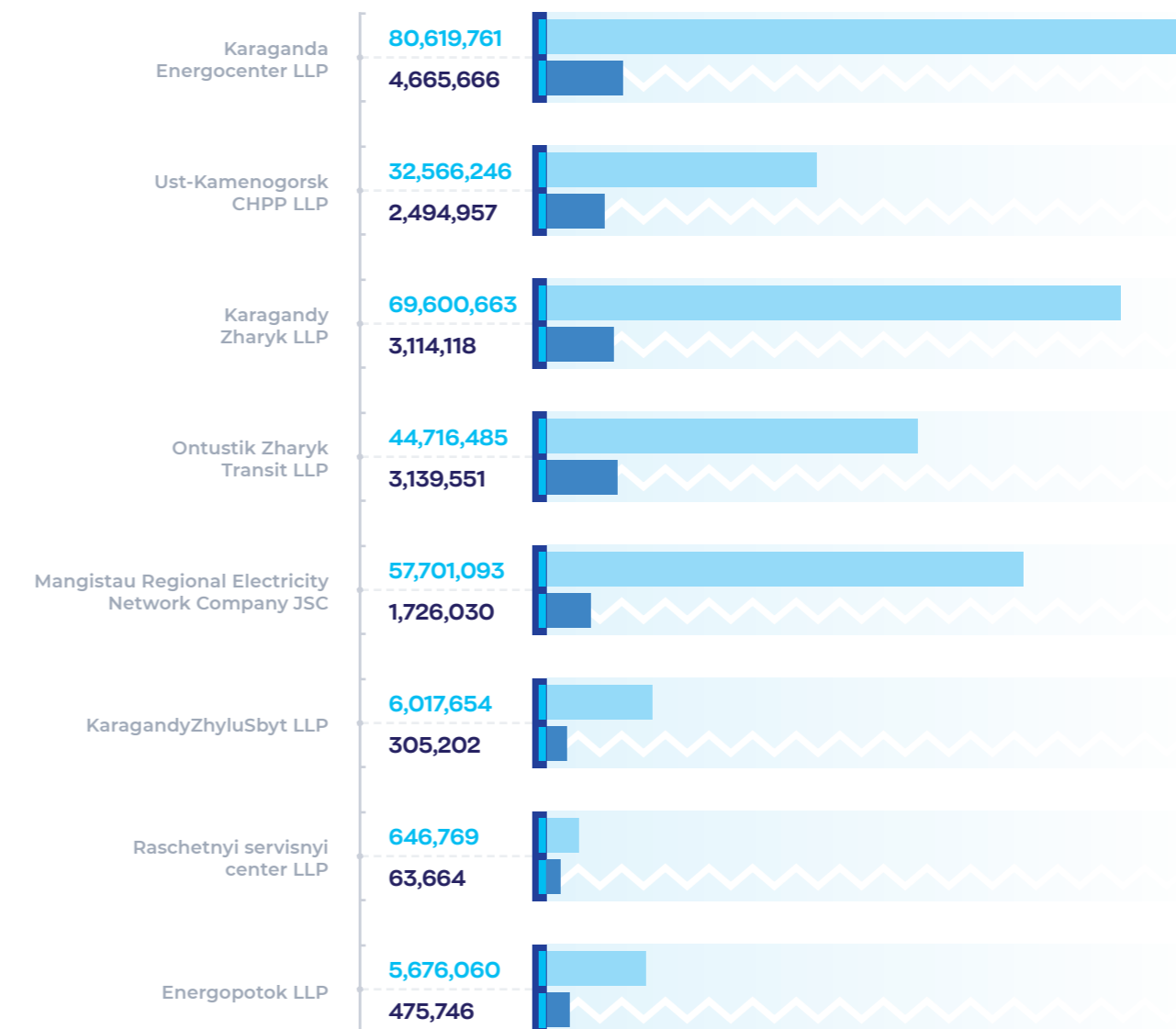
**30,029**

legal entities

The number of employees

**720**

Financial performance of subsidiaries by the end of 2020, thousand KZT



■ Assets ■ Net profit

## Brief Company

### history

## 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 Transit LLP and Karagandy Zharyk LLP to create 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 Karagandy ZhyluSbyt 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 a utility metering system (UMS), the second stage.
- The construction of 110-kV HV line RHPP-1 — CHPP-2 of Karagandy Zharyk LLP was completed.
- Ontustik Zharyk Transit LLP has implemented an automatic database and consumers system (ADCS) 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 the UMS by the company Karagandy Zharyk LLP, the 3<sup>rd</sup> 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 Transit 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 power energy. 100% share in the partnership belongs to KUS LLP.

## 2014

- 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 Zharyk and 110/35/6 kV Santekhnicheskaya-2 substations.
- Ontustik Zharyk Transit 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 South Kazakhstan region” was initiated.
- Subsidiary marketing organizations expanded their customer base and introduced the “Unified billing system” for suppliers of all types of utilities and, buildings were acquired to create contact centers.



## 2015

- In December, Ontustik Zharyk Transit LLP introduced a 10/0.4 kV UMS, as a result, 31 KTP and 3,740 consumers were tied up in Turkestan in 2015.
- Ontustik Zharyk Transit LLP designed, built and commissioned 110/10–10 kV Nursat closed type substation with installed capacity of 2 x 40 MVA power transformers.
- Karagandy Zharyk 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 was completed 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 has acquired 6.54% of the common shares of Mangistau Regional Electricity Network Company JSC.
- 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 rating 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 operational dispatching service for high-voltage electrical networks.
- In 2016, Karagandy ZhyluSbyt LLP switched to unified payment document (UPD) in settlements with consumers.

## 2017

- KUS LLP has attracted funding in the amount of 882.4 million KZT through successful placement of bonds on KASE.
- 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 KZT maturing in March, 2024 6.6 billion KZT 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 the shares of Mangistau Regional Electricity Network Company JSC (MRENC) from the total number of outstanding shares were purchased, and the total number of MRENC shares in the KUS portfolio reached 43.73%.
- Karaganda CHPP-3 completed the first stage of project to increase the number of dams of 3rd section of ash dump No. 2.
- 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 1x150 MVA 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.

## 2018

- 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 — 52.63%.
- Transaction for sale of Sogrinsk CHPP LLP was completed.
- At Karaganda CHPP-3, the 2nd stage of the project to build up the dams of the 3rd 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 KZT from the Bank's regular resources and 5.3 million US dollars from 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 Transit LLP.

## 2019

- 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.
- 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.
- 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.
- At OZhT LLP, the UMS has been implemented with coverage of 12 high-voltage substations (for wholesale market entities), as well as on 0.4 kV networks with coverage of 3,940 subscribers of Shymkent (for retail market entities).
- Construction of 110/10 kV "Tikhonovka" SS is completed, as well the reconstruction of the 110 kV HV line "CHPP-3 — Karaganda" was completed. Technical modernization of 6-35-110 kV equipment was performed at nine substations: Novaya Dubovka, Karabas SS, Kzyl SS, Fedorovka-2 SS, Astakhovka TSS, Karbyshevka SS, Karaganda SS, Karagaily SS, and Saran SS.
- The construction of the power line — 220 kV Aktau — Karazhanbas with autotransformer 1x150 MVA at URPS-220/110/35/10 kV Karazhanbas has been completed at Mangistau Regional Electricity Network Company JSC;

- Construction of 110 kV transmission line from Uzen -220 kV SS to 110/35/6 kV SS (with the length 1x18.7 km) with replacement of 1x40 MVA transformer was completed.
- Modernization of outdoor switchgear 110 kV of SS 220/110/10 kV "Uzen".
- A number of substations (9 pcs) and HV lines with a voltage of 35 kV and higher (180 km) were purchased.





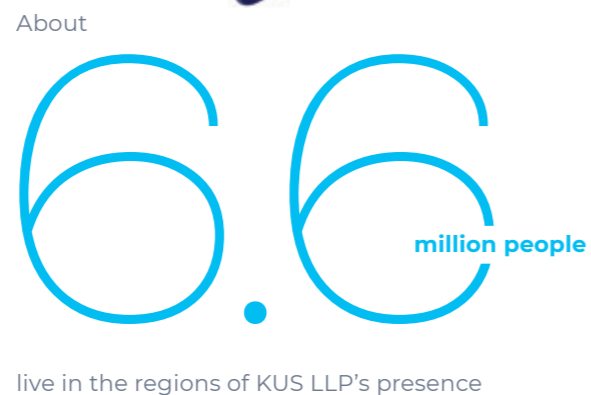
## Geography of activity

In 2020, the Group was represented in four of 14 regions of Kazakhstan — Karaganda, Turkestan, East Kazakhstan and Mangistau. The total population of these regions is 6.6 million people, which is about 35% of the republic's population.

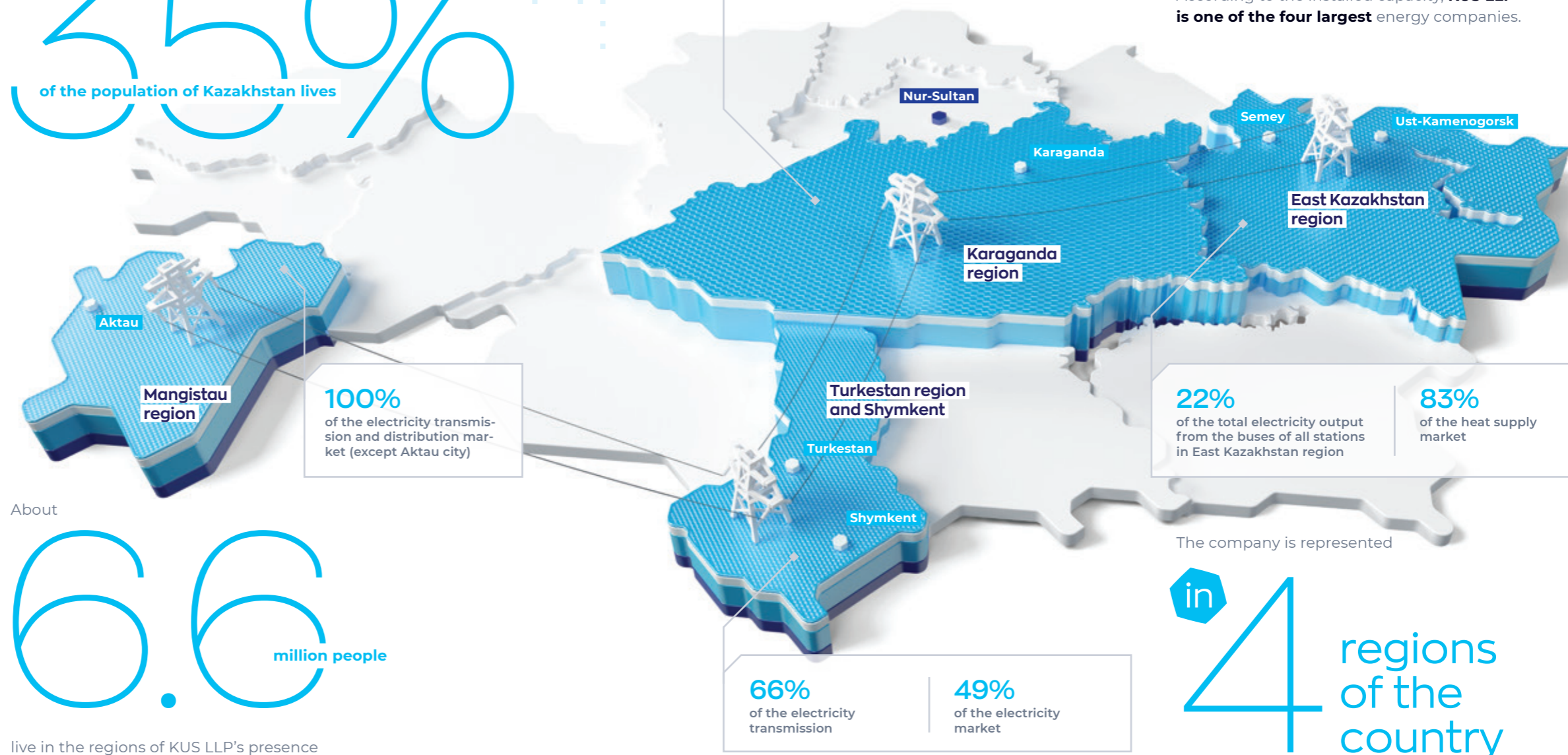
**In 2020, consumers of KUS services were more than 1,049 thousand individuals and over 40 thousand of legal entities.**

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. 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.

According to the results of 2020, the KUS covers the regions with power and heat supply services where



According to the installed capacity, **KUS LLP is one of the four largest** energy companies.







02. Chapter

Annual report

2020



# 02

## Strategy

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.



## 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.

### 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, and 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:

01 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;

02 maximum of effective use of existing production, financial and human assets of the KUS Group to achieve set goals;

03 customer orientation of retail companies, providing constant feedback to consumers, improving services;

04 strict observance of legislation of the Republic of Kazakhstan, government legal acts regulating energy policy, which are guides to the KUS Group in its activities;

05 construction of new power grids, expansion of generating and power transmission capacities, stable growth of production indicators of enterprises belonging to the KUS Group;

06 modernization of existing energy assets, use of innovative solutions at their production facilities, scientific, innovative approach and optimization of energy costs;

07 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;

08 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;

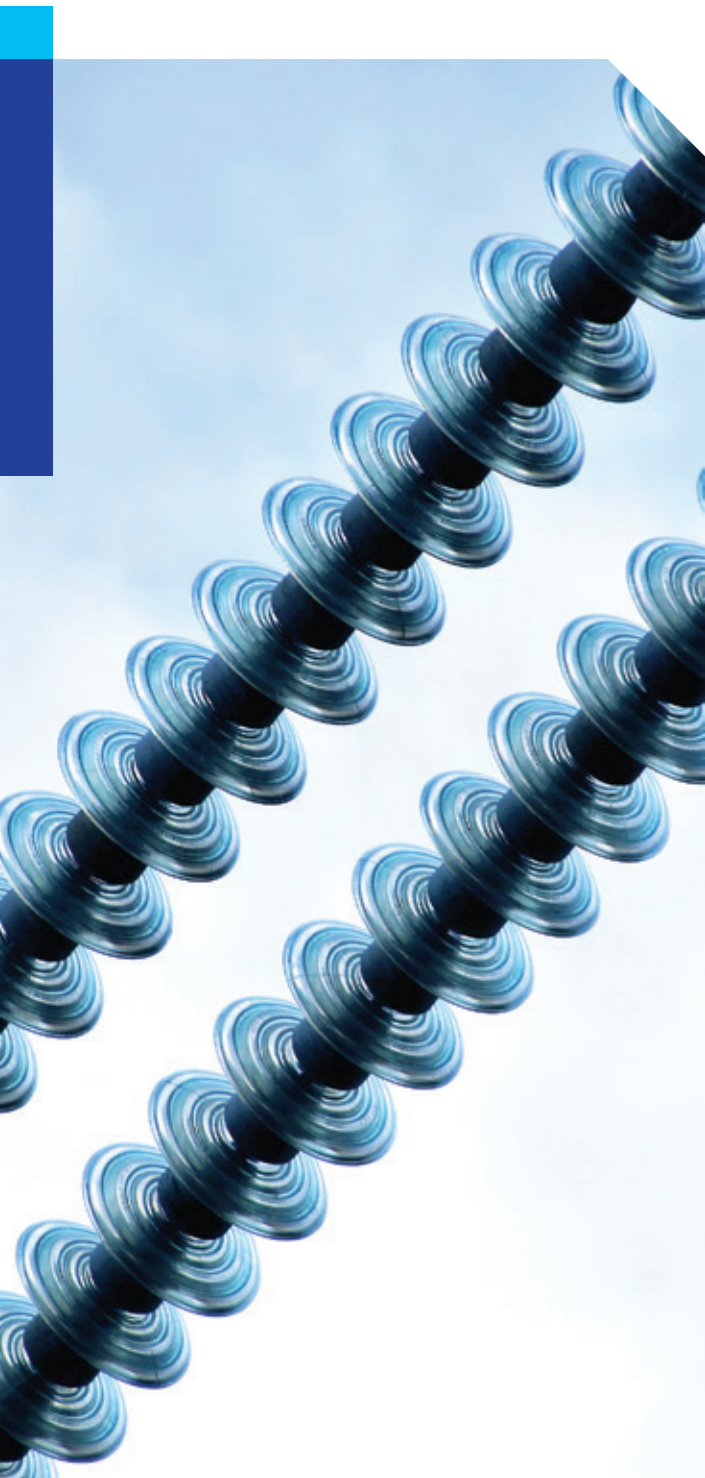
09 continuous analysis of activities of all suppliers and contractors of the KUS Group, building long-term, mutually beneficial relationships with them.

### 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 long- term 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 high-quality electricity and heat supply, as well as transparent justification of the tariff policy.

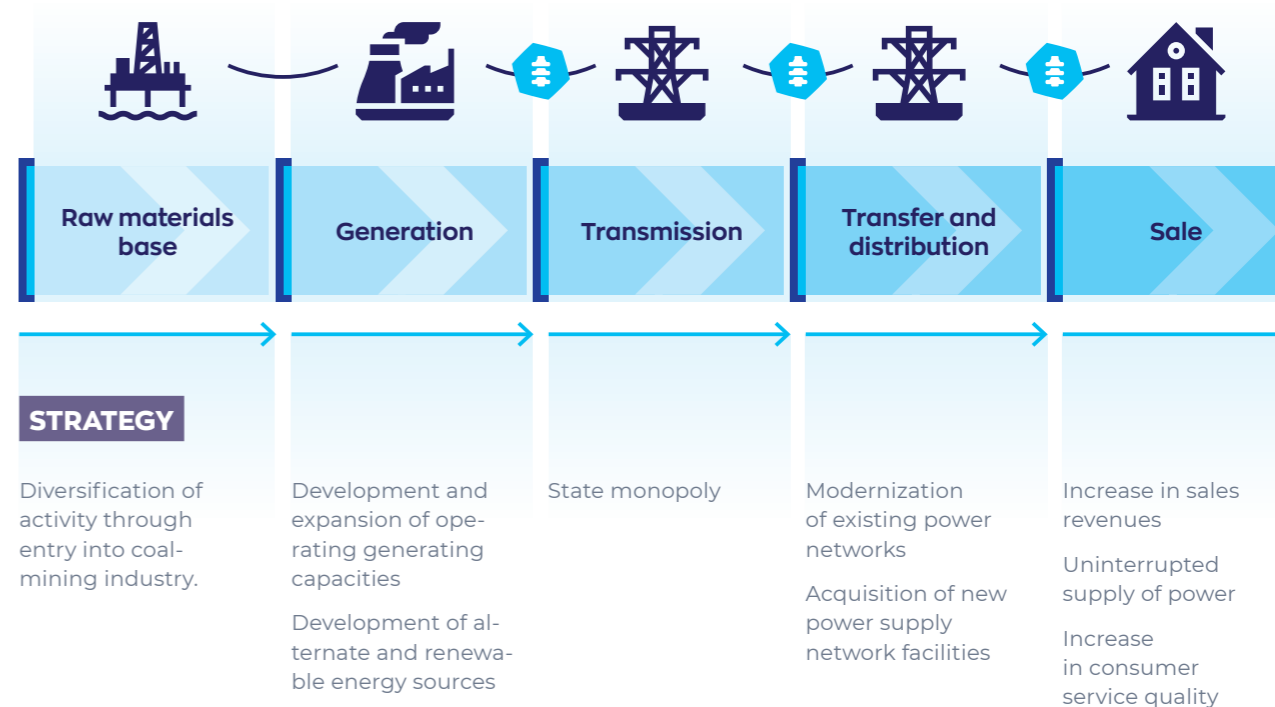
**Responsibility to the environmental community and future generations** is to reduce the negative impact on the environment through the introduction of environmentally friendly and safe technologies for generating, transporting electricity, energy saving, and improving the efficiency of the Company's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

**Responsibility to contractors and suppliers** — ccreating 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.**



### CORPORATE DEVELOPMENT

- The Group implements management innovations and international corporate governance standards.
- The emphasis is on stimulating the expansion of the flow of international investment in the KUS and the country's energy sector as a whole.
- The Group strives to support the development of human capital by building responsible relationships with employees.
- Formation of a positive image of the company and a strong brand.
- Active promotion of the company's interests at the legislative level.



**KPI of Kazakhstan Utility Systems LLP for 2021**

Nº	Key performance indicator	UOM	Fact for 2018	Fact for 2019	Plan for 2020	Fact for 2020	Plan for 2021
1.	EBITDA	million KZT	35,099	38,941	37,204	43,857	52,391
2.	Capitalization	million KZT	233,060	214,180	247,035	331,364	392,932
3.	The average capacity of the electricity supply	MW	631.8	660.4	668.0	648.0	679
4.	Volume of electric energy transport	million kWh	8,351	9,064	9,554	9,502	9,548
5.	Losses in networks	%	10.4	10/9.39	9.34	9.01	9.08



**Business model**

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

**Our resources** (as of January 1, 2021)

**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:**

Electric power capacity of sources:

**1,066.5 MW** installed | **890.8 MW** available

heat power capacity of sources:

**2,683.9 Gcal/h** installed | **2,174.5 Gcal/h** available

**Transmission and distribution:**

Length of HV lines — 0.4-220 kV:

**33,582 km**

Number of substations  
**424 units**

Length of cable lines — 0.4-110 kV:

**2,435 km**

**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).

Equity capital

**158,315 million KZT**

Principal debt on loans and bonds

**100,098 million KZT**

**Personnel structure**

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

The number of employees of the Group

**8,677**

**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 2020, the Company operated in four regions of the country. Effective interaction of all structural subdivisions of subsidiaries is provided.

**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 heat 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.

**Sale**

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 2010-2021 amounted to more than **250 billion KZT**

## Value engineering (results of 2020)

### Consumers

Consumers of KUS services in four regions of the Group's presence are more than

1,049 thousand individuals  
over 40 thousand legal entities

6,446 million kWh  
of electricity was produced

5,648 thousand Gcal  
of heat energy was produced

### 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.

Interest paid on loans and bonds  
9,747,604 thousand KZT

### 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.

Labour remuneration  
16,744,639 thousand KZT

Expenses for social support of employees  
110,610 thousand KZT

Have completed training programs  
2,681 people

### 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.

The payment of taxes at the end of the year  
12,144,398 thousand KZT\*

Was spent on social services  
46,742 thousand KZT

Capital investments of the Group for the year amounted to  
20.3 billion KZT

\* net of corporate income tax

## Competitive advantages

01

**Strategic importance** — In 2020, the Group and its subsidiaries supply regions of presence with power and heat, where 6.6 million people of Kazakhstan's population live.

02

Being a **vertically integrated, large scale and diversified**, the Group operates to a maximum effect in order to provide qualitative services to its customers, which at the end of 2020 counted more than 1,049 thousand individuals and 40 thousand legal entities. In the regions of its presence, KUS occupies a dominant position.

03

The possibility of concluding **long-term purchase and sale contracts** for electricity allows us to attract large industrial consumers with longterm development plans.

04

The Group has established itself as **one of the most attractive issuers** of debt obligations among operating companies present on Kazakhstan securities market.

05

Absence of debt burden in foreign currency, and as a consequence, ability to provide **flexible pricing policy**.

06

The Group successfully **diversifies its funding sources**.



03. Chapter

Annual report

2020



# 03

## Strategic report

According to the results of 2020, the KUS retains its share in the region of 6% in the total volume of electricity production in Kazakhstan.





## Energy industry overview

### Electric power generation

The production of power energy in Kazakhstan is carried out by 179 power stations of various forms of ownership. According to the Ministry of Energy of the Republic of Kazakhstan, by the end of 2020, the volume of power generation in the Republic of Kazakhstan amounted to **108 billion kWh** or **101.89%** by 2019 (106 billion kWh).

The volume of power production in the Republic of Kazakhstan for 2019-2020, million kWh

Zone	Generation type	January-December		Δ, % 2019
		2019	2020	
Kazakhstan	<b>Total</b>	<b>106,029.8</b>	<b>108,085.8</b>	<b>1.9%</b>
	TPP	85,955.0	86,662.6	0.8%
	GTPP	8,975.6	9,527.7	6.2%
	HPP	9,984.9	9,545.8	-4.4%
	WPP	701.9	1,094.1	55.9%
	SPP	409.4	1,250.7	205.5%
	BGP	3.0	4.9	63.3%
	<b>Total</b>	<b>81,653.4</b>	<b>83,032.0</b>	<b>1.7%</b>
Northern	TPP	71,310.3	72,345.7	1.5%
	GTPP	3,078.5	3,159.4	2.6%
	HPP	6,847.1	6,553.0	-4.3%
	WPP	232.1	515.9	122.3%
	SPP	182.4	453.1	148.4%
	BGP	3.0	4.9	63.3%
	<b>Total</b>	<b>11,001.9</b>	<b>11,565.7</b>	<b>5.1%</b>
Southern	TPP	7,204.3	7,338.6	1.9%
	GTPP	210.3	166.7	-20.7%
	HPP	3,137.8	2,992.8	-4.6%
	WPP	225.6	273.0	21.0%
	SPP	223.9	794.6	254.9%
	<b>Total</b>	<b>13,374.5</b>	<b>13,488.1</b>	<b>0.8%</b>
	Western	TPP	7,440.4	6,978.3
GTPP		5,686.8	6,201.6	9.1%
WPP		244.2	305.2	25.0%
SPP		3.1	3.0	-3.2%

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

In January-December 2020, compared to the same period in 2019, the power production significantly increased (an increase of 20% and higher) in Turkestan region. At the same time, a decrease in power production was observed in Aktobe, Mangistau, North Kazakhstan and East Kazakhstan regions.

### Power consumption

Power consumption amounted to **107.3 billion kWh** or **102.09%** by 2019 (105.1 billion kWh). Thus, in the northern zone of the republic, consumption increased by **2%**, in the western by **1%** and in the southern by **3%**.

The volume of power consumption in the Republic of Kazakhstan for 2019-2020, million kWh

No.	Name	January-December		Δ, million kWh	Δ, %
		2019	2020		
<b>1</b>	<b>Kazakhstan</b>	<b>105,193.1</b>	<b>107,344.8</b>	<b>2,151.7</b>	<b>2%</b>
1	Northern Zone	69,053.6	<b>70,522.2</b>	<b>1,468.6</b>	<b>2%</b>
2	Western Zone	13,458.8	<b>13,535.2</b>	<b>76.4</b>	<b>1%</b>
3	Southern Zone	22,680.7	<b>23,287.4</b>	<b>606.7</b>	<b>3%</b>
<b>including by regions</b>					
1	East Kazakhstan	9,339.1	9,204.8	-134.3	-1%
2	Karaganda	17,990.7	18,461.0	470.3	3%
3	Akmola	9,208.9	9,196.6	-12.3	-0.1%
4	North Kazakhstan	1,764.3	1,665.2	-99.1	-6%
5	Kostanay	4,786.2	4,615.8	-170.4	-4%
6	Pavlodar	19,527.0	20,731.4	1,204.4	6%
7	Atyrau	6,350.4	6,255.6	-94.8	-1%
8	Mangistau	5,110.5	5,023.1	-87.4	-2%
9	Aktobe	6,437.4	6,647.5	210.1	3%
10	West Kazakhstan	1,997.9	2,256.6	258.7	13%
11	Almaty	11,351.4	11,367.8	16.4	0.1%
12	Turkestan	5,096.9	5,211.2	114.3	2%
13	Zhambyl	4,472.7	4,948.3	475.6	11%
14	Kyzylorda	1,759.6	1,760.1	0.5	0.03%

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

At the same time, since the beginning of 2020, the Unified Electric Power System of the Republic of Kazakhstan has been exported to the Republic of Uzbekistan and Republic of Kyrgyzstan in the amount of **866,121 million kWh**.

## Renewable energy sources

According to the system operator, the volume of electricity production by renewable energy facilities (SPP, WPP, BGS, small hydroelectric power plants) of the Republic of Kazakhstan in January-December 2020 amounted to **3,123.4 million kWh**. Compared to January-December 2019 (1,927.7 million kWh), the increase was **62%**.

The volume of electricity production by renewable energy facilities for 2019-2020, million kWh

No.	Name	2019		2020		Deviation 2020/2019	
		January-December	share in the Republic of Kazakhstan, %	January-December	share in the Republic of Kazakhstan, %	million kWh	%
<b>Total production in the RK</b>		<b>106,030.0</b>	<b>100.0%</b>	<b>108,085.7</b>	<b>100.0%</b>	<b>2,055.7</b>	<b>1.9%</b>
<b>I</b>	<b>Total RES in the Republic of Kazakhstan, including by zones</b>	<b>1,927.7</b>	<b>1.8%</b>	<b>3,123.4</b>	<b>2.9%</b>	<b>1,195.7</b>	<b>62.0%</b>
1.	Northern Zone	594.8	30.9%	1,117.5	35.8%	522.7	87.9%
2.	Southern Zone	1,082.7	56.2%	1,644.0	52.6%	561.3	51.8%
3.	Western Zone	250.2	0.0%	361.9	11.6%	111.7	0.0%
<b>II</b>	<b>Total RES in the Republic of Kazakhstan, including by type</b>	<b>1,927.4</b>	<b>1.8%</b>	<b>3,123.4</b>	<b>2.9%</b>	<b>1,195.7</b>	<b>62.0%</b>
1.	SPP	412.4	21.4%	1,304.3	41.8%	891.9	216.3%
2.	WPP	701.9	36.4%	1,091.6	34.9%	389.7	55.5%
3.	Small HPPs	807.3	41.9%	722.6	23.1%	-84.7	-10.5%
4.	Biogas plants	5.8	0.3%	4.9	0.2%	-0.9	0.0%

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

In 2020, there is a decrease in the production of electricity by small hydroelectric power plants compared to the same period in 2019, while the production of electricity by WPP and SPP facilities has increased.

The volume of electricity production with and without large HPPs for 2019-2020, million kWh

No.	Name	2019		2020		Deviation 2020/2019	
		January-December	share in the Republic of Kazakhstan, %	January-December	share in the Republic of Kazakhstan, %	million kWh	%
<b>Power production in the UES of the Republic of Kazakhstan</b>		<b>106,030.0</b>	<b>100.0%</b>	<b>108,085.7</b>	<b>100.0%</b>	<b>2,055.7</b>	<b>1.9%</b>
1.	Production of "net" electricity (RES + Large HPPs)	9,507.0	9.0%	8,800.5	8.1%	-706.5	-7.4%
2.	Production of "net" electricity (RES excluding large HPPs)	1,927.7	1.8%	3,123.4	2.9%	1,195.7	62.0%

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

## Centralized bidding

According to Kazakhstan Electricity and Power Market Operator JSC (hereinafter — KOREM JSC) on the results of the centralized bidding of electricity in December 2020 signed 32 transactions for 53,424 thousand kWh totaling 432,544.8 thousand KZT (VAT exclusive) (including the day ahead spot trades and trades on the medium and long-term period).

For the same period of 2019, the total volume of centralized bidding amounted to 4 transactions for 65,496 thousand kWh totaling 493,591.68 thousand KZT (VAT exclusive). The table below shows the dynamics of prices of transactions concluded at centralized bidding in December 2019-2020.

Today, cases of emergency retirement of power capacities, a decrease in the quality of electricity supply to consumers and an increase in the risks of dependence of the unified electric power system of Kazakhstan on neighboring countries have become more frequent.

Thus, in 2020, 4,458 technological violations were committed in the Unified Electric Power System of Kazakhstan. Compared to the same period last year, the number of technological violations increased by 448 or by 11%. This fact indicates systemic problems in providing the industry with a sufficient level of financing, which is mostly subject to regulation by the state body.

According to the results of 2020, the KUS retains its share in the region of 6% in the total volume of electricity production in Kazakhstan.

According to the forecasts of the Ministry of Energy of the Republic of Kazakhstan, the UES of Kazakhstan will not experience a shortage of electricity in the medium term, the growth of consumption will be covered by the introduction of new capacities.

Dynamics of prices formed according to the results of centralized bidding in December 2019-2020

	day-ahead spot trading		trading for medium-and long-term periods		during the operating day	
	MIN price	MAX price	MIN price	MAX price	MIN price	MAX price
<b>December</b>	<b>KZT/kWh (without VAT)</b>					
2019	-	-	5.76	8.68	-	-
2020	6	6.5	7.95	10.39	-	-

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

## Installed and available capacities of the Republic of Kazakhstan (as of January 1, 2020/2021)

The installed capacity of power plants of the Republic of Kazakhstan as of January 1, 2021 was **23,547 MW**, which is 611 MW more than in 2020.

Power plants	Installed capacity, MW			Available capacity, MW		
	2020	2021	Δ	2020	2021	Δ
<b>UES of Kazakhstan</b>						
<b>Total</b>	<b>22,936</b>	<b>23,547.1</b>	<b>611.10</b>	<b>19,329</b>	<b>20,039.1</b>	<b>710.10</b>
Total TPP	19,389	19,419.5	30.50	17,257	17,456.1	199.10
<i>including steam-turbine TPPs</i>	17,389	17,404.5	15.50	15,594	15,679.0	85.00
GTPP	1,999	2,015.0	16.00	1,662	1,777.1	115.10
SPP	597	885.3	288.30	364	641.6	277.60
WPP	282	511.6	229.60	149	311.6	162.60
HPP	2,666	2,729.6	63.60	1,558	1,628.7	70.70
Biogas plant (BGP)	1.06	1.1	0.04	0.5	1.1	0.60
<b>Northern zone of the UES of Kazakhstan</b>						
<b>Total</b>	<b>15,599</b>	<b>15,892.7</b>	<b>293.70</b>	<b>13,743</b>	<b>14,079.6</b>	<b>336.60</b>
Total TPP	13,503	13,528.6	25.60	12,554	12,650.6	96.60
<i>including steam-turbine TPPs</i>	12,975	13,000.5	25.50	12,051	12,147.7	96.70
GTPP	528	528.1	0.10	502	502.9	0.90
HPP	1,774	1,774.6	0.60	1,038	1,044.5	6.50
WPP	100	232.5	132.50	59	164.6	105.60
Biogas plant (BGP)	1.06	1.1	0.04	0.5	1.1	0.60
SPP	220	356.0	136.00	91	218.9	127.90
<b>Western zone of UES of Kazakhstan</b>						
<b>Total TPP</b>	<b>3,528</b>	<b>3,533.1</b>	<b>5.10</b>	<b>2,650.4</b>	<b>2,728.1</b>	<b>77.70</b>
Total TPP	3,424	3,414.7	-9.30	2,595.8	2,677.0	81.20
<i>including steam-turbine TPPs</i>	1,984	1,974.0	-10.00	1,464	1,449.0	-15.00
GTPP	1,440.7	1,440.7	0.00	1,131.8	1,228.0	96.20
SPP	2.0	2.0	0.00	2.0	2.0	0.00
WPP	101.4	116.4	15.00	52.6	49.1	-3.50

Power plants	Installed capacity, MW			Available capacity, MW		
	2020	2021	Δ	2020	2021	Δ
<b>Southern zone of UES of Kazakhstan</b>						
<b>Total</b>	<b>3,808</b>	<b>4,121.2</b>	<b>313.20</b>	<b>2,935</b>	<b>3,231.4</b>	<b>296.40</b>
Total TPP	2,460	2,476.2	16.20	2,107	2,128.5	21.50
<i>including steam-turbine TPPs</i>	2,430	2,430.0	0.00	2,079	2,082.3	3.30
GTPP	30	46.2	16.20	28	46.2	18.20
SPP	375	527.3	152.30	271	420.7	149.70
WPP	80	162.7	82.70	37	98.0	61.00
HPP	892	955.0	63.00	520	584.2	64.20
<b>Akmola region</b>						
<b>Total</b>	<b>777</b>	<b>961.0</b>	<b>184</b>	<b>694</b>	<b>869.0</b>	<b>175</b>
<i>including steam-turbine TPPs</i>	682	682.0	0	639	638.1	-0.9
WPP	95	178.95	83.95	55	139.0	84
SPP	0	100.00	100	0	91.9	91.9
<b>Aktobe region</b>						
<b>Total TPP</b>	<b>654</b>	<b>702.1</b>	<b>48.1</b>	<b>660.1</b>	<b>684.1</b>	<b>24</b>
<i>including steam-turbine TPPs</i>	315	315.0	0	320	320.0	0
GTPP	339.1	339.1	0	340.1	340.1	0
WPP	0	48.0	48	0	24.0	24
<b>Almaty region</b>						
<b>Total</b>	<b>1,886</b>	<b>1,953.6</b>	<b>67.60</b>	<b>1,340.3</b>	<b>1,463.8</b>	<b>123.50</b>
<i>including steam-turbine TPPs</i>	852	852.0	0.00	725	739.0	14.00
HPP	804	804.8	0.80	458	485.0	27.00
SPP	202	257.4	55.40	141	228.6	87.60
WPP	27	39.5	12.50	15	11.3	-3.70



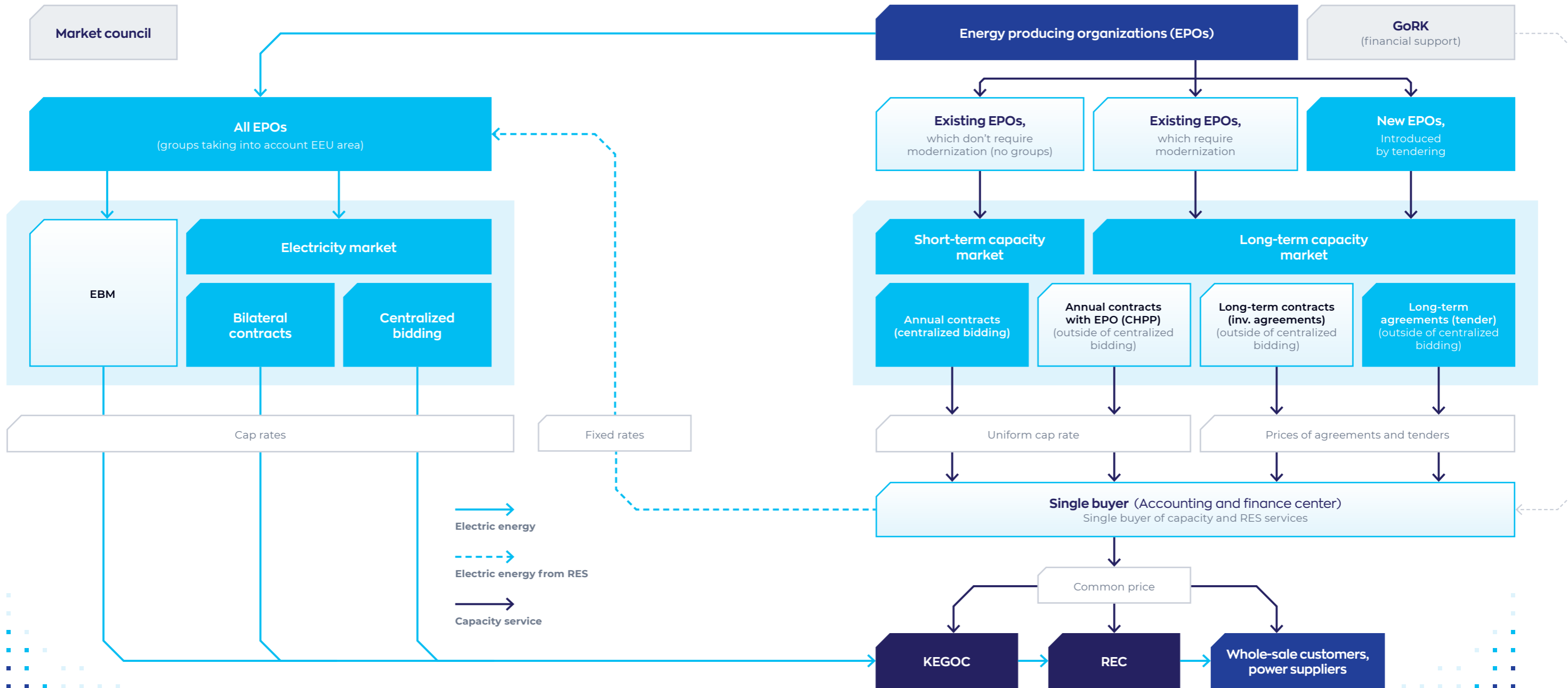


Power plants	Installed capacity, MW			Available capacity, MW		
	2020	2021	Δ	2020	2021	Δ
<b>Atyrau region</b>						
<b>Total</b>	<b>1,565</b>	<b>1,618.3</b>	<b>53.30</b>	<b>1,187</b>	<b>1,344.5</b>	<b>157.50</b>
<i>including steam-turbine TPPs</i>	624	624.0	0.00	492	526.0	34.00
GTPP	941	941.5	0.50	695	793.7	98.70
WPP	52	52.8	0.80	24	24.8	0.80
<b>East Kazakhstan region</b>						
<b>Total</b>	<b>2,346.5</b>	<b>2,346.5</b>	<b>0.00</b>	<b>1,507</b>	<b>1,515.5</b>	<b>8.50</b>
<i>including steam-turbine TPPs</i>	542	542.5	0.50	459	461.6	2.60
HPP	1,774	1,774.0	0.00	1,038	1,043.9	5.90
SPP	30	30.0	0.00	10	10.0	0.00
<b>Zhambyl region</b>						
<b>Total</b>	<b>1,458</b>	<b>1,528.7</b>	<b>70.70</b>	<b>1,261</b>	<b>1,353.2</b>	<b>92.20</b>
<i>including steam-turbine TPPs</i>	1,290	1,290.0	0.00	1,148	1,172.8	24.80
SPP	100	100.5	0.50	83	83.6	0.60
WPP	53	123.2	70.20	22	86.7	64.70
HPP	14	15.0	1.00	7	10.1	3.10
<b>West Kazakhstan region</b>						
<b>Total</b>	<b>400</b>	<b>390.3</b>	<b>-9.7</b>	<b>374</b>	<b>368.4</b>	<b>-5.6</b>
<i>including steam-turbine TPPs</i>	30	20.0	-10	22	18.0	-4
GTPP	370	370.3	0.3	352	350.4	-1.6
<b>Karaganda region</b>						
<b>Total</b>	<b>2,943</b>	<b>2,979.7</b>	<b>36.70</b>	<b>2,317</b>	<b>2,431.9</b>	<b>114.90</b>
<i>including steam-turbine TPPs</i>	2,563	2,563.0	0.00	2,072	2,150.4	78.40
GTPP	189	189.0	0.00	162	162.8	0.80
HPP	0.6	0.6	0.00	0.6	0.6	0.00
Biogas plant (BCP)	1.06	1.1	0.04	0.5	1.1	0.60
SPP	190	226.0	36.00	81	117.0	36.00

Power plants	Installed capacity, MW			Available capacity, MW		
	2020	2021	Δ	2020	2021	Δ
<b>Kostanay region</b>						
<b>Total TPP</b>	<b>283</b>	<b>283.0</b>	<b>0</b>	<b>156</b>	<b>159.1</b>	<b>3.1</b>
<b>Kyzylorda region</b>						
<b>Total</b>	<b>167</b>	<b>210.4</b>	<b>43.4</b>	<b>93</b>	<b>121.3</b>	<b>28.3</b>
<i>including steam-turbine TPPs</i>	85	85.5	0.5	40	40.0	0
GTPP	30	46.2	16.2	28	46.2	18.2
SPP	50	78.7	28.7	25	35.1	10.1
<b>Mangistau region</b>						
<b>Total</b>	<b>1,509</b>	<b>1,524.5</b>	<b>15.50</b>	<b>1,064</b>	<b>1,015.2</b>	<b>-48.80</b>
<i>including steam-turbine TPPs</i>	1,330	1,330.0	0.00	950	905.0	-45.00
GTPP	128	128.9	0.90	83	83.9	0.90
SPP	2	2.0	0.00	2	2.0	0.00
WPP	48.6	63.6	15.00	28	24.3	-3.70
<b>Pavlodar region</b>						
<b>Total steam-turbine TPPs</b>	<b>8,049</b>	<b>8,074.0</b>	<b>25</b>	<b>7,863</b>	<b>7,877.5</b>	<b>15</b>
<b>North Kazakhstan region</b>						
<b>Total</b>	<b>546</b>	<b>546.5</b>	<b>0.5</b>	<b>545</b>	<b>542.6</b>	<b>-2.4</b>
<i>including steam-turbine TPPs</i>	541	541.0	0	541	541.0	0
WPP	5	5.5	0.5	4	1.6	-2.4
<b>Turkestan region</b>						
<b>Total</b>	<b>296</b>	<b>428.5</b>	<b>132.5</b>	<b>240</b>	<b>293.2</b>	<b>53.2</b>
TPP	202	202.5	0.5	165	130.5	-34.5
HPP	72	135.3	63.3	54	89.2	35.2
SPP	21	90.74	69.74	20	73.45	53.45

Source: Report "Analysis of the electricity and coal Market of Kazakhstan. January-December 2020." Samruk Energy JSC.

# Capacity market structure





## The business environment

### Pricing of subsidiaries

#### Power plant

In 2020, the policy of tariff formation for electric energy has radically changed at electric power plants. Thus, by the order of the Minister of Energy of the Republic of Kazakhstan dated May 22, 2020 No. 205 “On approval of the Methodology for determining the profit rate taken into account when approving marginal tariffs for electric energy, as well as fixed profit for balancing taken into account when approving marginal tariffs for balancing electricity”, there was adopted a new approach to determining the profit rate, which is an integral part of the marginal tariff for electricity. According to these innovations, new values of marginal tariffs were adopted by amending the order of the Minister of Energy of the Republic of Kazakhstan No. 514 dated December 14, 2018 “On approval of Marginal Tariffs for Electric energy”.

Thus, since July 1, 2020, the tariff for electric energy for Karaganda Energy Center LLP (KEC) has increased from 6.7 KZT/kWh to 7.91 KZT/kWh, a total increase is 18%.

The tariffs for the electric capacity of the KEC for 2020 were the following values:

- tariff for centralized trading capacity — 419,000 KZT/MW per month;
- tariff for technological minimum — 590,000 KZT/MW per month;
- tariff under the investment agreement — 3,578,900 KZT/MW per month.

The KEC tariff for heat from September 1, 2020 was adjusted and amounted to 1,721.93 KZT/Gcal, with the previously effective tariff of 1,604 KZT/Gcal, i.e. an increase of 7%.

Tariff for electric energy of Ust-Kamenogorsk CHPP LLP (UK CHPP) was changed from July 1, 2020 and amounted to 7.72 KZT/kWh instead of the previously valid tariff of 6.44 KZT/kWh, an increase of 20%.

The tariff for the electric power of the UK CHPP for 2020 amounted to the following values:

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

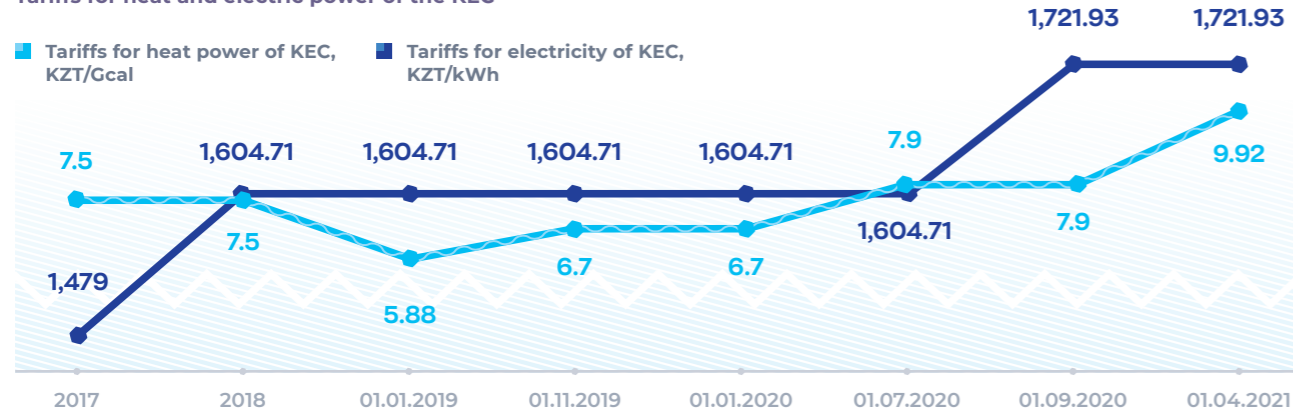
By the Order of the Head of the Department of the Committee on Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the East Kazakhstan Region dated December 21, 2020 No. 186-ОД, tariffs for the production of heat were approved for the UK CHPP with entry into force from January 1, 2021 in the following values:

- tariff for Ust-Kamenogorskiye teplovye seti JSC in the amount of 1,507 KZT/Gcal;
- tariff for the population in the amount of 1,276.46 KZT/Gcal;
- tariff for other consumers of Ust-Kamenogorskiye teplovye seti JSC in the amount of 2,058.3 KZT/Gcal;
- the tariff for other consumers is 6,369.3 KZT/Gcal.

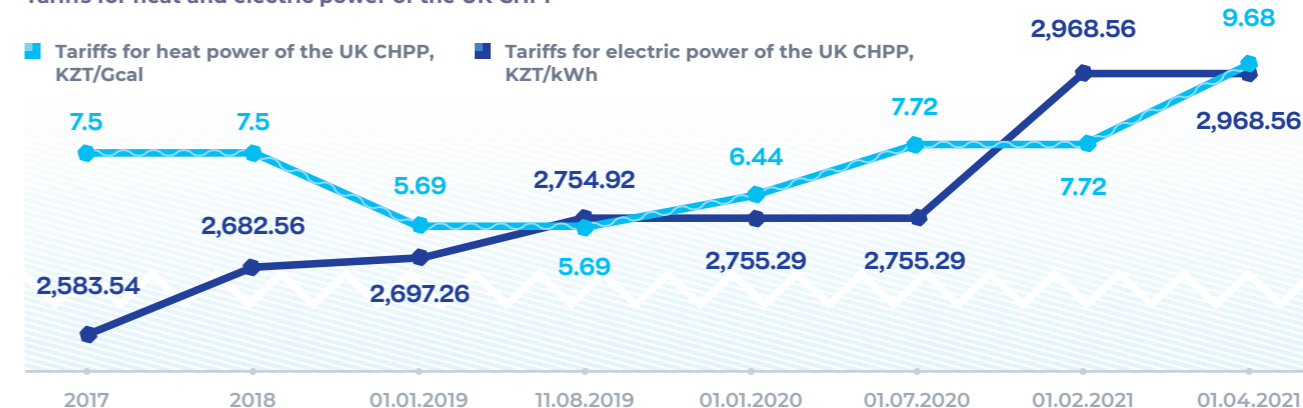
Then, by the Decree of the same body, the following tariff values (KZT/Gcal) were approved for the period from February 1, 2021 to January 31, 2026:

	Average tariff
01.02.2021-31.01.2022	2,968.56
01.02.2022-31.01.2023	3,340.48
01.02.2023-31.01.2024	3,763.92
01.02.2024-31.01.2025	4,200.36
01.02.2025-31.01.2026	4,698.40

Tariffs for heat and electric power of the KEC



Tariffs for heat and electric power of the UK CHPP



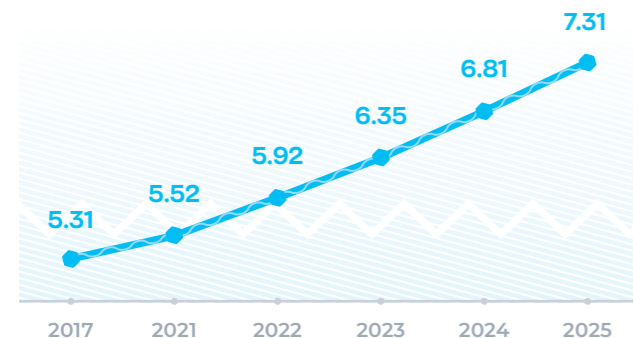




On November 12, 2020 for Karagandy Zharyk (KZh) by the order of the head of the Department for Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the Karaganda region, the marginal tariff and tariff estimate on services for the transmission and distribution of electric power for 2021-2025 were approved with the following values:

- average tariff for 5 years is 6.39 KZT/kWh. Taking into account the previously effective tariff of 5.31 KZT/kWh, the increase was 20%;
- 2021 — 5.52 KZT/kWh;
- 2022 — 5.92 KZT/kWh;
- 2023 — 6.35 KZT/kWh;
- 2024 — 6.81 KZT/kWh;
- 2025 — 7.31 KZT/kWh.

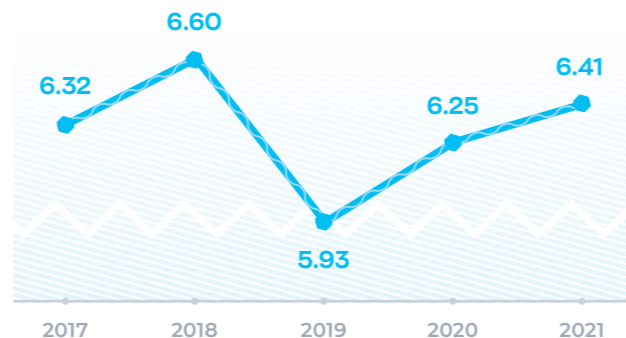
Tariff of KZh for electric power transmission, KZT/kWh



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 electricity transmission of Onustik Zharyk Transit LLP (OZhT) in 2020 amounted to 6.25 KZT/kWh, according to the Order of the Head of the Department of the Committee on Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the Turkestan Region No. 06-09/2178 dated December 25, 2019. At the same time, according to the order of the same body No. 109-HK dated December 14, 2020, the transmission tariff from January 1, 2021 was increased to 6.41 KZT/kWh. Taking into account the value of the tariff in 2019 at the level of 5.93 KZT/kWh, the overall growth by the end of 2020 was 5%.

Tariff of OZhT for electric power transmission, KZT/kWh



By the order of the Head of the Department of the Committee on Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the Mangistau region No. 57-OD dated September 20, 2019, the following tariffs were approved: from November 1, 2019 to December 31, 2019 for indivi-

duals — 2.28 KZT/kWh, for state utility enterprises (SUE) providing services for the transmission and distribution of power and Elektrzhuyeleri LLP, carrying out activities for the power supply of individuals (population) — 2.40 KZT/kWh, for legal entities — 4.75 KZT/kWh.

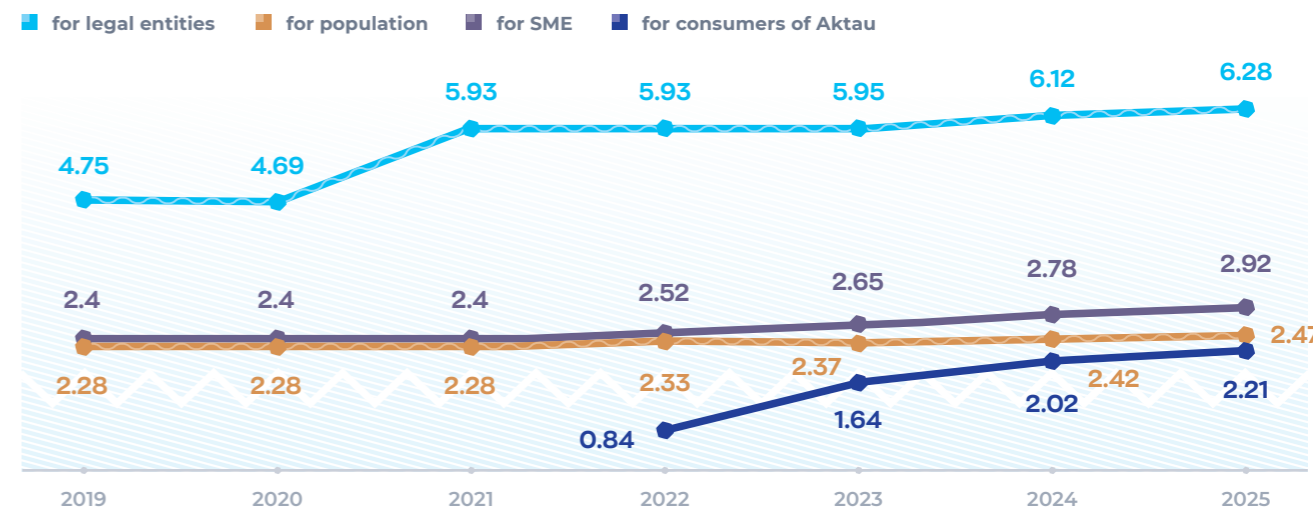
According to the same order for the period from January 1, 2020 to October 31, 2020, the rate was approved at the following level: for individuals — 2.28 KZT/kWh, for SUE providing services for transmission and distribution of

power and Elektrzhuyeleri LLP carrying out activities for the power supply of individuals (population) — 2.40 KZT/kWh, for legal entities — 4.69 KZT/kWh.

In addition, by Order of the Head of the Department of the Committee on Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the Mangistau region No. 70-HK dated November 5, 2020, a tariff estimate was approved with the following tariff values (KZT/kWh):

Name of the tariff	2021	2022	2023	2024	2025
Average tariff	4.54	4.70	4.87	5.07	5.19
For legal entities	5.93	5.93	5.95	6.12	6.28
For individuals	2.28	2.33	2.37	2.42	2.47
For SUE providing services for the transmission and distribution of electric power	2.40	2.52	2.65	2.78	2.92
Consumers of Aktau (through the networks of AUES State Enterprise) and consumers of the Munaily district (through the networks of Mangistauenergo State Enterprise)	0	0.84	1.64	2.02	2.21

Tariff of MRENC for electric power transmission, KZT/kWh

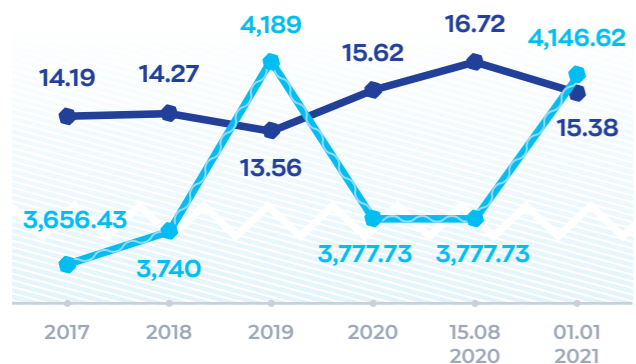


In accordance with the submitted KaragandyZhylusbyt (KZhS) notification by the Department for regulation of natural monopolies of the Ministry of national economy of the Republic of Kazakhstan in Karaganda region there was given a reasoned opinion No. 3-5/1036 of December 27, 2019, according to which the following tariffs have been agreed for the company from January 1, 2020: average rate — 15.62 KZT/kWh.

At the same time, according to the reasoned opinion No. 1-4/1876 dated July 29, 2020, issued by the above-mentioned body, average daily rate for the enterprise was agreed at the level of 16.72 KZT/kWh, effective from August 15, 2020. Thus, the tariff growth compared to the level of 2019 (13.56 KZT/kWh) amounted to 23%.

According to the Order of the Head of the Department for Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan for the Karaganda region No. 82-ОД dated November 28, 2019, heat energy rate supplied in 2020 was 3,777.73 KZT/Gcal.

Tariffs of KZhS for heat and electric power



■ Tariffs for heat power, KZT/Gcal  
■ Tariffs for electric power, KZT/kWh

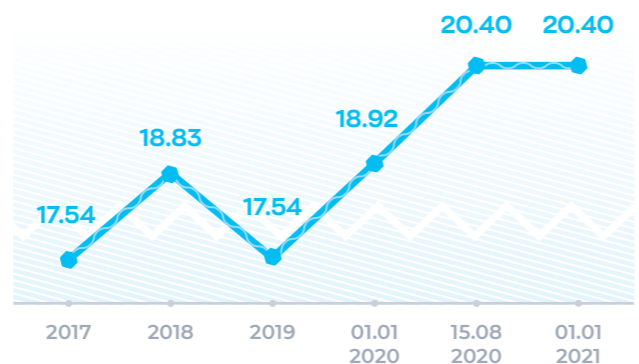
Electricity rate supplied by Raschetnyi servisnyi center LLP (RSC) from January 1, 2020 was 17.67 KZT/kWh, which is 9% more than in 2019 (16.21 KZT/kWh).

Tariffs of RSC for electric power, KZT/kWh



Average daily rate of Energopotok LLP (EP) from January 1, 2020 was 18.92 KZT/kWh. At the same time, due to increase in the cost of electricity from energy-producing organizations, from July 1, 2020, the company submitted a notification of rate increase, as a result, an average daily rate was agreed at the level of 20.40 KZT/kWh.

Tariffs of EP for electric power, KZT/kWh



It is also worth noting that during emergency rule (from April to May 2020) due to the COVID-2019 pandemic, energy supply organizations kept the average daily rate at the level effective before the introduction of emergency rule, with a reduction in the rate for population.

## Operational results

### CAPACITIES

The Group's production capacities in 2020 are a combination of electricity and heat generating sources, as well as energy transmission grids, heating plants and substations.

#### Generation:

- installed electric power of the sources — 1,066.5 MW, available capacity — 890.8 MW;
- installed thermal capacity of the sources — 2,683.9 Gcal/h, the available capacity — 2,174.5 Gcal/h.

#### Transmission and distribution:

- length of the overhead lines — 0.4-220 kV — 33,582 km;
- length of cable lines 0.4-110 kV — 2,435 km;
- Number of substations — 424 units.

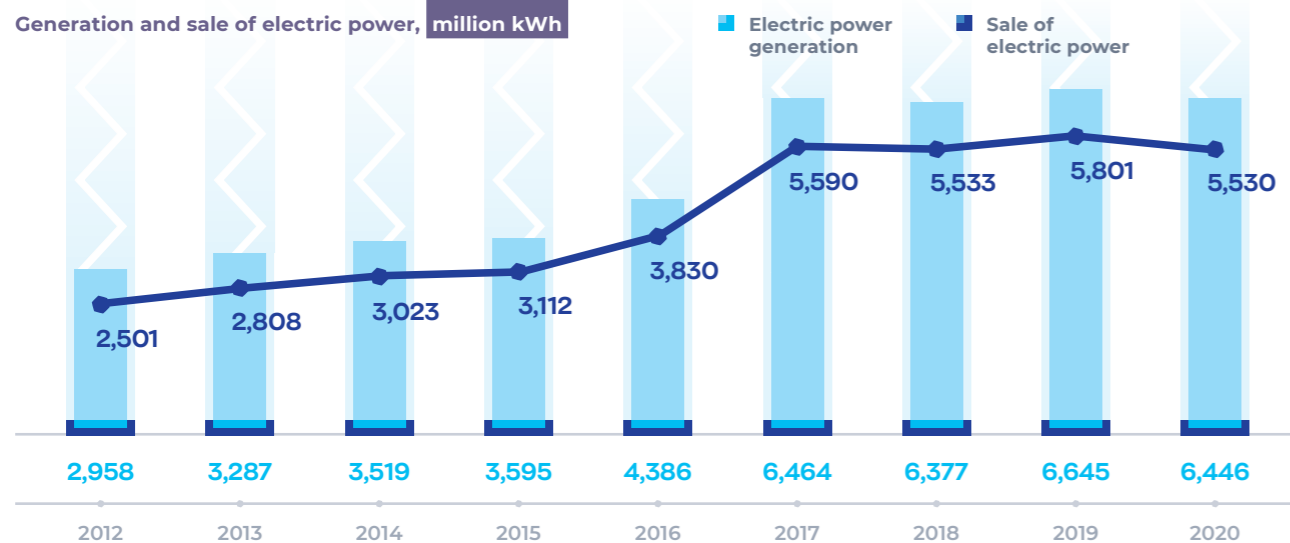


### GENERATION

Volume of electricity generation in 2020 was

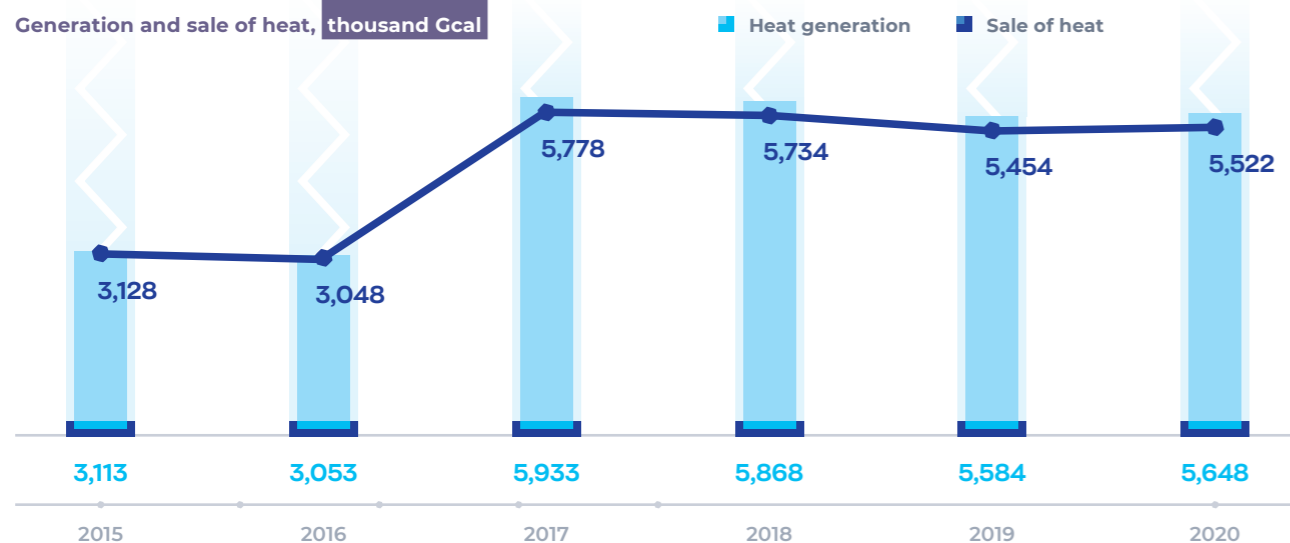


Compared to 2019, there was an increase in electricity generation at the Ust-Kamenogorsk CHPP, but a decrease at the Karaganda CHPP-1 and CHPP-3. Total volume of electricity production in 2020 is 3.0% lower than in 2019, which is due to decline in economic activity in 2020 due to the COVID-2019 pandemic. **Electricity sales by the stations in 2020 were 5,530 million kWh.**



Production of heat energy was 5,648 thousand tons Gcal in 2020. Cumulative indicator of heat energy production increased by 1% due to the colder weather during the

heating period in the regions where it operates. Sale of heat energy by the Group's stations amounted to 5,522 thousand Gcal.



Specific consumption of coal equivalent for the supply of electric energy in 2020 at Karaganda EnergoCenter LLP is 367.4 g.t./kWh, which is 2.13% higher than in 2019, and the specific consumption of coal equivalent for supply of heat energy is 197.9 kg g.t./Gcal, which is 0.05% higher than in 2019.

Specific consumption of coal equivalent for the supply of electric energy in 2020 at Ust-Kamenogorsk CHPP

LLP is 320.1 g.t./kWh, which is 2.17% higher than in 2019, and the specific consumption of coal equivalent for supply of heat energy is 184.4 kg g.t./Gcal, which is 0.02% higher than in 2019.

In addition, there was 1 (one) accident in 2020, and the number of failures of the 1st degree was — 1, failures of the 2<sup>nd</sup> degree — 56.

## Largest clients in 2020

### Karaganda EnergoCenter LLP

A total of 24 contracts for the supply of electricity were signed by Karaganda EnergoCenter LLP in 2020.

Name and location of consumers	Volume of electricity sales, thousand kWh	Volume of electricity sales, thousand KZT (without VAT)	Share in total volume of electricity sales, %
Karagandy ZhyluSbyt LLP	963,804	7,014,996	25.87
Karagandy EnergoSbyt LLP	812,822	5,920,606	21.81
YDD Corporation LLP	607,139	4,434,422	16.29
Qaz Karbon LLP	408,634	2,987,217	10.97
Energopotok LLP	270,663	2,039,459	7.26
Karagandy Zharyk LLP	255,669	1,875,583	6.86
Raschetnyi servisnyi center LLP	97,283	679,851	2.61
Karagandy Su LLP	73,284	534,975	1.97
Teplotransit Karaganda LLP	68,091	492,692	1.83
AB Energo LLP	63,139	480,232	1.69
Energougol XXI LLP	57,574	421,499	1.55
Other	47,977	348,514	1.29
<b>Total</b>	<b>3,726,080</b>	<b>27,230,048</b>	<b>100</b>



## Ust-Kamenogorsk CHPP LLP

A total of 39 contracts for the supply of electricity were signed by Ust-Kamenogorsk CHPP LLP in 2020.

Name and location of consumers	Volume of electricity sales, thousand kWh	Volume of electricity sales with VAT, thousand KZT	Share in total volume of electricity sales, %
Energosnab XXI LLP	74,653	538,454	3.83
Energopotok LLP	697,800	5,610,527	35.76
Raschetnyi servisnyi center LLP	143,013	1,172,774	7.33
Karagandy EnergoSbyt LLP	202,593	1,577,453	10.38
Ontustik Zharyk Transit LLP	84,278	701,202	4.32
Kazsbytgroup LLP	22,119	163,834	1.13
Yugenergoimpuls LLP	19,114	137,864	0.98
GarantEnergo LLP	19,554	141,040	1.00
Energougol XXI LLP	1,658	11,957	0.08
KaragandyZhyluSbyt LLP	91,054	750,807	4.67
Shygysenergotrade LLP	359,585	2,844,558	18.43
AB Energo LLP	176,955	1,363,392	9.07
Semeyenergotrade LLP	144	1,039	0.01
VostokEnergoTrade LLP	9,578	73,544	0.49
VostokenergoGroup LLP	8,292	66,185	0.42
Neftegazmash Service LLP	13,835	109,751	0.71
Energy Complex T LLP	5,994	47,550	0.31
Snabpromspetstech Company LLP	3,126	22,547	0.16
Energopromtekhno LLP	1,892	13,643	0.10
Uzen LLP	1,368	10,177	0.07
EnergiKommerts LLP (East-Kazakhstan region)	5,065	43,797	0.26
EnergoSbytContract LLP	3,313	28,646	0.17
SemeyPromEnergo LLP	4,433	38,328	0.23
Oskemen Vodokanal SCE	1,417	11,631	0.07
Other consumers	775	5,937	0.04
<b>Total</b>	<b>1,951,608</b>	<b>15,486,637</b>	<b>100</b>

## TRANSMISSION AND DISTRIBUTION

The total transformer capacity of Karagandy Zharyk LLP as of December 31, 2020 was 4,083 MVA. The percentage of depreciation of fixed assets decreased from 70.5% to 69.8% compared to 2019.

In 2020, there were 488 failures of the 2nd degree, 1 failure of the 1st degree, and there were no accidents. The number of technological violations increased by 67 units compared to 2019 (including the 1st degree failure).

According to the results of 2020, Ontustik Zharyk Transit LLP had a decrease in the number of technological violations by 1 case, the total transformer capacity as of December 31, 2020 was 3,837 MVA. The percentage of depreciation of fixed assets was reduced by 0.6%.

According to the last year results 2 technological violations occurred in Mangistau Regional Electricity Network Company JSC, the total transformer capacity increased and amounted to 2,661 MVA at the end of 2020. The total depreciation of fixed assets decreased to 66.2%, regulatory losses decreased by 4%. At the same time, no accidents were recorded during the year.

### Electricity transmission volumes in 2020

Name	thousand kWh	thousand KZT
Karagandy Zharyk LLP	2,976,134	15,803,270
Ontustik Zharyk Transit LLP	2,902,896	18,143,101
Mangistau Regional Electricity Network Company JSC	3,623,142	13,397,539

## Large consumers in 2020

### Karagandy Zharyk LLP

#### Large customers and volume of energy transmitted in 2020

Client	Sales volume, thousand kWh
KaragandyZhyluSbyt LLP	1,054,801
ArcelorMittal Temirtau JSC	719,402
AB Energo LLP	287,348
Raschetnyi servisnyi center LLP	237,657
Karagandy EnergoSbyt LLP	173,972
Branch of Kazakhmys Corporation LLP for Karagandatsvetmet OP	97,110
Teplotransit Karaganda LLP	97,110
Energougol XXI LLP	97,110
Karagandy Su LLP	53,311
Kazakhmys Coal LLP	26,776
Branch of "Satpayev Channel"	25,069
Other consumers	173,365

### Ontustik Zharyk Transit LLP

#### Large customers and volume of energy transmitted in 2020

Client	Sales volume, thousand kWh
Energopotok LLP	2,485,472
Yugenergoimpuls LLP	127,981
Garant Energo LLP	156,516
EnergoSnab XXI LLP	51,362
Kazsbytgroup LLP	40,645
KuatZhylu Ortalyk-3 SCE	39,448
NC Kazakhstan Temir Zholy JSC	1,102
FSHMES OF "KEGOC" JSC	372



## Mangistau Regional Electricity Network Company JSC

### Large customers and volume of energy transmitted in 2020

Client	Sales volume, thousand kWh
Ozenmunaygas JSC	713,179
Mangistau Zharyk LLP	677,784
AllianceErgoSnab-Aktau LLP	568,200
Mangistaumunaygas JSC	591,339
Karazhanbasmunay LLP	244,893
Elektr zhuyeleri LLP	224,606
AktauErgoSbyt LLP	187,772
Branch of Buzachi Operating Ltd	134,755
Karakudukmunay LLP	117,281
Mangistaumergomunay LLP	64,236
AliansErgoSbyt LLP	61,526
Temirzholenergo LLP	24,472
MAEK-Kazatomprom LLP	14,207
Kazakhstan Temir Zholy NC	1,409

## Investment project

- The implementation of measures to modernize capacities allows reducing regulatory technical losses, as well as improving reliability of power supply in the covered regions. From 2010 to 2021, the Group has invested more than 250 billion KZT.

The volume of investment of **Karaganda EnergoCenter LLP**, aimed at upgrading and reconstructing capacities in 2020 amounted to about 2.3 billion KZT. In 2020, major repairs of boiler units BKZ-420-140-5 st. No. 1, BKZ-420-140-5 st. No. 2, turbogenerator

T-110/120-130-3 st. No. 2 were carried out at CHPP-3, major repair of boiler units BKZ-20-39F st. No. 3, PTPV-100 st. No. 3, turbo generator PR-6-35/5 st. No. 4 were carried out at CHPP-1.

The volume of investment of **Ust-Kamenogorsk CHPP LLP** in 2020 amounted to 0.9 billion KZT. Successfully completed:

- Replacement of swirlers of the emulsifiers of the boiler unit No. 12;

- Major repair of the boiler of station No. 13 with replacement of the smooth-tube water economizer of the 1<sup>st</sup> stage with a membrane one;
- Reconstruction of the automated control system of the boiler unit of st. No. 13;
- Replacement of pumping gas pipes of exhausters of the boiler unit st. No. 12;
- Major repair of the boiler unit st. No. 14 with the replacement of burners;
- A new Komatsu D155A bulldozer was acquired;
- Reconstruction of the discharge chute No. 5 of the conveyor 5/2;
- Construction of complete transformer substation (CTS) with power supply networks for on-shore pumping station No. 2 (purchase of equipment).

The volume of investments of **Ontustik Zharyk Transit LLP** in 2020 amounted to 5.6 billion KZT. As part of implementation of the investment program, the following activities were implemented:

- Construction of 0.4–10 kV networks in residential communities Zhuldyz, Badam, Tasken, Bazarkakpa, Martobe, Shymkent city; at the same time, 0.4-10 kV power lines (SIP) — 76.8 km were put into operation, 10/0.4 kV KTPN-27 pcs;
- Construction of indoor 110/10-10 kV substation “Yassy” with a capacity of 2\*40 MVA with 110 kV lines in Turkestan;
- Reconstruction of 110 kV overhead line — 9 km; 35 kV overhead line — 27.75 km;
- Reconstruction of TS 35-110 kV — 10 pcs; CTS, TS, DS 10/0, 4 kV — 169 pcs;
- Reconstruction of overhead line-0.4-10 kV: work was carried out with the complete replacement of supports, wires and insulators on the overhead line-10 kV-166,972 km; overhead line-0.4kV — 256,267 km.
- Modernization of the overhead line-0.4 kV with a length of 206.027 km with the use of SIP;
- Reconstruction of cables CL-10 kV — 3.91 km and CL-0.4 kV — 2.612 km.

UMS of the retail energy market was implemented for 0.4 kV networks using PLC technologies for transmitting data from electricity meters to USPD-25 pcs. CTS TS with coverage of 3,171 subscribers of Shymkent, Turkestan.

The volume of investment of **Karagandy Zharyk LLP** in 2020 amounted to 8.5 billion KZT. As part of the implementation of the investment program, the following objects were reconstructed:

- Outdoor switchgear 220 kV SS 220/110/35/10 kV “Saran” — with the use of RE instead of separators and short circuitors;
- 110 kV overhead line “Karaganda-new city”- replacement of supports and wires along the entire line route;
- Technical modernization of equipment SS-34 pcs;
- Major repair of overhead lines-35/110/220 kV — 10 pcs;
- Construction completed:
  - Car hangars — 4 pcs;
  - Central warehouse.

The volume of investments of **Mangistau Regional Electricity Network Company JSC** in 2020 amounted to 2.8 billion KZT. As part of implementation of the investment program, the following major activities were implemented:

- Construction of 10 kV power line with a length of 10.5 km in the area of a Warm beach;
- Modernization (reconstruction) of equipment of outdoor switchgear 6 kV at SS-110/35/6 kV “Sai-Utes”;
- Repair of metering devices UMS-6-10/0.4 kV;
- Modernization of relay protection and automatics at SS-220/110/10 kV “Uzen”;
- Construction of workshops for mechanization and transport service of MRENC JSC;
- Construction of a power line-10 kV from SS 35/10 kV “KTZ” to overhead line-10 kV of cell 113 SS-110/10-10 “Kuryk” 1x7 km.

## Procurement

- Kazakhstan Utility Systems LLP is fully guided by the Law of the Republic of Kazakhstan “On Natural Monopolies” in its activities, 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.

The electronic trading platform of 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 has 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 at ETS-Tender. These are clients of the ETS exchange and B2B-Center platform, who participate in purchase 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 ETS-Tender website in order to combine the purchases of a Group of companies and create a single channel of interaction with suppliers.

The volume of purchases of goods and services by natural monopolies in 2020:

- Karaganda EnergoCenter LLP — 28.7 billion KZT;
- Ust-Kamenogorsk CHPP LLP — 13.4 billion KZT;
- Karagandy Zharyk LLP — 12.5 billion KZT;
- Ontustik Zharyk Transit LLP — 7.9 billion KZT;
- Mangistau Regional Electricity Network Company JSC — 5.3 billion KZT.

## Financial results of operations

### REVENUE AND EXPENSE ANALYSIS

#### Basic data of income statement, million KZT

	2020	2019	2018
<b>Revenue</b>	<b>143,467.7</b>	<b>134,469.2</b>	<b>128,639.0</b>
Cost of sales	- 106,989.0	- 97,224.7	- 91,928.6
<b>Gross profit</b>	<b>36,478.7</b>	<b>37,245.5</b>	<b>36,710.4</b>
General and administrative expenses	- 9,006.8	- 9,120.8	- 8,537.2
Selling expenses	- 3,287.8	- 2,910.7	- 2,664.9
Finance costs	- 11,132.3	- 9,812.0	- 8,631.7
Financial income	5,824.9	5,752.2	3,687.7
Foreign exchange profit/(loss), net	5,079.0	- 6,685.0	- 3,316.6
Other income, net	70.4	536.0	676.7
<b>Profit before income tax expense</b>	<b>23,966.1</b>	<b>15,005.2</b>	<b>17,924.4</b>
Income tax expense	- 4,201.5	- 4,394.4	- 4,324.8
<b>Net profit for the year</b>	<b>19,764.6</b>	<b>10,610.8</b>	<b>13,599.6</b>

Revenue growth in 2020 amounted to 7% and by the end of the year, revenue reached 143.5 billion KZT. 64% of the revenue structure is accounted for by the sale of electric energy. Revenue from this source increased by 13% last year to 91.4 billion KZT — which, with the growth of electricity generation and sales, is due to an increase in tariffs from mid-2020.

From January 1, 2019, the electricity market in the Republic of Kazakhstan has been divided into 2 sub-

markets: the electricity market (actual sale and purchase of electricity at established tariffs) and the electric power market (sale and purchase of services to ensure the readiness of electric power to carry the load). The regulatory bodies of “Financial Settlement Center of Renewable Energy” (FSC) have determined a single buyer who performs a 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 the cost price in the form of the cost of services to ensure the readiness of electric power to carry 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 2020 amounted to 8.7 billion KZT, which provided an increase in total income. In the total revenue structure, the new type of revenue amounted to 6.1%.

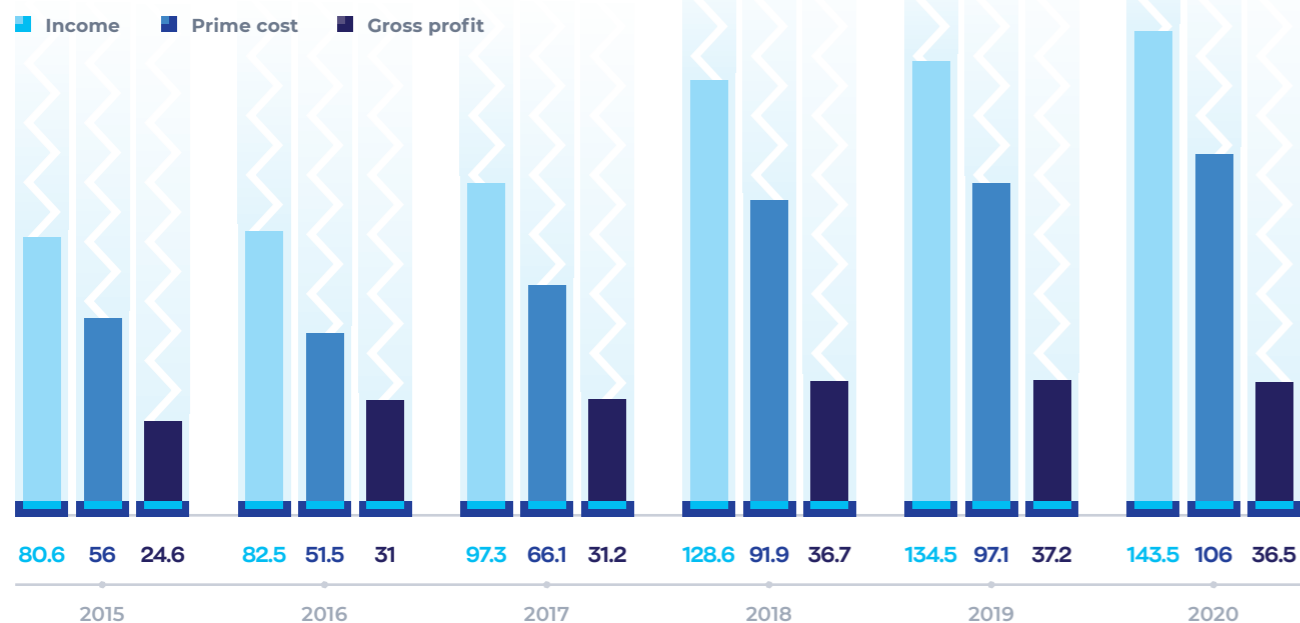
The cost price in 2020 increased by 10% to 107 billion KZT. The cost of materials in 2020 is 36.3% of the cost

price and decreased by 3% by 2019 to 38.9 billion KZT. Expenses for electricity transmission services, heat and chemically treated water in 2020 increased by 1% to 13.7 billion KZT. The cost item — services for ensuring the readiness of electric power to carry the load-in 2020 amounted to 2.7% of the cost price or 2.9 billion KZT.

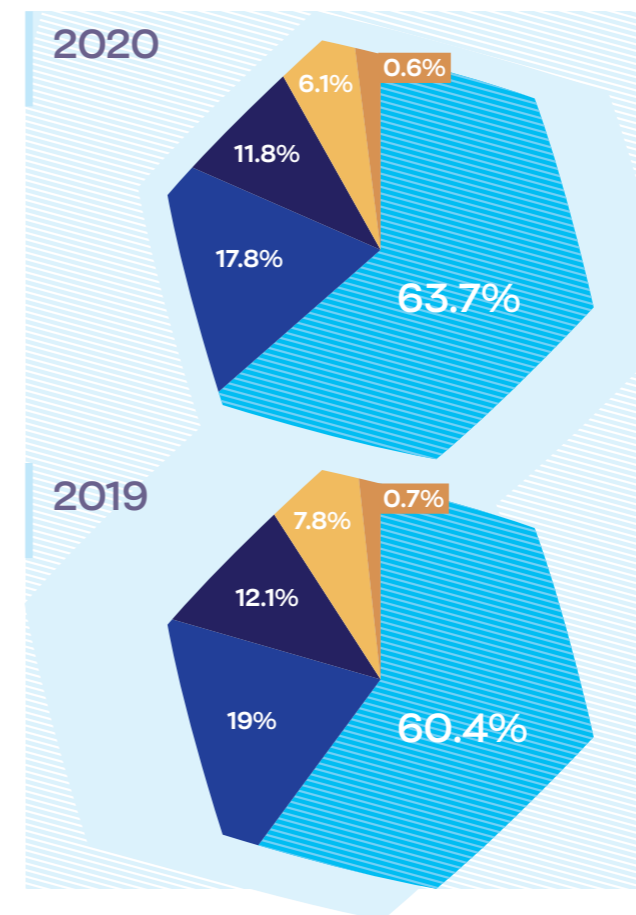
Gross profit for the year decreased by 2% to 36.5 billion KZT.

Net profit at the end of 2020 amounted to 19.8 billion KZT, which is 86% higher than in 2019. First of all, the increase in net profit is due to an increase in profit from the exchange rate difference on loans of Sberbank of Russia, which arose as a result of the strengthening of the KZT against the ruble.

Dynamics of income, prime cost and gross profit, billion KZT

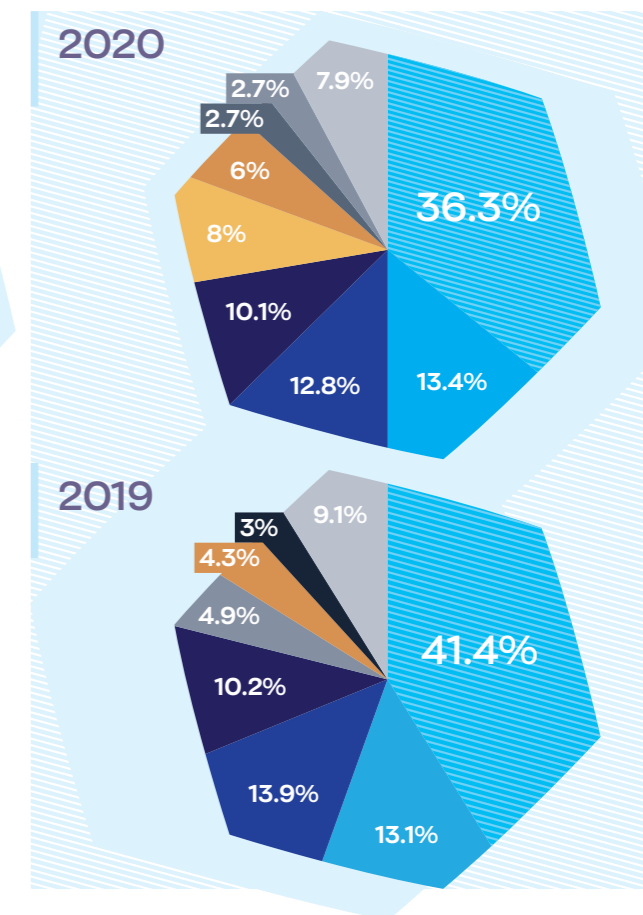


Structure of incomes



- Sale of electric power
- Sale of heat
- Transmission of electrical power
- Income from maintenance of electric power availability
- Other

Structure of prime cost



- Materials
- Wear and tear
- Services for the transmission of electric power, heat and chemically treated water
- Salaries and related taxes
- Purchased electric power from the RFC
- Technological losses in the transmission of electric power
- Costs for dispatching and regulating electric power
- Services for provision of electric power readiness to load
- Repair
- Other



## BALANCE SHEET ANALYSIS

### Basic balance sheet data, million KZT

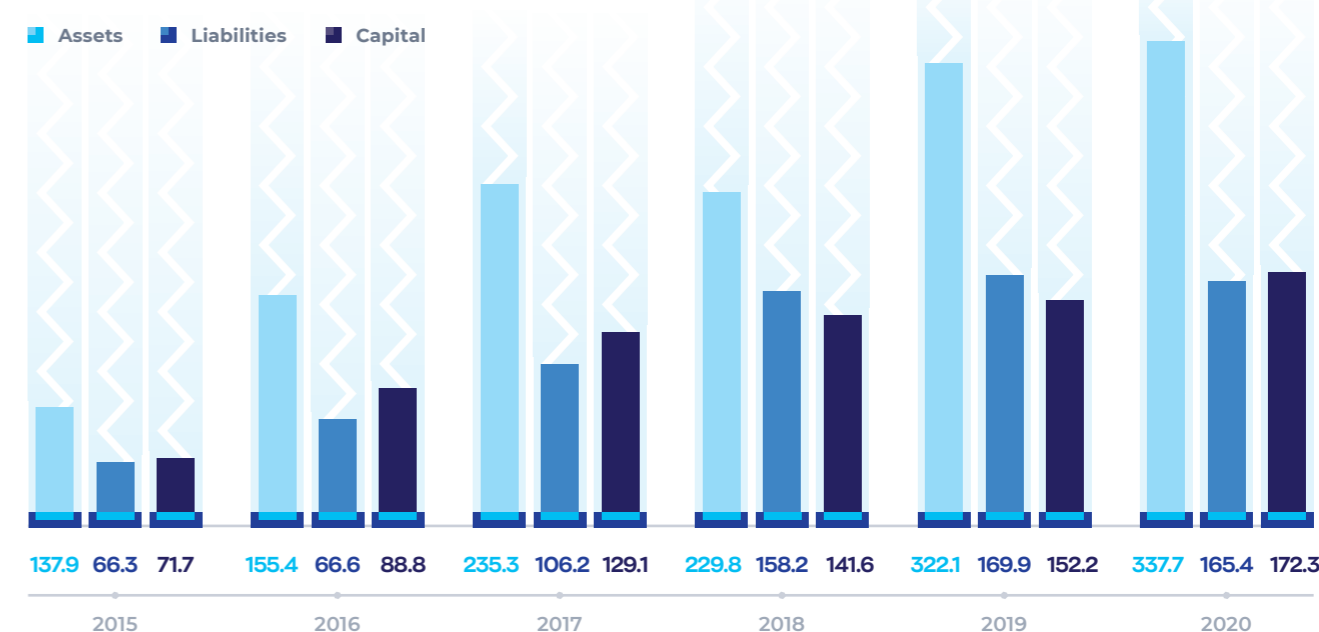
	2020	2019	2018
<b>Assets</b>	<b>337,742.4</b>	<b>322,118.0</b>	<b>299,815.2</b>
Non-current assets	305,629.4	295,572.9	276,553.2
Fixed assets	237,161.6	231,091.2	215,004.1
Loans granted to related parties	67,004.8	61,351.5	58,511.3
Advances paid	441.3	2,127.5	1,905.7
Other	1,021.7	1,002.7	1,132.0
Current assets	32,113.0	26,545.2	23,262.0
Inventories	4,493.6	4,101.4	4,194.2
Trade accounts receivable	16,931.8	12,197.3	10,082.6
Cash and cash equivalents	4,028.6	4,363.2	5,458.6
Loans granted to related parties	3,129.5	3,129.5	—
Other	3,529.6	2,753.7	3,526.5
<b>Commitments</b>	<b>165,442.7</b>	<b>169,873.7</b>	<b>158,247.7</b>
Long-term liabilities	116,432.3	71,593.0	125,833.0
Bank loans and bonds	81,158.7	37,581.7	92,414.6
Deferred tax liabilities	32,140.6	31,328.8	30,361.3
Other	3,133.0	2,682.5	3,057.2
Current liabilities	49,010.4	98,280.8	32,414.7
Trade payables	14,118.4	11,992.5	8,492.9
Loans and bonds	18,939.0	71,877.5	14,055.7
Other	15,953.0	14,410.8	9,866.0
<b>Capital</b>	<b>172,299.6</b>	<b>152,244.3</b>	<b>141,567.5</b>
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 currency translation reserve	621.9	331.1	265.2
Retained earnings	136,817.1	117,846.2	109,479.6
Non-controlling interests	13,985.1	13,191.4	10,947.2

The Group's assets at the end of 2020 amounts to KZT 337.7 billion, which is 5% higher than at the end of 2019. Non-current assets account for 90% of the balance sheet. In 2020, long-term assets increased by 3% to KZT 305.6 billion, which was mainly due to an increase in fixed assets — which account for 78% of long-term assets. Current assets increased by 21% to 32.1 billion KZT in 2020. The growth was mainly due to an increase in trade receivables by 39% to KZT 16.9 billion. Trade receivables account for 53% of current assets, another 13% are cash, and 14% are inventories.

The Group's liabilities at the end of 2020 amounted to KZT 165.4 billion and decreased by 3% by 2019. At the end of the year, 30% of the liabilities are short-term (58% in 2019) and 70% are long-term (42% in 2019). The total volume of debt financing in 2020 amounted to 100.1 billion KZT, and decreased by 9% by 2019. About 7.7% of loans are represented by issued bonds; the rest is accounted for by bank loans.

The share of capital in the structure of the Group's balance sheet at the end of 2020 is 51%. At the end of the year, the equity capital increased by 13% to 172.3 billion KZT. The increase is due to the growth in retained earnings by 16% to KZT 136.8 billion.

### Dynamics of assets and liabilities, billion KZT



## ANALYSIS OF KEY COEFFICIENTS

Key performance indicators*	2020	2019	2018
<b>Liquidity ratios</b>			
Current liquidity ratio (current ratio)	0.52	0.21	0.64
Quick ratio	0.43	0.17	0.51
<b>Profit margin</b>			
Net profit margin, %	13.8%	7.9%	10.6%
Gross profit margin, %	25.4%	27.7%	28.5%
Basic earning power	8.7%	5.9%	7.6%
Return on assets (ROA)	5.9%	3.3%	4.5%
Return on equity (ROE)	11.5%	7.0%	9.6%
EBITDA, in billion KZT	43.9	38.9	35.1
EBITDA margin	30.6%	28.9%	27.3%
<b>Capital structure coefficients</b>			
Equity adequacy ratio	51.0%	47.3%	47.2%
Financial leverage ratio	47.1%	24.7%	65.3%
<b>Efficiency ratio</b>			
Inventory turnover ratio	24.90	23.44	23.04
Turnover of accounts receivable (in days)	37.05	30.24	28.43
Turnover ratio of fixed assets	0.60	0.58	0.60
Asset turnover ratio	0.42	0.42	0.43
Interest coverage ratio	2.63	1.94	2.65
Return on capital employed (ROCE)	10.14%	8.52%	8.55%

### \* Calculation of key indicators:

- The current liquidity ratio is calculated as the ratio of current assets (excluding corporate income tax prepayments and other current assets) to short-term liabilities.
- The quick liquidity ratio is calculated by dividing liquid assets (excluding corporate income tax prepayments and other current assets) by short-term liabilities.
- Basic earning power = EBIT / assets.
- Return on assets = net profit / assets.
- Return on equity = net profit / equity.
- Equity capital adequacy ratio = capital / assets.
- Financial leverage ratio = long-term liabilities / equity.
- Interest coverage ratio = EBIT / interest payable.
- Return on equity = EBIT / (equity + long-term liabilities).

At the end of the reporting year, the Group maintains high profitability indicators. EBITDA by the end of 2020 increased by 13% to 43.9 billion KZT. The EBITDA margin was 31%. Return on assets (ROA) at the end of the year was 5.9%, return on equity (ROE) — 11.5%. The return on capital employed (ROCE) was 10.14% at the end of 2020.

At the end of the reporting period, the Group has a sufficient level of liquidity. Liquidity indicators increased

in 2020 due to a decrease in the volume of short-term liabilities. The indicator of current liquidity at the end of 2020 is 0.52, rapid liquidity is 0.43.

The Group maintains a stable financial position, with a 51.0% equity share in the balance sheet structure. The financial leverage ratio, which shows the dependence on borrowed funds, stood at 47.1% at the end of the year, compared to 24.7% in 2019.

## Plans for 2021

01

Implementation of measures to update the long-term issuer default rating (IDR) in foreign and national currencies.

02

Activities to attract international strategic partners to implement the Company's long-term development strategy.

03

Active promotion of the Company's interests at the legislative level. Submission of all required draft amendments to the legislation to the relevant associations (Atameken, KEPA, KazEnergy) and the authorized body for consideration of all required draft amendments to the legislation for the Company.

04

**The following activities are planned at Karaganda CHPP-1:**

- overhaul of boiler BKZ-50-39F st. No. 4;

05

**The following activities are planned at Karaganda CHPP-3:**

- replacement of central gas pipe from boilers BKZ-50-39F st. No. 1, 2, 4, 5;
- repair of the network water pipeline;
- major repairs of turbine ST-6-35/5 st. No. 3;
- current repairs of other boilers and turbine units.
- overhaul of boiler BKZ-420-140-5 st. No. 6;
- major repairs of the boiler HG-670/14-YM 20 st. No. 8;
- major repairs of turbine T-110/120-130-3 st. No. 1;
- major repairs of turbine C-110-12,7/0,23 st. No. 6;
- replacement of the raw water conduit;
- repair of cooling tower No. 3;
- overhaul of peak boilers of the 1st stage;
- overhaul of the cooling tower irrigation system;

06

#### The following activities are planned at Ust-Kamenogorsk CHPP:

- current repair of all boiler and turbine units;
  - construction of the 1st section of the ash dump No. 3.
- 
- construction of new ash dump;
  - implementation of the project of replacement of the main steam pipelines 140 ata (the first stage);
  - construction of complete transformer substation (CTP) with power supply networks for on-shore pumping station No. 2 (purchase of equipment);
  - replacement of high-pressure feed pipelines of the 5-7 stage;
  - reconstruction of k-14 automated control system in connection with the implementation of water washing process control;
  - replacement of swirlers of emulsifiers of the boiler unit No. 11;
  - reconstruction of the vibration measuring complex TG-11;
  - major repair of ash pipelines;
  - overhaul of the boiler unit of station No. 12 with the replacement of steam-supply pipe;
  - major repair of the boiler unit of station No. 14 with the replacement of steam pipes screens;
  - overhaul of the boiler unit of station No. 14 with the replacement of steam-supply pipe;
  - major repair of the boiler unit of station No. 14 with the replacement of down-comers;
  - expansion of outdoor switchgear ORU-2 with the construction of transformer substation.

07

#### The following activities are planned at Karagandy Zharyk LLP:

- reconstruction of SS 110/35/6 kV Karaganda (according to sh. 110-13 with tr-mi 2x40 MVA) with relaying of existing networks 6, 35, 110 kV — development of design and estimate documentation;
- construction of 110/10 kV substation “Noviy Maikuduk”:
  - ▶ construction of 110/10 kV substation — development of design and estimate documentation;
  - ▶ construction of 110 kV overhead line “Sanitary — Noviy Maikuduk” 1 and 2 circuits — development of design and estimate documentation;
- reconstruction of 110 kV overhead line “CHPP-3 — Yugo-Vostok — development of design and estimate documentation;
- reconstruction of 35/10 kV Tikhonovka substation — development of design and estimate documentation;
- reconstruction of 110 kV overhead line “Saran — GPP-1 — development of design and estimate documentation;
- reconstruction of 220 kV overhead line “CHPP-3 — Zharyk — development of design and estimate documentation;
- hardware and software complex for monitoring, measurement, alarm and communication SCADA upper level 35-220 kV (Stage I) — installation work;
- electrical grids 0.4-6-10 kV (reconstruction of ACL-0.4/6 (10) kV, technical modernization of TS-6 (10) kV, construction of CL-0.4/6 (10) kV, installation of packaged two-transformer substation of urban type-6 (10) kV),

08

#### The following activities are planned at Ontustik Zharyk Transit LLP:

- hardware and software complex for monitoring, measurement, alarm and communication SCADA lower level 6/10 kV (Karaganda) — installation works;
  - reconstruction of SS110/35/10 kV “Botanicheskaya” — development of design and estimate documentation;
  - reconstruction of 110 kV overhead line “RHPP-2 — Karagaily” 1,2 circuits — development of design and estimate documentation;
  - reconstruction of SS110/6 kV “Fedorovka” — development of design and estimate documentation.
- 
- construction of 10-0.4 kV grids (in microdistrict Karabastau, microdistrict Karatobe, microdistrict Otyrar (Northern residential area), microdistrict Yelaman, microdistrict Kyzylzhar, Shymkent city);
  - reconstruction of 110 kV overhead line, 35 kV overhead line, overhead line 0.4–6–10 kV, including 0.4 kV overhead line with the use of SIP;
  - reconstruction of 6-10-0.4 kV cable lines;
  - reconstruction of SS 35-110 kV;
  - reconstruction of DS, TS, CTS 10-6/0.4 kV;
  - implementation of UMS system;
  - construction of RPB in the building of Abai UGPP;
  - construction of front office at the premises of Ontustik Zharyk Transit LLP;
  - overhaul of RPB of Myrzakent UMES.

09

#### The following activities are planned at Mangistau Regional Electricity Network Company JSC:

##### 1. Work on development of design and estimate documentation:

- modernization (reconstruction) of equipment indoor switchgear — 10kV SS-110/10 kV “Recreation center”;
- modernization (reconstruction) of the equipment of indoor switchgear — 6 kV on the SS-35/6 kV “Karyernaya” (Zhetybay);
- modernization (reconstruction) of equipment indoor switchgear — 6 kV at SS-35/6 kV “Tasbulat”;
- construction of 110 kV overhead line with a length of 6 km and a 110/10 kV substation in the “Warm Beach” area in Aktau”;
- reconstruction of distribution networks of 0.4 and 10 kV of the Shetpinsky PDZ, replacement of wire with SIP (204.9 km)”.

##### 2. Construction and installation works for 2021:

- construction of a 10 kV power line with a length of 10.3 km in “Warm Beach” area in Aktau (2nd stage)”;
- modernization (reconstruction) of equipment indoor switchgear — 10 kV SS-110/10 kV “Recreation center”;
- modernization (reconstruction) of indoor switchgear — 10 kV SS-110/10 kV “GPP-2G”;
- reconstruction of MSDS 35/10 kV “Shetpe”;
- construction of 110 kV overhead line with a length of 6 km and a 110/10 kV substation in the “Warm Beach” area in Aktau”.



04. Chapter

Annual report

2020



# 04

## Corporate governance

The Group considers the development of corporate governance as an important factor in improving competitiveness and achieving economic efficiency.





## Corporate governance principles

- The Group considers the development of corporate governance as an important factor in improving competitiveness and achieving economic efficiency.
- The most important principles of corporate governance for the Group are:
  - ensuring a balance between the influence on management decision-making, responsibility for decisions made and interests of the participant in corporate relations;
  - setting standards for reasonable and qualified management and proper control;
  - optimization of production structure and the most efficient use of the Group's capital;
  - ensuring the transparency of the Group's financial and economic activities and the reliability of reporting indicators;
  - increasing investor confidence, improving the investment climate and increasing the volume, improving the structure and quality of investments.

## Management structure

- There are three blocks in the Company's management structure: the General Meeting of Participants, the Supervisory Board, and the Executive Body.

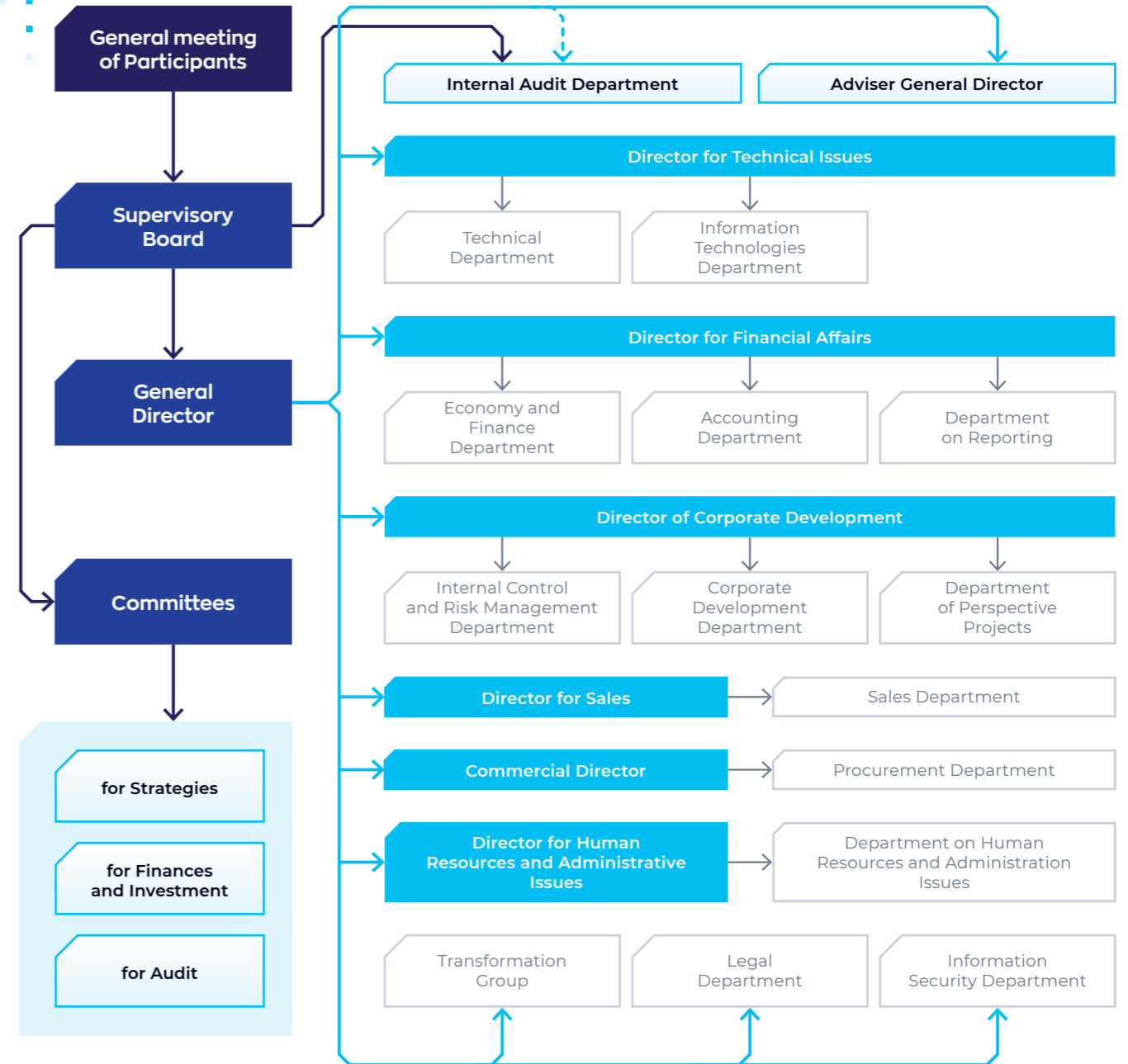
**General Meeting of Participants** is the supreme body of the KUS that makes decisions on the most important

issues of the Company's activities: changes in the charter, authorized capital, company name, formation of the executive body, early termination of its powers, election or termination of the Supervisory Board, approval of financial statements, pledge of the Company's/Group's and others property.

## Composition of participants and capital structure

- Participants of Kazakhstan Utility Systems LLP are:
  - Idrissova Magda Kamalovna, participation interest in the Company — 99%;
  - Ismailova Zhazira Makhambetovna, participation interest in the Company — 1%.

## Corporate governance system in the Company



## The Supervisory Board

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

- identification of priority areas of activity and approval of the Company's development strategy, medium-term development plan, as well as monitoring the implementation of the Company's strategy, plans and budgets;
- making a decision on completion of one or several consecutive transactions for acquisition and/or alienation of property by the Company, the total value of which is 25 percent or more of the total book value of all fixed assets owned by the Group;
- determination of the Company's production and financial policy in the form of approval of certain financial and production documents of the Company, financial and production/technical standards and regulations;
- implementation of quality control and independence of the external auditor;
- determining the amount of payment for the services of an external auditor;
- other issues stipulated by the internal rules of the Company.

**The purpose of the Supervisory Board** is to monitor the activities of the Company's executive body, including ensuring the implementation of the Company's interests and protecting the rights of participants, establishing

the principles and norms of the Company's activities, as well as ensuring understanding and compliance with the Company's obligations to participants and other persons.

In 2020, the Supervisory Board held meeting 5 times. Key issues on which the Supervisory Board focused its attention:

- consideration and approval of the budget of income and expenses of KUS LLP for 2020;
- consideration and approval of forecast performance for 2019, taking into account the actual results of financial and economic activities for 9 months of 2019;
- consideration and approval of report on actual results of financial and economic activities of KUS LLP for the 1st quarter of 2020;
- consideration and approval of report on actual results of the financial and economic activities of KUS LLP for the 2nd quarter of 2020 and the 1st half of 2020;
- adjustment of budget and KPI of KUS LLP for 2020 based on the results of financial and economic activities for the 1st half of 2020;
- preliminary approval of the audited financial statements of KUS LLP and the audited consolidated financial statements for KUS LLP Group of Companies for 2019;
- On termination of the powers of a member of the Strategy Committee of the Supervisory Board of KUS LLP Kanafin A. A. and appointment of Akhmetov A. G. as a member of the Strategy Committee of the Supervisory Board of KUS LLP.

## COMPOSITION OF THE SUPERVISORY BOARD



**Dinmukhamet  
Appazovich  
Idrissov**

Born on December 29, 1964

CHAIRMAN OF THE SUPERVISORY BOARD, CHAIRMAN OF THE STRATEGY COMMITTEE

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



**Dinmukhamed  
Orynbasarovich  
Baizhanov**

Born on November 29, 1985

MEMBER OF THE SUPERVISORY BOARD

- From July 2021 to the present day — Member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From January 2019 to the present day — First Deputy Chairman of the Management Board of Ordabasy Group LLP.
- From August 2016 to January 2019 — Managing Director for Development Programs Ordabasy Group LLP.



**Daulet Khan  
Azimkhanovich  
Kilybayev**

Born on July 9, 1976

MEMBER OF THE SUPERVISORY BOARD, CHAIRMAN OF THE FINANCE AND INVESTMENT COMMITTEE

- From July 2021 to the present day — Member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From May 2019 to the present day — Chief Investment Officer of WESTPORT CAPITAL.
- From September 2014 to January 2019 — Chief Investment Officer of Al Falah Capital Partners.



**Serik  
Sakbaldiyevich  
Abdenov**

Born on January 15, 1977

MEMBER OF THE  
SUPERVISORY BOARD

- From July 2021 to the present day — Member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From November 2018 to April 2021—Deputy Chairman of the Management Board for Corporate Affairs and HR, National Company Kazakhstan Temir Zholy JSC.
- From July 2013 to November 2018 — Adviser to the Chairman of the Management Board, Vice-President for Human Resources Management of National Company KazMunayGas JSC.

**Zharmukhamed  
Dinmukhametuly  
Appaz**

Born on September 16, 1994

MEMBER OF THE  
SUPERVISORY BOARD

- From July 2021 to the present day — Member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From February 2020 to the present day — Sales Director of Kazakhstan Utility Systems LLP.
- From August 2018 to the present day — 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 Altyntalmas JSC.

**Yergali  
Nurlanovich  
Begimbetov**

Born on April 23, 1972

MEMBER OF THE SUPERVISORY BOARD,  
CHAIRMAN OF THE AUDIT COMMITTEE

- From July 2021 to the present day — Member of the Supervisory Board of Kazakhstan Utility Systems LLP.
- From May 2020 to the present day — Deputy Chairman of the Management Board of Ordabasy Group LLP.
- From March 2015 to March 2020 — Chairman of the Management Board of Insurance Company Amanat JSC.
- From September 2003 to March 2015 — Chairman of the Management Board of Insurance Company London-Almaty JSC.

## SELECTION AND ASSIGNMENT

The 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 the Participants. The number of candidates proposed in the proposal for the nomination of candidates for members of 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 the Participants (GMP). The number of members of the Supervisory Board may not be less than four. The Supervisory Board may include independent members, the number of which is determined by the Company's GMP.

The requirements for candidates for members of the Supervisory Board include:

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

Only an individual can act as a member of the Supervisory Board. He/She cannot be a member of the Executive Body at the same time. Members of the Supervisory Board may be elected from among:

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

An individual who is a participant, a member of the management body or an employee of a legal entity competing with the Company may not be elected to the Supervisory Board.

A person who has been found guilty of committing crimes in the field of economic activity or crimes against state power, the interests of public service and service in local self-government bodies, or to who have been charged penalties for offenses in the field of entrepreneurial activity or in the field of finance, taxes, or the securities market, cannot be elected to the Supervisory Board.

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

The determination of quantitative composition of the Committees under the Supervisory Board, the election of their chairmen and members, as well as early termination of their powers falls 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/her rights and performing his/her official duties, must promptly inform the Supervisory Board of KUS LLP about conflict of interests in connection with decisions to be taken by the Board.

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

- immediately inform the Chairman of the Supervisory Board in writing about any personal, commercial or other interest (direct or indirect) in transactions, contracts, projects related to KUS LLP (or its subsidiaries);
- not to receive gifts, services or any advantages from individuals or legal entities that represent or can 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, except for symbolic advances in accordance with generally accepted rules of politeness or souvenirs during official events;
- not to disclose confidential, insider and other official information that has become known to a member of the Supervisory Board in connection with the performance of relevant duties, to persons who do not have access to such information, as well as not to use it for his/her own interests or the interests of third parties, both during the period of performing the duties of a member of the Supervisory Board, and for 3 (three) years after termination of employment contract with KUS LLP;
- comply with all the rules and procedures provided for by the internal documents of KUS LLP and related to safety measures of confidential information of KUS LLP;
- provide the Supervisory Board with complete and accurate information on activities and financial position of KUS LLP in a timely manner;
- as to independent members of the Supervisory Board — to refrain from actions as a result of which such members will cease to be independent. If, as a result of a change in circumstances, an independent member of the Supervisory Board ceases to be such, he/she must notify the Supervisory Board in writing within five working days.

## ASSESSMENT OF PERFORMANCE

The work of the Supervisory Board and each of its members is assessed in accordance with the criteria developed by the Supervisory Board Committee for Appointments and Remuneration.

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

- regularity of attending meetings of the Supervisory Board;
- readiness for meetings;
- participation activity;
- independence and objectivity of judgments;
- compliance with ethical standards;
- personal contribution to constructive discussion of issues considered at the meetings of the Supervisory Board, which contributed to the adoption of effective decisions of the Supervisory Board;
- compliance with the principle of loyalty.

Supervisory Board shall annually assess the performance of the activities 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, 2020, there are three committees under the Supervisory Board of KUS LLP:

1. Audit Committee;
  2. Finance and Investment Committee;
  3. Strategy Committee.
- In 2020, the committees of the Supervisory Board of KUS LLP met 4 times. The Committees of Supervisory Board focused their attention of the following key issues:
- review of the audited financial statements of KUS LLP and the consolidated financial statements of KUS Group for 2019;
  - consideration of letters to management based on the results of the external audit of the financial statements for the Group of the Company KUS LLP for 2019;
  - review of actual results of the Company's financial and economic activities for the first 12 months and in comparison with the plan for the same period of 2019;
  - review of actual results of the Company's financial and economic activities for the 1st quarter of 2020 and in comparison with the plan for the same period of 2019;
  - review of the Company's key performance indicators for the 1st quarter of 2020;
  - consideration and approval of forecast performance for 2019, taking into account the actual results of financial and economic activities for 9 months;
  - approval of report on actual results of the financial and economic activities of KUS LLP for the 2<sup>nd</sup> quarter of 2020 and the 1st half of 2020.



**The Audit Committee** analyzes the process of preparing the Group's financial statements, analyzes the reliability and effectiveness of internal control and risk management systems, as well as the effectiveness and independence of external and internal audits. The Committee is also responsible for ensuring that the Group complies with the legislation of the Republic of Kazakhstan.

#### Composition of the Committee:

- Yergali Nurlanovich Begimbetov — Chairman of the Committee;
- Dinmukhamed Orynbasarovich Baizhanov — member of the Committee;
- Bauyrzhan Yedegeyevich Berdikeyev — member of the Committee;
- Zharmukhamed Dinmukhаметуly Appaz — member of the Committee;
- Vladimir Ivanovich Ussenko — member of the Committee.

**Finance and Investment Committee** is in charge of attracting financing, establishing an effective assessment of the funds raised, evaluating investment projects, and supervising the financial and economic activities of the Group. This Committee shall meet least one time per quarter.

## Executive Body

- The Executive body of the Company is the General Director, who is accountable to the participants, acts on behalf of and in the interests of the Company and resolves all current issues of the Company's activities, except those that fall within the competence of the General Meeting of Participants.

#### Composition of the Committee:

- Daulet Khan Azimkhanovich Kilybayev — chairman of the Committee;
- Zharmukhamed Dinmukhаметуly Appaz — member of the Committee;
- Vladimir Ivanovich Ussenko — member of the Committee.

**Strategy Committee** makes recommendations on determining the strategic and priority directions of the Group's development, as well as assesses the prospects of investment projects and their impact on increasing the value of the Group. This Committee shall meet at least once every six months.

#### Composition of the Committee:

- Dinmukhamed Appazovich Idrissov — chairman of the Committee;
- Dinmukhamed Orynbasarovich Baizhanov — member of the Committee;
- Nabi Yerkinovich Aitzhanov — member of the Committee;
- Daulet Khan Azimkhanovich Kilybayev — member of the Committee;
- Serik Sakbaldiyevich Abdenov — member of the Committee.

The General Director represents the interests of the Company, disposes of the Company's property and financial resources, concludes agreements (contracts), including labor ones, issues power of attorney, opens current and other accounts in banks, approves the staffing table, issues orders, gives instructions that are binding on all employees of the Company.

## COMPANY MANAGEMENT



**Nabi  
Yerkinovich  
Aitzhanov**

Born on September 11, 1980

GENERAL DIRECTOR

- From April 12, 2010 to the present day — General Director of Kazakhstan Utility Systems LLP.
- From 2008 to April 2010 — General Director of Ontustik Zharyk Transit LLP.
- From 2006 to 2008 — Director of Energosbyt LLP.
- From 2005 to 2006 — Deputy Director, Director of Energo-potok LLP.



**Vladimir  
Ivanovich  
Ussenko**

Born on June 7, 1960

TECHNICAL DIRECTOR

- From January 2010 to the present day — Technical Director of Kazakhstan Utility Systems LLP.
- From January 2009 to January 2010 — Head of the Corporate Governance Department of Kazakhstan Utility Systems LLP.
- From June to September 2008 — Head of the Department of Electric Stations of Kazakhstan Utility Systems LLP.
- From September 2003 to March 2008 — Senior dispatcher of the regional dispatch center of KEGOC JSC — Almaty Interregional Electric Networks.



**Aiman  
Shapagatkyzy**

Born on September 24, 1984

FINANCIAL DIRECTOR

- From June 2021 to the present day — Financial Director of Kazakhstan Utility Systems LLP.
- From August 2018 to June 2021 — Head of the Financial and Economic Department of Kazakhstan Utility Systems LLP.
- From December 2011 to August 2018 — Leading specialist of the financial and economic department of Kazakhstan Utility Systems LLP.



**Alibek  
Maratovich  
Tulekov**

Born on March 31, 1989

**DIRECTOR OF CORPORATE  
DEVELOPMENT**

- From June 2021 to the present day — Director for Corporate Development of Kazakhstan Utility Systems LLP.
- From June 2017 to June 2021 — Specialist, Chief Specialist, Head of Corporate Development Department of Kazakhstan Utility Systems LLP.
- From August 2015 to June 2017 — The 1st category Manager of Department of Business Planning and Tariff Formation of Intergas Central Asia JSC.



**Zharmukhamed  
Dinmukhametuly  
Appaz**

Born on September 16, 1994

**SALES DIRECTOR**

- From February 2020 to the present day — Sales Director of Kazakhstan Utility Systems LLP.
- From August 2018 to the present day — 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.



**Adilbek  
Galymzhanovich  
Akhmetov**

Born on July 16, 1979

**COMMERCIAL DIRECTOR**

- From 2018 to the present day — Commercial Director of Kazakhstan Utility Systems LLP.
- From 2017 to 2018 — Head of Procurement Service of Kazakhstan Utility Systems LLP.
- From 2015 to 2017 — Adviser to the General Director of Karagandy Zharyk LLP.



**Aigul  
Tureyevna  
Mirazova**

Born on April 15, 1971

**DIRECTOR OF PERSONNEL MANAGEMENT  
AND ADMINISTRATIVE AFFAIRS**

- From June 2020 to the present day — Director of Personnel Management and Administrative Affairs of Kazakhstan Utility Systems LLP.
- From April 2010 to June 2020 — Head of the Administrative Department of Kazakhstan Utility Systems LLP.
- From March 2003 to April 2010 — Director of Personnel Management of Arlan Holding Company LLP.
- From September 1993 to March 2003 — Head of the Department of Personnel Training and Social Issues of Kazakhtelecom JSC.

## DESCRIPTION OF THE EXECUTIVE BODY'S WORK

**In 2020, the participants of KUS LLP met 11 times.**

The main issues on which the attention of the participants of KUS LLP were focused:

- review and approval of the audited financial statements of KUS LLP and the consolidated financial statements of KUS Group for 2019;
- approval of changes to the staffing table of KUS LLP;
- termination of the powers of Kanafin A. A. as a member of the Supervisory Board of KUS LLP;
- approval Akhmetov A. G. as a member of the Supervisory Board of KUS LLP;
- extension of the powers of Aitzhanov N. Ye. as the General Director of KUS LLP;
- on approval of getting financing from SB of Sberbank JSC in the form of a revolving credit line in the amount of 5,000,000,000 (five billion) KZT.

## Internal audit

- The Company has an Internal Audit Department (IAD), which carries out an internal audit in the Company and its subsidiaries.

In its activities, IAD is guided by the principles of independence and objectivity, competence and professionalism, as well as by international professional standards of internal audit and the Company's Code of Business Conduct.

The 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 the General Director

of the Company. Audit Committee of the Supervisory Board of KUS LLP directly supervises the activities of IAD.

In 2020, IAD conducted the following works:

- analysis and reconciliation of all consumers (legal entities) of subsidiaries for 2020, updating of identification data to reduce tax risks and timely collection of accounts receivable from consumers;
- analysis of counterparties of subsidiaries of Karaganda city;
- analysis of counterparties of subsidiaries of Turkestan region and Shymkent city;
- checking the execution of investment and repair programs at all subsidiaries.

## Corporate ethics

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

The Group's Code of Conduct (the Code) is based on the principles of integrity 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 the legislation of the RK;
- protection and respect for the 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 the confidentiality of information;
- protection and use of the Group's property;
- responsibility for compliance with safety, health and environmental requirements;
- effective organization of work, management and control over the Group's activities;
- optimal use of available resources, as well as 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 the received reports. Employees, among other things, may report problems/violations to the Audit Committee of the Supervisory Board of the Company through ethical hotline:

- **phone + 7 (7172) 76 84 19**
- **e-mail z.raimbekov@kus.kz**

Auditor of the Internal Audit Department is responsible for processing the information received by the hotline and submitting it to the Audit Committee of the Supervisory Board.

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



05. Chapter

# 05

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## Risk management

The main purpose of risk management in the Group of Companies is to achieve the greatest earning yield at admission of the controlled risks' level.





## Risk management system

Risk management system of KUS Group of Companies is based in accordance with the international concept of COSO ERM and is aimed at managing risks and opportunities that significantly affect the creation and preservation of the Group of Companies' value. The main purpose of risk management in the Group of Companies is to achieve the greatest earning yield at admission of the controlled risks' level. Risk management is aimed at identifying, preventing and minimizing events that may have a negative impact on achieving the goals of the Group of Companies.

One of the important elements in the risk management system are the structural divisions of subsidiaries (hereinafter referred to as subsidiaries) represented by each of their employees. Subsidiaries' employees work with risks on a daily basis, manage them and monitor their potential impact in the sphere of their functional duties. Structural divisions are responsible for implementing the risk management action plan, timely identifying and informing about significant risks in their field of activity and providing proposals on risk management for introduction into the action plan.

**06 Timely reporting.** Movement of risk information for decision-making is from lower control levels to higher levels. Prompt provision of information is carried out on a regular basis.

**07 Creation of a corporate risk-oriented culture.** Management of the Group of Companies, the Internal Control and Risk Management Department and subsidiaries risk supervisors ensure the dissemination of risk management

knowledge and skills in the Group of Companies. The Group of Companies provides an opportunity for effective information exchange and introduction of communication standards within the framework of corporate risk management

**08 The relationship between target categories.** Risk management ensures goals are achieved in one or more separate but overlapping categories.

### PRINCIPLES OF BUILDING A RISK MANAGEMENT SYSTEM

**01 System approach.** Risk management is an ongoing, dynamic process that is applied in the Group and its companies — at every management level and in every department of the KUS and its subsidiaries.

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

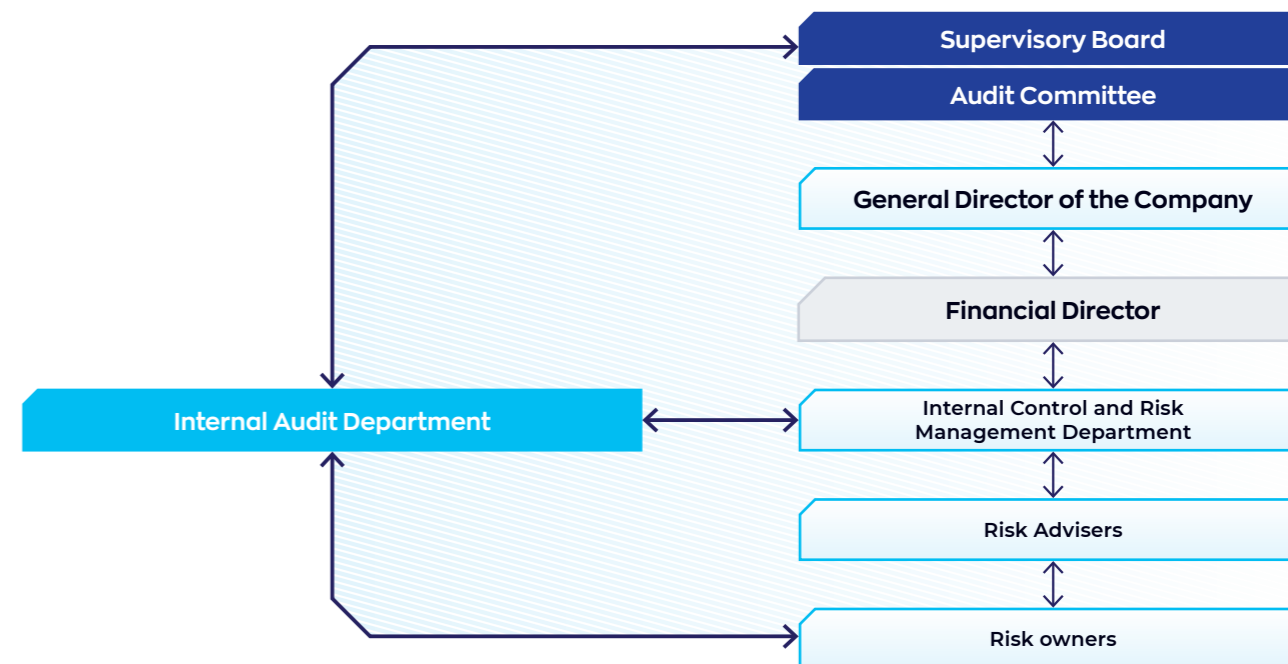
**03 Responsibility for the risk management.** Each employee of the Group and its companies is aware of the goals and objectives of risk management and is aware of his/her personal

responsibility for managing its risks within the framework of his/her authority, competence, and the requirements of the Risk Management Manual.

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

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

### RISK MANAGEMENT SYSTEM STRUCTURE IN THE COMPANY



## INTERNAL CONTROL SYSTEM

Internal control system (hereinafter referred to as the ICS) is part of the corporate governance system, covers all levels of management, all processes and operations of the Group of Companies. The ICS is integrated into the processes and daily operations of the Group of Companies, includes procedures for immediately informing the appropriate

level of management of any significant shortcomings and weaknesses of control, along with details of corrective measures that have been taken or should be taken. As part of the ICS update, the design assessment and testing of the operational effectiveness of control procedures were carried out in the Group of Companies.

## Risk classification

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

1. **strategic risks** — the risks of not achieving the long-term corporate goals of the Group of Companies due to inadequate monitoring of the strategy implementation process and insufficient response to changes in external conditions;
2. **operational risks** — risks of losses arising as a result of deficiencies or errors in the internal business processes of the Group's companies, in the actions of employees and other persons, in the operation of information systems, or as a result of external influence;

3. **legal risks** — risks arising as a result of violation of the legislation of the Republic of Kazakhstan, rules, regulations, prescribed procedures, internal policy, regulations and ethical standards. Legal risks also relate to both compliance goals and reporting goals (reliability and timing);
4. **financial risks** — risks arising from the management of financial resources of the Group of Companies, such as cash, investments, debt instruments and derivative financial instruments. They include risks related to the capital structure, reduced profitability, fluctuations in foreign exchange rates, interest rates, credit risk, and liquidity risk.

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

- Red zone — risks are critical for the Group of Companies
- Yellow zone — risks with average probability of occurrence for a Group of companies

### Main risks affecting the implementation of business strategies

Name of risk	Description of risk	Key risk management activities
<b>Violation of Labor protection and Occupational Safety Rules</b>	Failure to provide safe and healthy working conditions	<ol style="list-style-type: none"> <li>1. Operation of the Labour Protection and Occupational Safety System in accordance with the ISO 45 001 standard.</li> <li>2. Qualification inspection.</li> <li>3. Work order system.</li> <li>4. Inspection of work places.</li> <li>5. Periodical and obligatory medical examination of persons.</li> <li>6. Compliance with the requirements of the legislation on industrial safety at hazardous production facilities.</li> <li>7. Control over conclusion of contracts for compulsory insurance against accidents in performance of labor and official duties; compulsory insurance of the legal liability of employer — annually.</li> <li>8. Provision of production staff with milk, provision of water and drinking regime, special clothing, special footwear, PPE, detergents and disinfectants, first-aid kits and technical documentation (NTD).</li> </ol>
<b>Technological disturbances</b>	Supply problems of heat and electricity due to equipment failures	<ol style="list-style-type: none"> <li>1. Timely detection of defects as a result of performing inspections of equipment (planned and unscheduled).</li> <li>2. Testing of equipment.</li> <li>3. Carrying out current, capital and emergency repairs.</li> <li>4. Implementation of an investment program for the modernization and reconstruction of equipment (reduction of equipment wear).</li> <li>5. Availability of an emergency reserve of spare parts and materials.</li> <li>6. Measures to prepare for the autumn-winter period (AWP).</li> </ol>

06. Chapter

# 06

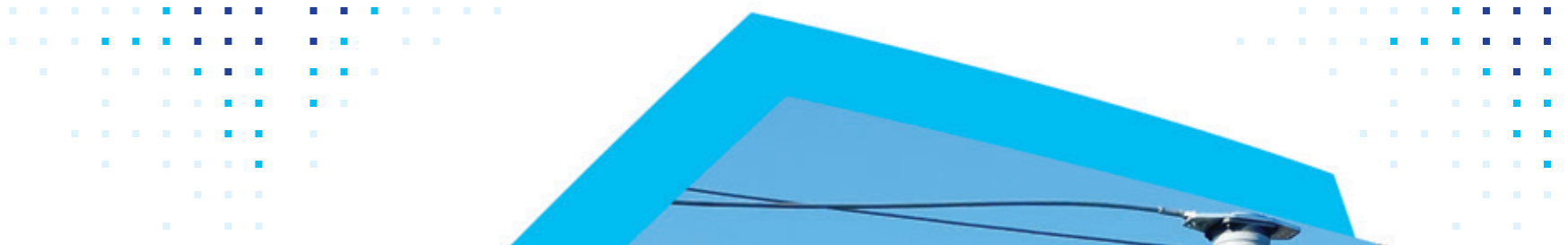
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## Interaction with stakeholder

The Group maintains an open dialogue with all interested parties. Striving for development in harmony with the environment, the Company takes into account the incoming information 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 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 takes place on a daily basis in the course of the Company's activities.

**Interaction with key stakeholders**

 **Consumers**

**Our approach**

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

**Interaction tools**

- Customer feedback system.

**Expectations and interests**

- Uninterrupted energy supply;
- Balanced pricing policy.

 **Employees**

**Our approach**

KUS Group employs more than 8.7 thousand people. The success of a Company depends on the overall talent, skills and values of its employees. The Group creates a basis for constant two-way feedback and involvement of employees at all levels in key issues that affect them. Company strives to be a supportive and attractive employer that people want to work for. We also ensure voluntary participation in collective agreements and receive significant feedback in the course of interaction with trade unions.

**Interaction tools**

- Internal corporate 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.

 **Owners**

**Our approach**

KUS participants own the Company and expect to receive a return on their investment. The Group strives to maintain a constructive dialogue with the 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.

**Interaction tools**

- Work of the Supervisory Board;
- Providing reporting.

**Expectations and interests**

- Economic performance;
- Long-term sustainable development.

 **Government**

**Our approach**

KUS works constructively with the government and regulatory authorities. Regulators play a central role in forming the energy sector. Their participation is especially important in creating a sustainable energy system that supports the achievement of long-term development goals of the country. 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 society as a whole.

**Interaction tools**

- Working groups;
- Negotiations;
- Appeals, inspections by Supervisory authorities;
- Conducting meetings.

**Expectations and interests**

- Support of the state 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 operational activities. The Group's goal is to build strong relationships with suppliers and contractors so that they can maximize cost efficiency and improve positive economic, social and environmental results, which is important for socio-economic development in the regions where it operates and ensure the transition to a low-carbon economy.

**Interaction tools**

- Conducting meetings, negotiations;
- Conclusion of contracts.

**Expectations and interests**

- Economic performance;
- Long-term cooperation;
- Compliance with business ethics standards;
- Transparent procurement practices.

 **Society**

**Our approach**

The Group is committed to building a responsible business. Mature bilateral relations 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. KUS interacts with communities on social, environmental and other energy and business issues.

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

**Interaction tools**

- Informing about the Company's activities;
- Conducting meetings;
- Answers to queries;
- Feedback channels.

**Expectations and interests**

- Social policy and support for local communities;
- Careful use of natural resources;
- 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 country and among its consumers. Power and heat are socially significant products that affect the comprehensive economic development of the country. Given that energy industry has always attracted the attention of public and media, the company cultivates the ideology of openness and transparency of 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 through electronic and print media.

It should be noted that the information policy of Kazakhstan Utility Systems LLP focuses on working with regional media, since maintaining a positive image of the company's subsidiaries among residents of the regions where the Group operates is primarily important.

According to the media plan, the 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 news information) of subsidiaries of the KUS Group are covered in regional media: TV channel news stories, articles in newspapers

and on Internet information portals. At the same time, information on operation of the company and its subsidiaries is published on the official website of Kazakhstan Utility Systems LLP and official pages on social networks.

Result of targeted PR activities is:

- favorable level of consumer loyalty to KUS and its subsidiaries in the regions where it operates;
- dynamic increase of brand awareness of Kazakhstan Utility Systems;
- ability of consumers and other audiences to learn about the events of the KUS Group of Companies in a timely manner;
- increasing the attractiveness of the company as an employer and the ability to attract qualified personnel.

The Group carries out systematic, large-scale work to improve the quality of provision of electricity and heat to its consumers, which arouses high interest from the public. Among the significant events and facts published in the media that aroused the greatest public interest in 2020:

- Successful implementation of investment programs of subsidiaries of KUS Group during the year;
- Repair campaign of CHPP in preparation for the upcoming heating season 2019-2020.;

- Modernization of power grid and construction of new energy facilities by energy 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 Group's activities are based on the current values of modern society. Taking into account these fundamental values allows us to form a regulated policy of interaction with all external and internal counterparties: consumers, partners, own employees, society.

At the same time, taking into account 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, maintaining it at the proper level are important tasks of the Kazakhstan Utility Systems Group, which determines the status of the Company, the success of activities in the market, the loyalty of consumers and partners, the competitiveness of the Company's energy products.







07. Chapter

Annual report

2020

# 07

## Corporate Social Responsibility

Due to the scale and specifics of the Group's activities, 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:

- 01

Quality provision of services, which, ultimately, is the key to the active socio-economic development of the regions of its presence.
- 02

Fair and timely remuneration of Company's employees, as well as ensuring safe working conditions and creating all the conditions necessary for career growth, personal and professional development of each employee.
- 03

Responsibility for preservation of the environment to the state 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 emergency 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.

## 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 of the Group.

### Basic principles of Personnel policy:

- Proactivity.
- Transparency and openness.
- Integration.
- Continuity.
- Motivation of 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' interest in the success of the common cause, encourages initiative, and provides opportunities for potential realization, 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 business goals at optimal costs.

For 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, contributes to creation of favorable working conditions that meet the safety requirements.

KUS strives to ensure open communication with employees. To build effective communication, all channels and information resources are used in each Company that is part of the Group. This ensures that employees are regularly informed about the Group's news, its 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 corporate newspaper.

The system of recruitment and promotion of employees in the Group provides a fairly high level of professionalism of employees and transparency of recruitment procedures. Career development of employees is carried out based on an objective assessment of their work results, business qualities, as well as professional competence. 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 allows not to discriminate against employees, and not to allow complaints about the practice of labor relations.

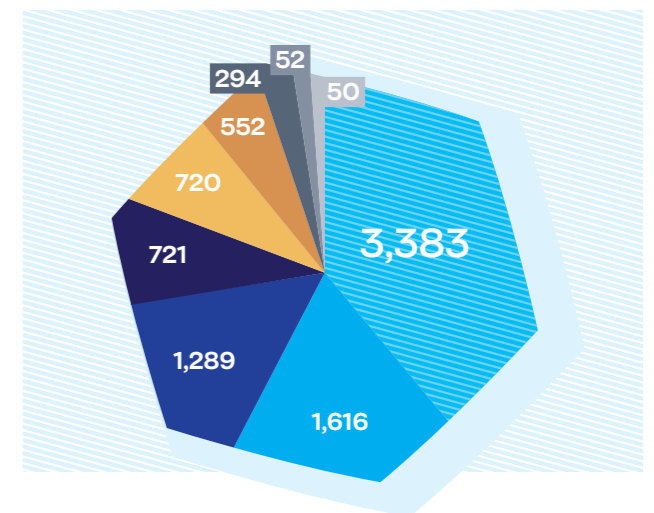
## NUMBER OF PERSONNEL

Number of employees of the Group as of December 31, 2020 was

8,677

people

Number of the personnel by the Group companies, persons

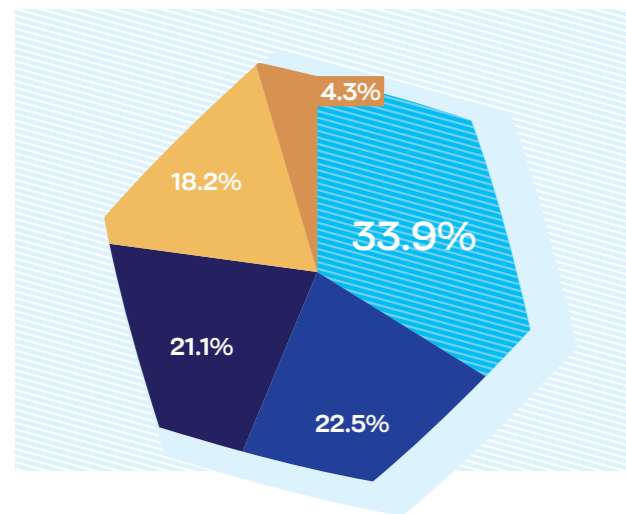


- Ontustik Zharyk Transit LLP
- Karagandy Zharyk LLP
- Karaganda Energocenter LLP
- Mangistau Regional Electricity Network Company JSC
- Energopotok LLP
- Ust-Kamenogorsk CHPP LLP
- Karagandy ZhylyuSbyt LLP
- Raschetnyi servisnyi center LLP
- Kazakhstan Utility Systems LLP

### Staff structure by age

The share of employees under the age of 40 in the Group is 54.98% of the total number. The share of employees in the age category over 60 years is 4.27%.

Structure of the personnel by age groups

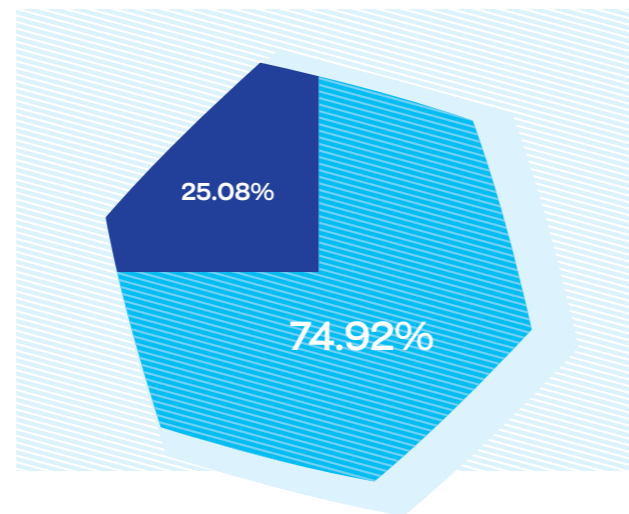


30-40 y. o.    Under 30 y. o.    older than 60 y. o.  
 40-50 y. o.    50-60 y. o.

### Staff structure by category

The structure of the Group's staff is characterized by a high proportion of men — 74.92%. Men in the category of “workers” make up 79% due to the specifics of their activities. The share of employees in the “managers” category is 6.38% of the total number.

Gender structure of the personnel



Male  
 Female

Personnel category	Age group, total			Of them:		Of them:	
	age	persons	%	male	%	female	%
<b>Managers</b>		<b>670</b>	<b>100%</b>	<b>554</b>	<b>83%</b>	<b>116</b>	<b>17%</b>
	Under 30 years old	63	9%	62	9%	1	0.1%
	30-40 years	207	31%	170	25%	37	6%
	40-50 years old	168	25%	129	19%	39	6%
	50-60 years old	171	26%	136	20%	35	5%
	older than 60 years old	61	9%	57	9%	4	1%
<b>Specialists, employees</b>		<b>2,071</b>	<b>100%</b>	<b>1,259</b>	<b>61%</b>	<b>812</b>	<b>39%</b>
	Under 30 years old	470	23%	295	14%	175	8%
	30-40 years old	743	36%	475	23%	268	13%
	40-50 years old	456	22%	258	12%	198	10%
	50-60 years old	322	16%	168	8%	154	7%
	older than 60 years old	80	4%	63	3%	17	1%
<b>Workers</b>		<b>5,936</b>	<b>100%</b>	<b>4,688</b>	<b>79%</b>	<b>1,248</b>	<b>21%</b>
	Under 30 years old	1,462	25%	1,335	22%	127	2%
	30-40 years old	1,407	24%	1,120	19%	287	5%
	40-50 years old	1,341	23%	936	16%	405	7%
	50-60 years old	1,510	25%	1,103	19%	407	7%
	older than 60 years old	216	4%	194	3%	22	0.3%
<b>Total</b>		<b>8,677</b>		<b>6,501</b>		<b>2,176</b>	





## Structure of hired staff by category and gender

The total number of employees employed by the Group of Companies was 1,403 people, of them 1,136 — workers, 221 — specialists, and 46 — managers.

Personnel category	Age group, total			Of them:		Of them:	
	age	persons	%	male	%	female	%
Managers		<b>46</b>	<b>100%</b>	<b>35</b>	<b>76%</b>	<b>11</b>	<b>24%</b>
	Under 30 years old	10	22%	10	29%	0	0%
	30-40 years old	18	39%	15	43%	3	27%
	40-50 years old	12	26%	5	14%	7	64%
	50-60 years old	5	11%	4	11%	1	9%
	older than 60 years old	1	2%	1	3%	0	0%
Specialists, employees		<b>221</b>	<b>100%</b>	<b>125</b>	<b>57%</b>	<b>96</b>	<b>43%</b>
	Under 30 years old	114	52%	68	54%	46	48%
	30-40 years old	66	30%	40	32%	26	27%
	40-50 years old	19	9%	8	6%	11	11%
	50-60 years old	20	9%	9	7%	11	11%
	older than 60 years old	2	1%	0	0%	2	2%
Workers		<b>1,136</b>	<b>100%</b>	<b>932</b>	<b>82%</b>	<b>204</b>	<b>18%</b>
	Under 30 years old	578	51%	518	56%	60	29%
	30-40 years old	279	25%	219	23%	60	29%
	40-50 years old	150	13%	95	10%	55	27%
	50-60 years old	110	10%	81	9%	29	14%
	older than 60 years old	19	2%	19	2%	0	0%
<b>Total</b>		<b>1,403</b>		<b>1,092</b>		<b>311</b>	

## Staff turnover

Staff turnover in the Group of Companies for 2020 was 15.73%, 1.3% lower than in 2019. Decrease in the staff turnover is associated with a stable economic situation.

Personnel category	Total persons		Male		Female	
	persons	%	persons	%	persons	%
Managers	90	7%	76	6%	14	1%
Specialists, employees	251	18%	154	11%	97	7%
Workers	1,024	75%	856	63%	168	12%
<b>Total</b>	<b>1,365</b>	<b>100%</b>	<b>1,086</b>	<b>80%</b>	<b>279</b>	<b>20%</b>

In order to reduce the staff turnover, 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 situation in the Group;
- healthy psychological atmosphere;
- opportunities for career growth.

## STAFF TRAINING AND DEVELOPMENT

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

### Main goals of the training:

1. improving the efficiency of the staff;
2. ensuring the professional level of staff required by the position;

3. ensuring the accumulation and transfer of knowledge within the company;
4. increasing employee loyalty to the company;
5. 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, preparation for a profession, re-certification, obtaining a related specialty to ensure timely training of new personnel and performance of work.

People were trained in 2020

2,681 → 31% which is of the total number of employees

In 2020, the total amount of training costs amounted to

32,394,825 KZT

Employees who were trained in 2020, persons

Personnel category	Male	Female	Total:
Managers	240	80	320
Specialists, employees	470	104	574
Workers	1,648	139	1,787
<b>Number of trained personnel</b>			<b>2 681</b>

Information on training

Personnel category	total number of training hours	Male		Female	
		average number of training hours per employee	total number of training hours	average number of training hours per employee	total number of training hours
Managers	10,636	44.3	1,676	20.9	
Specialists, employees	14,409	30.6	2,922	28.0	
Workers	52,314	31.7	4,222	30.3	
<b>Total</b>	<b>77,359</b>	<b>106.6</b>	<b>8,820</b>	<b>79.2</b>	

### ATTRACTING YOUNG PROFESSIONALS

As part of implementation of personnel policy, the Group conducts activities aimed at ensuring continuity and transfer of professional knowledge and skills from experienced, highly professional employees to young initiative employees.

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

The structure of hired young specialists in 2020 by education, persons

Total young professionals	Hired in 2020	Technical/vocational education	%	Higher education	%	Secondary education	%
1,420	364	107	29.4%	125	34.3%	132	36.3%

Thus, the Group conducts activities aimed at attracting young specialists to achieve an optimal combination of young initiative workers and experienced, highly professional employees.

conversation with the contestant, they ask questions about professional activity.

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, description of the workplace, suggestions for improving and improving productivity. Each presentation is evaluated by Commission members on a scale from 1 to 10 points, and during a constructive

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 the Company.

### MOTIVATION AND REMUNERATION OF STAFF

In 2020, the average salary increase in the Group was 7.5%. 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 encouraging employees to work effectively, to introduce innovations in everyday activities to increase labor productivity.

The percentage of deviation of the size of basic remuneration rate for men compared to women is on average 11%. Reason

for deviation is the harder work of men, which requires endurance, strength and high performance.

**Base rate ratio in 2020**

Personnel category	Base interest rate, KZT		
	male	female	% deviation
Managers	413,773	379,823	9
Specialists	177,367	168,223	5
Workers	128,341	107,553	19

**NON-FINANCIAL MOTIVATION**

Every year, events are held with the awarding of awards, certificates of honor, titles in order to increase motivation for effective work, to stimulate employees for achieving high production results in the subsidiaries of the Group.

state awards, 109 were awarded public awards, 21 employees were awarded by the CIS Electric Power Council, 90 employees were awarded KEPA awards (25 employees were awarded the title of "Merited Power Engineer", 17 employees were awarded the title of "Honorary Power Engineer", 18 employees were awarded the title of "Ardager Power Engineer", 30 were awarded certificates of honor).

At the end of 2020, **425 employees** were awarded for their effective work. Of them, 135 employees were awarded corporate awards, 70 employees were awarded

**SOCIAL SUPPORT FOR THE GROUP'S EMPLOYEES**

In order to increase the loyalty of employees and ensure safety during the daily performance of work duties, the following events were organized:

- providing and organizing set meals for employees of Karaganda CHPP-1; Karaganda CHPP-3 at concessionary rates;
- providing travel privilege for employees of Karaganda

CHPP-1; Karaganda CHPP-3 on approved routes around the city covering the main districts of the city (Maikuduk, Prishakhtinsk, Sortirovka, South-East);

- payment of cost of cellular communications;
- annual allocation of funds for sports and recreation activities in the Raschetnyi servisnyi center LLP: rent of sports hall (for basketball, volleyball, mini-football) and swimming pool;

- Provision of social leave with average pay in case of marriage; death of close relatives; birth of a child; on the "Day of Knowledge" to one of the parents (guardian);
- social incentive leave: according to performance of each employee at the end of year, for active participation in trade union activities that contribute to strengthening labor relations in the team;
- reduction in cost of outpatient treatment for employees according to the Contract concluded with healthcare institution;
- partial compensation of cost of utilities.
- payment of bonuses in honour of the International Women's Day on March 8;

- bonuses in honour of professional holiday Power Engineers' Day;
- one-time bonuses to distinguished employees/ for the best performance during the reporting quarter;
- remuneration to production personnel for performance of work for provision of paid services;
- bonuses for employees' anniversaries.

For the Group of Companies in 2020, the total number of employees who took social leave to care for a child before reaching the age of 3 (three) years old the was 116 persons. Of them, 41 employees have started performing their work duties.

Total number of employees who took parental leave until reaching the age of 3 (three) years old, persons		Total number of employees who started working after parental leave, persons	
female	male	female	male
116	0	41	0

**INTERACTION WITH TRADE UNION ORGANIZATIONS**

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 business goals at optimal costs.

In this connection, trade union organizations have been established and operate in the Group of Companies and collective agreements have been concluded to ensure the social protection of employees.

**In 2020, the total number of employees who are members of a trade union was**

**5,674** people,

which is equal to **68.5%** of the total number of employees of companies where collective agreements are concluded.

Initial data	Total for 2020
Amount spent by the trade union for payments, KZT	67,604,859
Total number of employees as of 01.01.2020 in companies with Collective Agreements, persons	8,281
Number of employees who are in the trade union, people.	5,674
Share of the total number, %	68.5%

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, particularly:

- financial support in case of death of close relative, birth of the first child, treatment, anniversary date, retirement;
- payment of 50% for health resort treatment;
- payment of 50% of the cost of vouchers to children's health camps;
- New Year's gifts, March 8, Nauryz gifts;
- with positive financial condition of the Company, payment is made for the rental of gyms, swimming pools, recreational activities and services;
- if there is a net profit, it is possible to provide interest-free loans to needy workers to improve housing conditions;
- providing a one-day vacation on the "Day of Knowledge" 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;

- provision of social leave with average pay in case of marriage; death of close relatives; 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 KZT in the provision of trade Union of the relevant documents; in the birth of children to treatment and medical services;
- drivers are charged extra bonuses for their qualifications;
- educational leave is provided for the preparation and passing of exams for students studying in educational organizations in specialized energy specialties;

- lumpsum bonuses are paid to 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);

## 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 contractors.

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 first.
- 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.

## 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

- ▶ for economy of materials;
- ▶ for performing particularly important tasks;
- ▶ for significant anniversaries, government holidays of Kazakhstan.

- 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 2020, no accidents were registered at the Group's enterprises.

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 others to comply with all legal norms and rules on labor protection and safety in force 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.

- **Checklists** 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, heat-resistant 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.
- **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).** The Corporate Training Center (CTC) plays an important role in the training of personnel and contractors. 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.

## Corporate events

- 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. However, taking into account the events that occurred in Kazakhstan in 2020 (the COVID-19 pandemic), many events were canceled.

Karaganda EnergoCenter LLP took part in citywide job fairs. Alexey Kunin, gas cutter of the centralized repair shop of CHPP-3 of Karaganda EnergoCenter LLP, became a participant of the TV talent show "Professional" (ASTANA TV) among the specialists of vocational professions. Karaganda EnergoCenter LLP celebrated the 60th anniversary of Karaganda CHPP-1, 27 employees of Karaganda CHPP-1 who have more than 25 years of experience at the station received commemorative medals. A video film about the station's activities was shown, and veterans of CHPP-1 were invited

## Certification

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.

**In January 2020**, a meeting on improving Kazakhstan's position in the World Bank's "Doing Business" rating on the "Connection to the Power Supply System" indicator was held on the information platform of Mangistau Regional Electricity Network Company JSC.

**On January 31, 2020**, an initiative group of young specialists of Ust-Kamenogorsk CHPP LLP took part in the youth event "Birgemiz" dedicated to the Year of Volunteers. The event was attended by representatives of youth public organizations, university students and volunteer youth of the city of Ust-Kamenogorsk. Akim of Ust-Kamenogorsk Zhaksylyk Omar congratulated the participants on the Year of the Volunteer, students of universities and city's schools spoke.

Every year, on February 15, Kazakhstan celebrates the Memorial Day of soldiers-internationalists. Among those

who performed their military duty in Afghanistan, there are also employees of Mangistau Regional Electricity Network Company JSC, who have been working at the energy enterprise for more than 20 years. In total, three veterans of the Afghan War work at the Joint-Stock Company. As part of this event, the management of the Joint-Stock Company, together with the Chairman of the Trade Union, congratulated three employees of the enterprise who took part in military operations abroad.

**On February 20, 2020**, in accordance with the instructions of the Deputy Akim of Mangistau region Bakytzhan Kachakov for preparation and conduction of the Republican command and staff training exercise "Koktem-2020", a tactical and special exercise was held on the territory of the Mangistau Regional Electricity Network Company JSC. Preparation and coordination of actions of the management staff, employees of the dispatching service and the emergency technical team of MRENC JSC in the conditions of natural emergency were checked.

**May 21, 2020** Ust-Kamenogorsk CHPP LLP, the Department of Ecology for the East Kazakhstan region and the branch of Kazhydromet RSE for the East Kazakhstan region signed a memorandum of cooperation. Joint work will make it possible to strengthen measures for informing, as well as responding and reducing the level of atmospheric pollution on days with unfavorable meteorological conditions. Cooperation between business and government agencies is an example of consolidation of efforts for environmental protection, social responsibility and sustainable development.

**On May 23, 2020**, the employees took part in the environmental campaign "Help the planet — clean it by yourself!" The staff of the largest thermal power plant in East Kazakhstan cares about purity of the environment and the environmental safety of production. With the onset of warm spring days, the company's employees, together with the Department of Ecology for East Kazakhstan Region, took part in the event "Help the Planet — clean it by yourself!" dedicated to the World Environmental Protection Day. Cleaning was carried out in the sanitary protection zone of the enterprise and in the city along Katonskaya Street.

**On May 29, 2020**, public hearings of heat power station with the participation of consumers and other interested parties on the report for 2019 were held in the conference hall of the administrative building. The managers presented information about financial indicators, investments in repairs and modernization of equipment, told about the upcoming repair campaign.

**In July 2020**, Ust-Kamenogorsk CHPP LLP, which is part of the Kazakhstan Utility Systems Group of Companies, told about the repair campaign. The enterprise continues to take measures to preserve the health of employees, while observing the schedule of repair work of the station's equipment for successful heating season.

In honor of the celebration of the 75<sup>th</sup> anniversary of the Victory in the Great Patriotic War, representatives of Karagandy Zharyk LLP congratulated war veterans and home front workers. The veterans were personally presented with food packages and memorable gifts.

**In September 2020**, a new heading “About production of CHPP” appeared on the official website of the company, on which the company’s specialists talk about technological processes, implemented innovations and initiatives of the enterprise, about ensuring environmental safety and labor protection. And most importantly, they answer the issues of concern of the population.

**September 18, 2020** On September 9, 2020, one of the first energy enterprises received a Certificate of readiness of energy-producing, energy-transmitting organizations to work in the autumn-winter period of 2020-2021.

**On September 19, 2020**, we supported the environmental campaign “Worldcleanup Day”, which brought together volunteers from all over the world. Cleaning and cutting of the vegetation, cleaning of the territory of the onshore pumping station, cleaning of the territory of the Ust-Kamenogorsk CHPP was carried out.

**September 26, 2020** UK CHPP LLP reported that the heating season began at the CHPP on September 25, 2020. All repairs affecting the beginning of the heating season have been completed.

**On September 23 and 25, 2020**, the Company took part in the meeting of the environmental commission of the Public Council of the East Kazakhstan Region, as well as the Department of Ecology for the East Kazakhstan Region, the regional association “Ecojer”. Managers presented a report on environmental events in 2019 and 2020, answered questions from members of the public.

**On October 9, 2020**, the initiative group removed garbage from the left bank of the Irtysh River as part of the “Take the Garbage with You” challenge and called on all fellow citizens to join the environmental event.

**On November 16, 2020**, public hearings were held on the Application for heating energy production rate and the Investment Program for 2021-2025. The head and specialist of DCRNM for East Kazakhstan Region, the secretary of the city Maslikhat, the chairman of the Council of Veterans of the Energy Sector of East Kazakhstan Region, representatives of municipal organizations, the media and residents of the city took part in the hearings through the ZOOM conference.

**On November 26, 2020** the initiative group was awarded a Letter of Thanks from the Akim of Ust-Kamenogorsk city for participating in volunteer projects — “Help for the elderly”.

**On December 4, 2020** the winners of the competition among working youth “Plan Youth 2020. Online” were awarded which was held in this fall. The organizer of the annual competition is the Youth Resource Center of East Kazakhstan Region. The largest enterprises of East Kazakhstan Region took part in the event. The initiative group won in the nomination “The best youth organization at the enterprise” and was awarded a Diploma from Deputy Akim of the East Kazakhstan region Alisher Marhabat. The active youth of UK CHPP also presented a creative performance and received a Letter of Thanks from Deputy Akim of the East Kazakhstan Region A. Marhabat and a memorable gift. In addition, the station staff prepared a career

guidance video about the technological process. This is another achievement of the Initiative Group.

**On December 15, 2020**, the public relations manager was awarded a Letter of Thanks from the Akim of Ust-Kamenogorsk for active participation and contribution to the development of youth municipal initiatives.

**December 22, 2020** The Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan Magzum Mirzagaliyev visited Ust-Kamenogorsk CHPP

LLP. During the meeting, a number of issues related to environmental measures were discussed. The Minister expressed a high opinion of state of the 73-year-old station and wished further success in its work.

**On December 22, 2020** Karagandy Zharyk LLP congratulated power engineers on the professional holiday “Power Engineers’ Day”, in honor of which a special event was held, the best employees of the company was awarded with high awards, certificates of honor and valuable gifts.

## 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 2020, 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.

In December 2020, the company provided financial assistance to a former employee to pay for treatment in the amount of 100,000 KZT.

The power engineers of Karaganda Energocenter LLP congratulated the veterans of World War II on Victory Day.

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. 19 veterans received a gift of monetary assistance and cards with warm greetings.

Karaganda Energocenter LLP took part in the “World Cleanup Day”. The purpose of this environmental event is to increase environmental education and explain the need for separate garbage collection in order to ensure its further processing and prevent environmental pollution. The campaign is aimed not only at cleaning up individual territories, but also at separate garbage collection.



Team of Karaganda EnergoCenter LLP got a contaminated site in the Oktyabrsky district. During the cleaning, a large amount of plastic, glass, aluminum and other waste was collected. Some of the waste was sent for recycling. Proceeds from transfer of waste to recycling organizations will be used for charity.

From year to year, on the eve of May 9, a special event with material encouragement is held in Onustik Zharyk Transit LLP to honor veterans of World War II, Afghanistan War, participants of the labor front and equal-status persons.

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 retirees of the Partnership, the event is held every year.

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

Every year MRENC JSC provides assistance to poor families, veterans of the World War II, Afghan War, as well as labor veterans and pensioners who previously worked in the energy sector. On June 1, the employees of MRENC JSC provided financial assistance to 16 families raising disabled children. In October, the employees of MRENC JSC provided assistance to the charity fund "Fund for Support of Disabled Children".

In addition, MRENC JSC and the trade union committee, according to the current collective agreement, provides its employees with the following types of financial

assistance: labor veterans and pensioners, in case of the death of close relatives, in case of difficult financial situation of the family, in case of long-lasting disease, in case of marriage of young people, etc.

One of the significant measures of support from MRENC JSC for both the state and the population on the basis of a letter from the Akimat of the Mangistau region Ref. No. 15-02.2578 dated July 20, 2020, taking into account the current epidemiological situation in the region and the lack of funding from the local budget, financial assistance was provided to the State Enterprise for the Mangistau Regional Ambulance and Emergency Medical Care Station for modernization of the call center "103".

Energopotok LLP provides monthly free benefits for veterans of the World War II and equal-status persons in the amount of 30 kWh. As well as services for re-connecting large families to the electric grids after eliminating violations of the contract are provided free of charge on the basis of a written request.

In 2020, the Company's employees provided financial assistance to the public fund "Dar" through participation in implementation of regional social projects to support children from orphanages.

Every year, in honor of the celebration of the "Day of the Elderly Person", financial assistance is provided to former retired employees of the Company. And also, in connection with the celebration of the "Day of the Withdrawal of a limited contingent of Soviet troops from the "Democratic Republic of Afghanistan", an employee of the Company — a former Afghan soldier — was awarded.

Karagandy Zharyk LLP provided charitable assistance to poor families in connection with the current COVID-19 pandemic in the amount of 4,709,235 KZT, 84,721 KZT for the Day of the Elderly (according to the order on charitable assistance — 100,000 KZT), 46,000 KZT for the manufacture and purchase of badges.

In August 2020, Ust-Kamenogorsk CHPP LLP provided annual assistance to veterans' home "Place of residence" located in Tarkhanka settlement. 15 tons of coal were presented to the institution from the enterprise.

In addition, during the announced quarantine measures in connection with the closure of the borders three times, coal was allocated along the perimeter of the regional center to heat the checkpoints in March, November and December 2020.

In April 2020, due to the declared COVID-19 pandemic Ust-Kamenogorsk CHPP LLP provided humanitarian assistance to lonely pensioners of the city of Ust-Kamenogorsk — food packages were purchased and delivered.

On Victory Day on May 9, 2020, congratulations were also organized for veterans and home front workers who worked at the station: food packages and bonuses were delivered by young specialists.

As part of support of sports and a healthy lifestyle, in June 2020, the NGO "Amateur Volleyball League" in Ust-Kamenogorsk received sponsor support for prizes to participants of the competition.



08. Chapter

Annual report

2020

# 08

## Environmental protection

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 2020, 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 ash collectors of boilers BKZ-50 No. 1-5 and PTVP-100 No. 1-3;
- Revision and repair of worn-out components, removal of suction devices at ash collectors of boilers BKZ-50 No. 1-5;
- Revision and repair of worn-out components, removal of suction devices at ash collectors of boilers PTVP-100 No. 1-3;
- Monitoring of impact on atmospheric air at the border of sanitary protection and residential zones;
- 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 at the ash dump using special automatic machines;
- Rational use of water resources, reducing the risk of excess water losses;
- Determination of the quality of drinking water;
- Dust suppression of section No. 2 of the dry storage ash dump with development and transportation of soils;
- Extending the service life of an ash dump with hydraulic ash removal system;
- Soil cover monitoring;
- Dust suppression in development of ash and slag waste from the existing ash dump No. 1 with hydraulic ash removal system loamy soil;
- Disposal of waste to interested individuals and legal entities for processing, disposal and disposal;
- Conducting radiation quality tests of ash and slag waste, fuel oil and coal.

### Karaganda CHPP-3

- Repair and partial replacement of burner devices on the boiler unit;
- Revision, replacement of worn-out components, removal of suction cups 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;
- Process flow tests of ash-collecting plants;
- Determination of quality of network water;
- Soil cover monitoring;
- Disposal of waste to interested individuals and legal entities for treatment, disposal and/or burial;
- Conducting radiation quality tests of ash and slag waste, fuel oil and coal.

The risk management system is successfully operating, aimed at ensuring the 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 2020, 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 2020 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 2nd hazard class with an area of the sanitary protection zone (SPZ) — 500 m. CHPP-3 belongs to the enterprises of the 1st 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 1st category.

### Atmospheric air protection

Karaganda Energocenter LLP is a major natural resource user 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, regulatory documents (MPE, EIA) were developed for CHPP-1 and CHPP-3 and maximum permissible concentrations (MPC) were established.

To reduce the anthropogenic impact on the environment, all boilers of the CHP are equipped with an ash collection system. The implementation of measures for the reconstruction of ash-collecting plants 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 in-

cludes: 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 2020 amounted to 38,584 tons with the established standard of 46,430 tons per year.

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 2020, tax payments for pollutant emissions from stationary sources amounted to 347.9 million KZT, from mobile sources (transport) — 216.9 thousand KZT.

Types of emissions (tons/year)	2018	2019	2020
<b>Karaganda CHPP-1</b>			
<b>Total, including:</b>	<b>3,220.002</b>	<b>3,127.648</b>	<b>3,004.117</b>
Ash (inorganic dust SiO <sub>2</sub> -70-20%)	609.290	570.604	552.92
Nitrogen oxides (NO <sub>x</sub> )	381.310	442.226	524.802
Sulfur dioxide (SO <sub>2</sub> )	1,972.691	1,851.133	1,679.242
Carbon monoxide (CO)	105.691	106.695	95.252
Other	151.020	156.99	151.901
<b>Karaganda CHPP-3</b>			
<b>Total, including:</b>	<b>32,838.118</b>	<b>34,529.684</b>	<b>35,574.614</b>
Ash (inorganic dust SiO <sub>2</sub> -70-20%)	5,346.376	5,180.189	4,853.389
Nitrogen oxides (NO <sub>x</sub> )	8,801.135	9,521.171	10,381.025
Sulfur dioxide (SO <sub>2</sub> )	17,927.338	19,013.234	19,644.825
Carbon monoxide (CO)	463.489	512.570	386.604
Other	299.780	302.52	308.771
<b>Total for Karaganda Energocenter LLP</b>	<b>36,058.120</b>	<b>37,657.332</b>	<b>38,578.731</b>

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 2020.

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

In 2020, Karaganda Energy Center LLP released 5,703,220 tons (expressed in CO<sub>2</sub>) greenhouse gases, including:

- **Karaganda CHPP-1:**
  - ▶ carbon dioxide (CO<sub>2</sub>) — 380,274.587 tons;
  - ▶ methane (CH<sub>4</sub>) — 2.592 t (expressed in CO<sub>2</sub> -54);
  - ▶ nitrous oxide (N<sub>2</sub>O) — 4.951 tons (expressed in CO<sub>2</sub> — 1,533).
- **Karaganda CHPP-3:**
  - ▶ carbon dioxide (CO<sub>2</sub>) — 5,297,280.141 tons;
  - ▶ methane (CH<sub>4</sub>) — 37.881 t (expressed in CO<sub>2</sub> — 795);
  - ▶ nitrous oxide (N<sub>2</sub>O) — 74.993 tons (expressed in CO<sub>2</sub> — 23.247).

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).

More than 28 types of waste are generated at enterprises. In 2020, a total of 1,429,149.605 tons of industrial and household waste were generated at CHPP-1 and CHPP-3.

### Volume and types of waste generated in 2020

#### Waste of the amber hazard level

**36.037 tons**

- ▶ used ion exchange resins;
- ▶ used mercury-containing lamps;
- ▶ used mercury-containing devices (thermometers);
- ▶ used lead batteries;
- ▶ waste from a medical center of class "B";
- ▶ oiled rags;
- ▶ used car filters;
- ▶ used oils;
- ▶ containers of paint and varnish materials;
- ▶ used wooden railway sleepers.

#### Отходы зеленого уровня опасности

**1,429,113.568 tons**

- ▶ ash and slag waste;
- ▶ non-ferrous metal scrap;
- ▶ ferrous metal scrap;
- ▶ welding electrode stubs;
- ▶ used tires;
- ▶ solid household waste;
- ▶ used air filters;
- ▶ food waste;
- ▶ thermal insulation waste;
- ▶ construction waste;
- ▶ waste from operation of office and electronic equipment;
- ▶ used workwear;
- ▶ crop production waste;
- ▶ wood waste;
- ▶ waste of rubber products;
- ▶ waste of electrical insulation material;
- ▶ abrasive-metal dust;
- ▶ scrap of abrasive products.



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 2020, 24,761 tons of industrial and household waste were neutralized, disposed of and reused at the industrial sites of the stations, 982,054 tons of waste were transferred to third-party organizations on a contractual basis for disposal, and 1,428,142.79 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.

As of December 31, 2020 12,197,548.75 tons of ash and slag waste were accumulated at the ash dumps of the stations, including:

- CHPP-1 — 1,061,012.822 t;
- CHPP-3 — 11,136,535.928 t.

At the same time, payments for emissions for the placement of ash and slag waste in 2020 amounted to 62.469 million KZT.

In 2020, the revenue from the sale of industrial and household waste amounted to 14.47 million KZT.

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

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 ArcelorMittal 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 2020, no significant impact on groundwater and surface water was detected.

## Land resources

The main impact on soil re-pollution can have the bottom- ash 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 2020 by an independent accredited organization, no significant impact of CHPP-1 and CHPP-3 on soil resources was detected.

### Water consumption indicators, thousand tons

Indicator	CHPP-1	CHPP-3
Water consumption	670.6	16,675.16
Consumption for technological needs	670.5	16,326.9
Consumption for economic and household needs	42.8	348.2
Recycling water supply	3,283.5	534,847.6
Reuse	670.7	2,337

## 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 45001. In 2020, 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 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:

- briefings are held in the structural divisions of the station;
- days of occupational safety and environmental protection are conducted on a monthly basis;
- 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.

## Environmental activities and initiatives

Ust-Kamenogorsk CHPP LLP operates based on Environmental emission permit issued by the Committee for Environmental Regulation and Control of the Ministry of Ecology, Geology and Natural Resources of the RK (CER&C) and 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 2019-2020 for environmental protection has been approved by the Committee for environmental regulation and control.

In 2020, Ust-Kamenogorsk CHPP LLP implemented the following environmental protection measures in 9 areas of environmental protection activities:

- Reconstruction of discharge chutes of the conveyor 5/2;
- Replacement of swirlers of emulsifiers of high-pressure boilers;
- Maintenance of an automated system for monitoring emissions into the atmosphere;
- Repair of ash-collecting installations of boilers;
- Services for confirming and verifying the report on greenhouse gas emissions;
- Inventory of greenhouse gas and ozone-depleting substances emissions;
- Maintenance of the software of the automated workplace of the system of the regional automated measuring system of industrial environmental monitoring;
- Monitoring of wastewater emissions and monitoring of water body (at the water intake site, above and below the wastewater discharge);
- Landscaping;

- Construction of ash dump No. 5;
- Use of ash and slag waste;
- Preventive environmental safety: major repairs of ash pipelines;
- Transfer of solid household waste for disposal;
- Development of project for extraction of ash and slag waste;
- Waste disposal of rubber products;
- Radiation monitoring of solid fuels;
- Supervisory audit of ISO 14001 environmental management system;
- Conducting an expert assessment of actual technical condition of the enterprise;
- Observation of the deformation of the Earth's surface of the ash dump No. 3;
- Conducting environmental research: environmental control/monitoring of environmental quality at the location of the ash dump, industrial site;
- Pumping of wells and sampling of underground 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, campaign and education.

Actual costs for environmental protection measures for 2020 amounted to 167.419 million KZT.

Ust-Kamenogorsk CHPP LLP cooperates with the Public Council of the East Kazakhstan Region on solving environmental problems of the EK region, as well as with the KAPUR, EcoJer, Kazenergi and KEA associations, the Chamber of Entrepreneurs of the East Kazakhstan Region on solving environmental issues and improving environmental legislation.

In 2020, Ust-Kamenogorsk CHPP LLP:

- participated in the working groups of the Committee for Environmental Regulation and Control of the Ministry of Ecology, Geology and Natural Resources of the RK (MEG&NR) on improving environmental legislation;
- carried out cooperation with the NGO "International Center for Green Technologies and Investment Projects" on the development of Best available techniques guide;
- participated in the work of Scientific and Technical Council of NGO "International Center for Green Technologies and Investment Projects" on review and expert assessment of strategic directions in the field of environmental protection of the Republic of Kazakhstan;
- Participated in conducting a comprehensive technological audit of the enterprise initiated by the Ministry of Energy and NR on the basis of the NGO "International Center for Green Technologies and Investment Projects".
- Signed a memorandum on cooperation during adverse weather conditions (AWC) between Ust-Kamenogorsk CHPP LLP, the Department of Ecology for East Kazakhstan Region, Kazhydromet RSE for East Kazakhstan Region;
- Organized an information column "About the work of the CHPP" on the official pages in social networks, in order to inform the public about the technological process of the enterprise, environmental projects and initiatives.
- The company has a program "Initiative Youth", where activists of company's staff organize various campaigns to improve labor safety and environmental protection.

The company has a program "Initiative Youth", where activists of company's staff organize various campaigns

to improve labor safety and environmental protection. Staff of Ust-Kamenogorsk CHPP LLP took part in the following environmental campaigns in 2020:

- in the global international campaign “Earth Hour” initiated by the international community (March, 2020);
- “Help the planet- clean it by yourself!” dedicated to the World Environment Day;
- “Plant a tree” by planting 25 seedlings near the airport of the city of Ust-Kamenogorsk;
- “World cleanup day”, supported the volunteer movement to clean up urban areas (the territory adjacent to the enterprise was cleaned, as well as the coastal zone);
- “Take the garbage with you”, cleaned birch grove on the left bank of the Irtysh River from solid household waste.

## 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 establishment of a sanitary protection zone of production facilities (approved by the order of the Ministry of National Economy 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 2020 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 2nd 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.

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 2020 amounted to 16,051.843 tons with the established standard of 17,763.450 tons per year.

### Emissions of pollutants, tons/year

	2018	2019	2020
<b>Ust-Kamenogorsk CHPP LLP</b>			
Total, including:	14,853.291	16,145.474	16,051.843
Sulfur dioxide (SO <sub>2</sub> )	7,976.945	8,823.561	8,734.754
Nitrogen dioxide (NO <sub>2</sub> )	4,014.725	4,275.604	4,311.179
Nitric Oxide (NO)	652.393	694.785	700.566
Ash (inorganic dust 70-20% SiO <sub>2</sub> )	2,062.245	2,161.544	2,096.358
Carbon monoxide (CO)	121.710	165.927	184.825
<b>Other</b>	<b>25.273</b>	<b>24.052</b>	<b>24.160</b>

Based on results of the inventory of greenhouse gas emissions for 2020, the volume of greenhouse gas emissions was:

- carbon dioxide (CO<sub>2</sub>) — 2,839,526.485 tons;
- methane (CH<sub>4</sub>) — 21.882 tons (452.518 tons, CO<sub>2</sub> equivalent);
- nitrous oxide (N<sub>2</sub>O) — 43.577 tons (13,509 tons CO<sub>2</sub> equivalent).

## 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.

The volume of gross emissions from stationary sources during construction and repair works was 0,122 tons in 2020, with the established standard of 0.122 tons per year.

In 2020, accrued tax payments for emissions of pollutants into the atmosphere from stationary sources amounted to 265,674.998 thousand KZT; from mobile sources (transport) — 837.234 thousand KZT.

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.

## Volume and types of waste generated in 2020

### Waste of the amber hazard level 47.367 tons

- ▶ used mercury-containing lamps;
- ▶ transformer waste oil;
- ▶ used turbine oil;
- ▶ used diesel oil;
- ▶ industrial waste oil;
- ▶ used lubricating and cooling liquid;
- ▶ oil sludge;
- ▶ lead-acid batteries, whole or broken;
- ▶ oiled rags;
- ▶ used sealing liquid;
- ▶ sewage treatment plant precipitation;
- ▶ acid solutions.

### Waste of the green hazard level 242,714.866 tons

- ▶ ash and slag waste;
- ▶ scrap metal;
- ▶ brass waste and scrap;
- ▶ copper waste and scrap (cable waste);
- ▶ aluminum waste and scrap (cable waste);
- ▶ cationic resins from sewage treatment plants;
- ▶ waste of rubber products;
- ▶ waste of equipment and pipelines lining;
- ▶ wood waste;
- ▶ plastic waste and scrap;
- ▶ construction and repair waste;
- ▶ electronic scrap waste;
- ▶ waste and waste paper, paper and cardboard;
- ▶ solid household waste;
- ▶ culvert and other glass waste.

In 2020 1,623.310 tons of waste were transferred to third-party organizations under contracts, 3.331 tons were disposed by co-incineration with coal, and 241,460.502

tons of ash and slag waste were placed in the ash dump No. 3.

In total, as of January 1, 2021 2,479,624.271 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 hectares.

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

Accrued tax payments for the placement of ash and slag waste in 2020 was 21,740.762 thousand KZT.

## Water resources

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

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 Atamanovskiy 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.

### Indicators of water use in 2020, thousand tons

Indicator	UK CHPP
Water consumption:	51,231.0
from Ulba river	41,552.0
from the networks of Oskemen-Vodokanal SCE	3,984.3
artesian water of "UMP" JSC	5,694.7
Consumption for technological needs	45,955.1
Consumption for economic and household needs	168.7
Transferred to third-party consumers	5,107.2

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 2020 was 38.807 million m<sup>3</sup>. The amount of discharge of pollutants (oil products) in the Ulba River in 2020 was 0.919 tons with the established standard of 1.95 tons.

Tax payments for the discharge of pollutants into the water body was 16.018 thousand KZT.

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 2020, 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.

## 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 2020, 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 2020, 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 mo-

onitoring energy consumption and equipping Karaganda Energocenter LLP with power and heat metering devices.

In 2020, Karaganda Energocenter LLP implemented a number of organizational and technical measures aimed at the rational use of energy resources.

#### CHPP-3

**1. Current repairs of boiler units HG-670/14-YM20 st. No. 8, BKZ-420-140-5 st. No. 3, 4, 5, 6, 7** — standard routine repairs, metal inspection, elimination of defects on heating surfaces, fittings, instrumentation and control equipment and on rotating mechanisms were carried out.

**2. Overhaul of BKZ-420-140-5 No. 1** — repair of coiled pipe of belt superheater (BSH) 74 pieces, replacement of 90 fittings hot stage superheater (GPP), repair of boiler accessories with replacement of 62 units, with repair of 2 units, replacement 4 domestic tufts condensing boiler installations, repair of rotating equipment of 4 HBFs with replacement of one chassis and rotor, repair of 4 MMT mills with the replacement of hammers and one rotor with disks and one bearing body, beater arms, armor case, bearings and cooling system, replacement of burners — 8 pieces, repair of 2 exhaust fans with adjacent air and gas conduits — 3.1 tons and cooling system, replacement of air conduit

from HBF to mills, restoration of the insulation of the boiler. Repair of 3 screw slag removal devices with replacement of 3 screws, repair of 4 screw feeders of raw coal with the repair of chutes — 12.6 tn, metal sensing of platen superheater, LBC, screens, water supply pipes of the screen, steam removal pipes of the festoon, steam inlet pipes, inlet manifolds of MSDS, steam collection chambers  $\varnothing 273 \times 45$  mm and fittings  $\varnothing 159 \times 24$  mm, feed pipeline  $\varnothing 273 \times 20$ , main steam pipeline  $\varnothing 273 \times 36$  v).

**3. Major repair of BKZ-420-140-5 st. No. 2** — repair of 4 MMT mills was carried out with the replacement of hammers and one rotor with disks and one bearing body, hammer arms, hull armour, bearings and cooling system. Repair of 4 screw feeders of raw coal with repair of chutes — 12.6 tn. Replacement of burners — 8 pieces. Repair of the emulsifier with replacement of inserts in the swirler blocks 270 pcs. Metal sensing: screens and water supply pipes

$\varnothing 219 \times 18$ , steam discharge pipes of cyclones  $\varnothing 133 \times 13$ , steam inlet pipes  $\varnothing 133 \times 10$ , valve housings GPK-3 pcs DU-175, steam collection chambers  $\varnothing 273 \times 45$  and fitting  $\varnothing 159 \times 24$ , feed pipeline  $\varnothing 273 \times 20$ , steam inlet pipes GPP  $\varnothing 159 \times 14$ , main steam pipeline  $\varnothing 273 \times 36$ . Metallographic and mechanical examination of pipes to determine the possibility of further operation of the output collector GPP 4 pcs and steam collecting chambers 2 pcs. Restoration of boiler insulation.

**4. Current repairs of turbine units type T-110/120-130 st. No. 1, 3, 4, 5, 6.**

**5. Overhaul of turbine unit T-110/120-130-3 st. No. 2** — repair restoration of the main components of the flow part — diaphragms, seals of HPC, APC was completed. Repair of supports with refilling of 8 bearing liners of the turbine, generator and refilling of 2 exciter liners, repair of turbine couplings. Repair of stop valve, control system, 4 steam distribution control valves and 2 selection control valves. Repair of turbine fittings 6 units, turbine lubrication system with repair of 3 oil tanks and replacement of the grid 3 units and repair of 5 oil pumps and cooling system 7 oil coolers and filters 12 units. Replacement of lens compensators PSG1, PSG-2 with a total weight of 6.8 tn, lens compensators PS-100 with a total weight of 0.9 tn, lens compensators PND-1, PND-2 with a total weight of 0.8 tn. Repair of KOC HDPE-250 No. 1, 2, 3, 4, PV-550 high-pressure heaters No. 5, 6, 7 with replacement of 30 spirals and repair of fittings. Repair of steam pipe fittings — 19 units, the main steam valve (MSV) ZP-5. Replacement of the bypass valve MSV Du100 Ru140. Repair of

the throttle valve Du 100 Ru 140. Restoration of insulation of the turbine unit 250 m<sup>3</sup> and 1,012 m<sup>2</sup>. Repair of 8 gate valves of the heating system. Replacement of the safety valve and the pulse safety valve on the PRDS-2, the safety valve and the pulse safety valve on the D-6a. Replacement of 2 acid flushing valves Du 100 mm and Du 200 mm. HPSH metal sensing — 10 objects. It is planned to scrape the foundation plate under MOP, the bearing pedestal, the diaphragm clips, RCU, ZKU, the vertical connectors of the hoods.

**6. Replacement of thermal insulation of furnaces of boiler units of CHPP-3.** The insulation was replaced to reduce the actual heat losses through the brickwork, as well as to reduce the suction devices. As a result, the savings amounted to

26.701 thousand Gcal

**7. Modernization of the lighting system.** 3,035 lamps were replaced with LED lamps, as a result, energy savings amounted to

961.2 thousand kWh



## CHPP-1

1. **Current repairs** of boilers BKZ-50-39F st. No. 1, 2, 4, 5 and PTVP-100 st. No. 1, 2;
2. **Overhaul of boiler BKZ-50-39F st. No. 3** — repair of replacement of the cubes of the heater VZP-1 stage; manufacture and replacement of single-wave rectangular section expansion joints; manufacture and replacement of the section of gas pipe under the cubes VZP — 1 stage; the replacement of firefighting line VZP-1 stage; replacement of tops of coal-fired burner-2 pcs; replacement and installation of new coiled pipes of water economizer VEK-1 stage, pipe 32x4 mm, and VEC-2 stage; replacement of firefighting line VZP-1 stage; replacement of boiler accessories and safety valve — 18 units; repair and replacement of lining and insulation in the area of replaced heating surfaces with a total area of 121,7 m<sup>2</sup>; replacement of CL 0.4 kV — 150 m (DS,DV,SHM-3A,B); delivery and implementation of complete system of management of raw coal feeders; repair of STU — 1 pcs, SAR — 1 pcs; replacement of steel structures of gas pipes and emulsifier casings; replacement of gas pipes made of polyester plastic.
3. **Overhaul of PTVP-100 st. No. 3** — repair replacement of convection section, reconstruction, replacement of the upper chambers of the convection section 2 pcs; replacement of the upper chambers of the front, rear, left and right screens; replacement platen heating surfaces  $\varnothing 60 \times 4$  weight 19,22 tn; replacement of boiler brickwork in the area of convection section and screens, with a total area of 72 m<sup>2</sup>; replacement of boiler case in the area of replaced surfaces with a total volume of 2.1 tn; replacement of coal-fired burners — 4 pcs.
4. **Current repairs of turbine units** PR-6-35/5 st. No. 2, 3, 5.
5. **Overhaul of the turbine unit PR-6-35/5 st. No. 4** — repair of flow part with diaphragms, restoration of radial spaces and diaphragm seals. Repair of high-pressure rotor with cleaning of salt deposits, replacement of the seal tendrils, rotary diaphragm, turbine supports, control system, lubrication system. Replacement of shut-off valves, 12 pcs.

## Ust-Kamenogorsk CHPP LLP

In 2020, a number of organizational and technical measures aimed at the rational using the energy resources were implemented at Ust-Kamenogorsk CHPP LLP.

1. **Major repair of the boiler of st. No. 13 with replacement of the smooth-tube water economizer of the 1st stage with a membrane one.**  
Replacement of heating surfaces that run out period with partial replacement of the brickwork and thermal insulation.
2. **Overhaul of the boiler unit of st. No. 14 with the replacement of burners.**  
Replacement of burners (8 pcs) allowed increasing the nominal load of the boiler unit by 20 t/h.
3. **Cleaning of pipe systems of water heaters** (2 pcs).  
Cleaning allowed increasing the cooling water consumption and improve heat exchange.
4. **Repair of station lighting.**  
Cost-efficient lighting devices are installed. The lighting lamps were replaced with LED ones.



## 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 results of implementation of the action plan for energy saving and energy efficiency improvement for 2020 by Karagandy Zharyk LLP

Measure	Actual investments for the reporting period (including VAT), KZT	Actual saving effect from implementation of measures for the reporting period	
		energy resource	in kind
Disconnection of transformers in light-load conditions at substations with two or more transformers.	0	electricity (kWh)	1,668,477
Equalization of phase loads in 0.38 kV electrical networks	0	electricity (kWh)	34,503
Replacement of incandescent and DRL lamps with LED lamps	7,642,277	electricity (kWh)	663,749
Optimization of electric heating systems for premises	2,133,144	electricity (kWh)	376,020
Reconstruction of 110 kV overhead line "Karaganda — new city"	1,060,484,839	electricity (kWh)	836,600



## Ontustik Zharyk Transit LLP

### Information on the results of the implementation of the energy saving action plan for 2020 of Ontustik Zharyk Transit LLP

Measure	Actual investments for the reporting period (including VAT), KZT	Actual saving effect from implementation of measures for the reporting period	
		energy resource	in kind
Replacement of overloaded, installation and commissioning of additional power transformers on existing TS, CTS 10 6 kV	235,930,208	electricity (kWh)	185,696
Replacement of underloaded power transformers on existing TS, CTS 10 6 kV	2,023,438	electricity (kWh)	6,000
Replacement of wires on overloaded 0.4 kV HV lines	192,073,030	electricity (kWh)	1,179,094
Replacement of wires on overloaded 0.4 kV HV lines (using SIP)	1,262,699,726	electricity (kWh)	1,813,038
Replacement of overloaded power transformers with existing 35-110 kV PS	404,619,242	electricity (kWh)	284,834

## Mangistau Regional Electricity Network Company JSC

### Information on the results of the implementation of the action plan for energy saving and energy efficiency for 2020 of Mangistau Regional Electricity Network Company JSC

Measure	Implementation period (month, year)	Actual investments for the reporting period (including VAT), million KZT	Actual saving effect from implementation of measures for the reporting period		
			energy resource	in kind, kWh	in monetary terms (including VAT), KZT
Equalization of load of phases of the power line 0.38 kV	12/2020	0	Electric power	381,500	5,041,904
Repair of OHL and SS (with replacement of wires on overloaded lines)	12/2020	18,761,415	Electric power	36,954	488,384
Replacement of overloaded transformers on existing SS, DS, TS	12/2020	12,395,000	Electric power	656,000	8,669,696





09. Chapter

Annual report

2020



# 09

## Consolidated financial statements





### Consolidated statement of profit or loss and other comprehensive income for the year ended 31 December 2020

thousands of KZT	Notes	2020	2019
Revenue	6	143,467,728	134,469,242
Cost of sales	7	(106,989,007)	(97,223,720)
<b>Gross profit</b>		<b>36,478,721</b>	<b>37,245,522</b>
General and administrative expenses	8	(9,066,778)	(9,120,755)
Selling expenses	9	(3,287,864)	(2,910,741)
Finance costs	10	(11,132,343)	(9,812,009)
Finance income	11	5,824,931	5,752,203
Other income, net		70,414	535,983
Foreign exchange gain/(loss), net	29	5,079,044	(6,685,027)
<b>PROFIT BEFORE INCOME TAX</b>		<b>23,966,125</b>	<b>15,005,176</b>
Income tax expenses	13	(4,201,523)	(4,394,367)
<b>NET PROFIT FOR THE YEAR</b>		<b>19,764,602</b>	<b>10,610,809</b>
<b>Other comprehensive income for the year</b>			
<i>Items that will be subsequently reclassified to profit or loss:</i>			
Foreign exchange differences on translation of foreign operations		290,771	65,989
<b>OTHER COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>290,771</b>	<b>65,989</b>
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>		<b>20,055,373</b>	<b>10,676,798</b>
<i>Profit attributable to:</i>			
Company owners		18,970,896	8,366,583
Non-controlling interests	21	793,706	2,244,226
		<b>19,764,602</b>	<b>10,610,809</b>
<i>Total comprehensive income attributable to:</i>			
Company owners		19,261,667	8,432,572
Non-controlling interests	21	793,706	2,244,226
		<b>20,055,373</b>	<b>10,676,798</b>

### Consolidated statement of financial position as at 31 December, 2020

thousands of KZT	Notes	31 December 2020	31 December 2019
<b>ASSETS</b>			
<i>NON-CURRENT ASSETS:</i>			
Property, plant and equipment	14	237,161,609	231,091,162
Advances paid	15	441,296	2,127,506
Loans given to related parties	28	67,004,782	61,351,522
Other non-current assets		732,623	835,592
Deferred tax assets	13	289,075	167,068
<b>Total non-current assets</b>		<b>305,629,385</b>	<b>295,572,850</b>
<i>CURRENT ASSETS:</i>			
Trade accounts receivable	16	16,931,780	12,197,346
Inventories	17	4,493,560	4,101,448
Loans given to related parties	28	3,129,486	3,129,486
Advances paid	15	591,530	452,973
Prepaid corporate income tax		777,173	361,847
Other current assets	18	2,160,866	1,938,904
Cash and cash equivalents	19	4,028,566	4,363,170
<b>Total current assets</b>		<b>32,112,961</b>	<b>26,545,174</b>
<b>TOTAL ASSETS</b>		<b>337,742,346</b>	<b>322,118,024</b>
<b>EQUITY AND LIABILITIES</b>			
<i>EQUITY:</i>			
Charter capital	20	11,636,404	11,636,404
Additional paid-in capital	20	9,239,137	9,239,137
Foreign currency translation reserve		621,911	331,140
Retained earnings		136,817,082	117,846,186
Equity attributable to owners of the Company		158,314,534	139,052,867
Non-controlling interests	21	13,985,116	13,191,410
<b>Total equity</b>		<b>172,299,650</b>	<b>152,244,277</b>
<i>NON-CURRENT LIABILITIES:</i>			
Loans and bonds issued	22	81,158,704	37,581,671
Deferred tax liabilities	13	32,140,600	31,328,779
Other non-current liabilities	23	3,133,024	2,682,525
<b>Total non-current liabilities</b>		<b>116,432,328</b>	<b>71,592,975</b>
<i>CURRENT LIABILITIES:</i>			
Loans and bonds issued	22	18,939,003	71,877,493
Trade accounts payable	24	14,118,363	11,992,472
Other accounts payable and accrued liabilities	25	13,133,286	12,215,664
Other taxes payable	26	2,418,089	1,692,887
Corporate income tax payable		401,627	502,256
<b>Total current liabilities</b>		<b>49,010,368</b>	<b>98,280,772</b>
<b>TOTAL LIABILITIES</b>		<b>165,442,696</b>	<b>169,873,747</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>337,742,346</b>	<b>322,118,024</b>



### Consolidated statement of changes in equity for the year ended 31 December, 2020

thousands of KZT	Charter capital	Additional paid-in capital	Foreign currency translation reserve	Retained earnings	Equity attributable to owners of the Company	Non-controlling interests	Total
<b>As at 31 December 2018</b>	<b>11,636,404</b>	<b>9,239,137</b>	<b>265,151</b>	<b>109,479,603</b>	<b>130,620,295</b>	<b>10,947,184</b>	<b>141,567,479</b>
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
<b>As at 31 December 2019</b>	<b>11,636,404</b>	<b>9,239,137</b>	<b>331,140</b>	<b>117,846,186</b>	<b>139,052,867</b>	<b>13,191,410</b>	<b>152,244,277</b>
Net profit for the year	-	-	-	18,970,896	18,970,896	793,706	19,764,602
Other comprehensive income for the year	-	-	290,771	-	290,771	-	290,771
Total comprehensive income for the year	-	-	290,771	18,970,896	19,261,667	793,706	20,055,373
<b>As at 31 December 2020</b>	<b>11,636,404</b>	<b>9,239,137</b>	<b>621,911</b>	<b>136,817,082</b>	<b>158,314,534</b>	<b>13,985,116</b>	<b>172,299,650</b>

The full set of financial statements, including notes and the auditor's report, can be found on our corporate website [KUS.KZ](http://KUS.KZ) (**Investor Relations / Financial Performance**).

### Consolidated statement of cash flows for the year ended 31 December, 2020

thousands of KZT	Notes	2020	2019
<b>OPERATING ACTIVITIES:</b>			
Sales of goods and services		153,074,970	146,402,097
Other proceeds		4,469,495	1,637,524
<b>Total cash inflow</b>		<b>157,544,465</b>	<b>148,039,621</b>
Payments to suppliers for goods and services		(93,508,011)	(82,142,361)
Salary payments		(13,769,137)	(12,947,407)
Other payments to the budget		(12,144,398)	(10,870,312)
Other payments		(2,877,546)	(3,337,886)
<b>Total cash outflows</b>		<b>(122,299,092)</b>	<b>(109,297,966)</b>
Cash from operating activities before interest received and paid and corporate income tax		35,245,373	38,741,655
Interest received		156,789	248,761
Interest paid on loans and bonds issued		(9,747,604)	(8,796,479)
Corporate income tax		(4,027,664)	(3,052,762)
<b>Net cash generated from operating activities</b>		<b>21,626,894</b>	<b>27,141,175</b>
<b>INVESTING ACTIVITIES:</b>			
Sale of property, plant, and equipment		11,058	53,468
<b>Total cash inflow</b>		<b>11,058</b>	<b>53,468</b>
Purchase of property, plant, and equipment and materials for capital repairs, and advances paid for acquisition of non-current assets		(17,052,626)	(26,545,625)
Purchase of intangible assets		(11,073)	(9,845)
Disposal of cash to purchase subsidiaries		(1,101,151)	(1,014,334)
Financial aid given to a third party		(91,000)	-
Other payments		(182,934)	-
<b>Total cash outflow</b>		<b>(18,438,784)</b>	<b>(27,569,804)</b>
<b>Net cash used in investing activities</b>		<b>(18,427,726)</b>	<b>(27,516,336)</b>
<b>FINANCING ACTIVITIES:</b>			
Financial aid received	22	1,987,900	3,747,000
Loans received	22	21,950,000	22,907,620
Other proceeds		-	217,949
<b>Total cash inflow</b>		<b>23,937,900</b>	<b>26,872,569</b>
Repayment of loans and bonds issued	22	(26,669,011)	(26,681,485)
Loan given to an entity under common control	28	-	(500,000)
Repayment of financial aid received	22	(765,000)	(20,000)
Dividends payment	20	(4,464)	(6,700)
Other		-	(255,000)
<b>Total cash outflow</b>		<b>(27,438,475)</b>	<b>(27,463,185)</b>
<b>Net cash used in financing activities</b>		<b>(3,500,575)</b>	<b>(590,616)</b>
NET CHANGE IN CASH		(301,407)	(965,777)
CASH AND CASH EQUIVALENTS, as at the beginning of the year	19	4,363,170	5,458,604
Effect of a changes in the allowance for expected credit losses on cash and cash equivalents		35,198	22,537
Effect of changes in foreign exchange rates on cash balances held in foreign currencies		(68,395)	(152,194)
<b>CASH AND CASH EQUIVALENTS, as at the end of the year</b>	<b>19</b>	<b>4,028,566</b>	<b>4,363,170</b>

# Abbreviations

<b>ACL</b>	aerial cable line
<b>BGS</b>	biogas station
<b>BWHS</b>	boiler and water heating shop
<b>CCTSS</b>	city complete transformer substation
<b>CHPS</b>	combined heat and power station
<b>CL</b>	cable line
<b>CPP</b>	condensing power plant
<b>CSR</b>	corporate social responsibility
<b>CTC</b>	corporate training center
<b>CTS</b>	complex transformer substation
<b>DP</b>	distribution point
<b>EBIT</b>	earnings before interest and taxes
<b>EBITDA</b>	earnings before interest, taxes, depreciation and amortization
<b>EC</b>	efficiency coefficient
<b>EIA</b>	environmental impact assessment
<b>EP</b>	Energopotok LLP
<b>EP</b>	environmental protection
<b>EPC</b>	engineering, procurement and construction
<b>EPO</b>	energy-producing organization
<b>ESO</b>	energy sales organization
<b>FL</b>	fuel and lubricants
<b>FS</b>	feasibility study
<b>Gcal</b>	gigacalory
<b>Gcal/h</b>	gigacalory per hour
<b>GDP</b>	gross domestic product
<b>GMP</b>	General meeting of participants
<b>GS</b>	gas switch
<b>HDT</b>	house distribution transformer
<b>HPP</b>	hydroelectric power station
<b>HWS</b>	hot water supply
<b>IDR</b>	issuer default ratings
<b>IEC</b>	industrial environmental control
<b>II</b>	inventory items
<b>KASE</b>	Kazakhstan Stock Exchange JSC
<b>KEPA</b>	Association of legal entities «Kazakhstan Electric Power Association»
<b>KEC</b>	Karaganda EnergoCenter LLP
<b>KEGOC</b>	Kazakhstan Electricity Grid Operating Company JSC
<b>km</b>	kilometer
<b>KPI</b>	key performance indicator
<b>KUS</b>	Kazakhstan Utility Systems LLP
<b>kV</b>	kilovolt
<b>kWh</b>	kilowatt-hour
<b>KZh</b>	Karagandy Zharyk LLP

<b>KZhS</b>	Karagandy ZhyluSbyt LLP
<b>LE</b>	legal entity
<b>LLP</b>	limited liability partnership
<b>LP</b>	labor protection
<b>m</b>	meter
<b>MNE RK</b>	Ministry of National Economy of the Republic of Kazakhstan
<b>MPE</b>	maximum permissible emissions
<b>MRENC</b>	Mangistau Regional Electricity Network Company JSC
<b>MVA</b>	megavolt-ampere
<b>MW</b>	megawatt
<b>NEN</b>	national electric network
<b>OD HVEPS</b>	operating department of high voltage electric power systems
<b>OHL</b>	overhead line
<b>OS</b>	occupational safety
<b>OSG</b>	open switchgear
<b>OZh</b>	Ontustik Zharyk LLP
<b>OZhT</b>	Ontustik Zharyk Transit LLP
<b>pcs</b>	pieces
<b>PTE</b>	regulations for pipeline technical maintenance
<b>PTL</b>	power transmission line
<b>REC</b>	regional electric grid companies
<b>REM</b>	retail energy market
<b>RES</b>	renewable energy sources
<b>ROA</b>	return on assets
<b>ROCE</b>	return on capital employed
<b>ROE</b>	return on equity
<b>RPGC</b>	regional power grid companies
<b>RSC</b>	Raschetnyi servisnyi center LLP
<b>S and SCB</b>	separator and short-circuit breaker
<b>SCHPP</b>	Sogrinsk CHPP LLP
<b>SEP</b>	solar power plant
<b>SIP</b>	self-supporting insulated wires
<b>SKR</b>	South Kazakhstan region
<b>SO</b>	subsidiary organization
<b>SPZ</b>	sanitary protection zone
<b>SS</b>	substation
<b>t</b>	ton
<b>TPP</b>	thermal power plant
<b>TR</b>	Turkestan region
<b>TS</b>	transformer substation
<b>UK CHPP</b>	Ust-Kamenogorsk CHPP LLP
<b>UMS</b>	Utility metering system
<b>VI</b>	volume index
<b>WPP</b>	wind power plant



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