SUSTAINABLE DEVELOPMENT

RELIABILITY
FOR ALL TIMES

SUSTAINABLE DEVELOPMENT MANAGEMENT

BEST INTERNATIONAL PRACTICE UN SDGS COMMITMENTS, REQUIREMENTS, INITIATIVES

STRATEGY	INTERESTED PARTIES	GOALS AND OBJECTIVES	BUSINESS PROCESSES	OPERATIONAL INTEGRATION
Analysis of the internal and external situation of three components (economy, ecology, social issues), identification of risks in the field of sustainable development, implementation of principles into the mission and vision	Stakeholder mapping and engagement methods/ channels	Guidelines for sustainable development, the formation of performance indicators in the field of sustainable development	Adherence to the principles of development research at the level of the Board of Directors, executive body and employees. Integration of development studies into relevant processes and decision-making processes	Initiatives, policies, plans in the field of sustainable development and stakeholder engagement

Regular reporting, monitoring of the performance, assessment of goals and KPIs achievement, adoption of corrective measures, effective feedback for interested parties. Introducing a culture of continuous improvement. Continuing education of official and employees in the field of sustainable development.

The principles of sustainable development are implemented in the context of three levels:

1. Strategic integration – the principles of sustainable development are incorporated into the Strategy (for more details, see the "Strategy" section);

2. Operational integration – all corporate decisions are made by the Company's management based on the criteria of compliance with the principles and goals of sustainable development;

3. Cultural integration is implemented as part of conducting training at the Company, posting articles on the corporate portal of the Company, as well as within the Code of Conduct (for more details, see the section "Social Aspect").

You may learn more about key trends and risks in the field of sustainable development of the Company at the link *https://www.samruk-energy.kz/ru/shareholders-and-investors/annual-reports-on-the-results-of-the-company-s-activities.*

"Samruk-Energy" JSC, integrating the principles of sustainable development in its business, declares its commitment to the 17 Sustainable Development Goals. The company is aware that the environmental and social issues that reflect each of the SDGs are relevant and affect any organization.

"Samruk-Energy" JSC, in its operations, seeks to contribute to the achievement of the following UN sustainable development goals:

Goal 1: End poverty in all its forms everywhere.

Goal 2: End hunger, achieve food security and improve nutrition, and promote sustainable agriculture.

According to data from UN, the number of people living in extreme poverty has declined globally, from 36% in 1990 to 10% in 2015, the crisis resulted in COVID-19 risks reducing to zero the decades of progress in the fight against poverty. "Samruk-Energy" JSC group of companies strives to preserve jobs and index wages (according to the results of 2020, indexation averaged 7.5%). In 2020, the average salary of employees in the Company's group increased in relation to the same indicator by 12% (for more details, see the section "Social aspect").

The company seeks to ensure uninterrupted power supply to all regions where it operates, including in remote areas and settlements, for the possibility of sustainable farm management by local population.

"Samruk-Energy" JSC, being a socially responsible company, strives to pay attention to the social well-being of the regions where subsidiaries are located. An active cooperation with "Samruk-Kazyna Trust" Corporate Fund on the possibility of obtaining support and implementing charity programs in the regions of subsidiaries' location has started in 2019.

In 2020, the Company worked on identifying relevant existing social issues. Following the works performed, applications for receiving social assistance were submitted to "Samruk-Kazyna Trust" Corporate Fund. In particular, because of active work with local executive bodies "Samruk-Energy" JSC subsidiaries ("APP" JSC, "Samruk-Green Energy" LLP, "Ekibastuz SDPP-1" LLP, "FWPP" LLP) identified a list of acute social issues in the regions where they operate, as well as a list of non-profit organizations that can initiate and implement projects to address these issues.

Every year the Company implements several social initiatives to help people with disabilities, the poor, retired employees, and patients suffering from cancer (for more details, see "Social aspect" section)

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

The specific nature of power industry requires constant continuous training and reskilling for admission to work and maintaining a high level of expertise. "Samruk-Energy" JSC group of companies strives to constantly develop and train employees. Staff training and development is a key success factor in ensuring economical, trouble-free and efficient operation of equipment and the company as a whole. "Samruk-Energy" JSC cooperates with leading domestic universities, certification of personnel according to internationally recognized training programs remains one of the priority areas in training (for more details, see "Social aspect" section)

Goal 5: Achieve gender equality and empower all women and girls.

Goal 10: Reduce inequality within and among countries.

"Samruk-Energy" JSC supports 7 Principles for the Empowerment of Women developed as part of UN-Women partnership and the United Nations Global Compact. This document assumes a commitment to the principles of gender equality as a key element of sustainable development, as well as a conviction that companies that provide women and men with equal opportunities are more successful and achieve better results.

The COVID-19 pandemic and imposing of quarantine measures have changed the lifestyle and work of "Samruk-Energy" JSC group of companies. The scheduled round tables on promoting equal opportunities with students of Almaty University of Energy and Communications named after Gumarbek Daukeev and the SUE "Almaty State College of Energy and Electronic Technologies" were postponed until improvement of the country's sanitary and epidemiological situation as a whole.

At the same time, the European Bank for Reconstruction and Development (EBRD) launched the Program for supporting renewable energy sources and promotion of gender equality in Kazakhstan in August 2020. The program aims to promote the economic opportunities of women in the renewable energy sector (RES) of Kazakhstan, in close cooperation with the Government of the Republic of Kazakhstan, renewable energy sector enterprises. As part of the EBRD Program for supporting renewable energy sources (RES) and promotion of gender equality in Kazakhstan, subsidiaries of RES sector of "Samruk-Energy" JSC group of companies participated at the meeting; the meeting will contribute to the preparation of the report on results of basic assessment of women employment and entrepreneurship in RES. The roadmap for increasing the participation of women in Kazakhstan's RES sector will be developed in 2021 based on the report. Reducing inequality and ensuring that no one is left behind is an integral part of sustainable development goals accomplishment.

Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all.

The company makes every effort to ensure that energy becomes more sustainable and affordable, paying close attention to the development of "clean" energy (RES).

"Samruk-Energy" JSC energy producing organizations' electricity output in 2020 amounted to 31,385 bn kWh. Electricity generation by "Samruk-Energy" JSC RE facilities (SPP, WPP, small HPP) in January-December 2020 amounted to 335.8 mln kWh.

In 2020, "Samruk-Energy" JSC group of companies started the implementation of two new RE projects – wind power plants in Almaty and Akmola regions: the construction of 60 MW wind power plant in Shelek corridor with possible increase in capacity up to 300 MW in Enbekshikazakh district of Almaty region and 50 MW wind power plant located in the vicinity of Ereymentau city of Akmola region.

Along with that, "Samruk-Energy" JSC accomplished Shardarinsk HPP complete retrofit program. Large-scale reconstruction that aimed at replacement of all four hydroelectric units enabled to increase the capacity of the HPP from 100 to 126 MW. The new equipment will increase the service life of the hydropower plant to 35–40 years, increase the reliability of the hydropower plant and reduce the accident rate.

In 2020, 5 MW Shelek wind power plant was commissioned in Almaty region, implemented under the intergovernmental agreement between the PRC and the Republic of Kazakhstan. The design capacity of the plant is 5 MW, the average annual output is about 15 mln kWh of electricity.

Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

"Samruk-Energy" JSC is one of major employers in the Republic of Kazakhstan. As of December 31, 2020, the headcount of "Samruk-Energy" JSC group of companies amounted to 17,783 people.

The share of full-time employees in the reporting period was 100%. The ratio of the minimum wage for women to the minimum wage for men is 100% (to learn more about this, visit "Financial and Economic Reporting" and "Social Aspect" sections).

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Inclusive and sustainable industrialization, along with innovation, play an essential role in deployment and promotion of new technologies, facilitating international trade and ensuring the efficient use of resources.

"Samruk-Energy" JSC implements a number of projects:
- Project SKE.03.01P "Introduction of automatic load and frequency control"
- "Business Loss Analysis Using Data Analytics" Project.
- Project "Implementation of a pilot automated medical examination system"

The research work "Development of technology of furnace devices of boiler units for firing high-ash coal from seam No. 3 of Ekibastuz coal deposit and depleted coal by-products" was carried out.

A joint research laboratory "Clean Coal Technologies" was established on the territory of PI "Nazarbayev University Research and Innovation System".

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.

The company adheres to high standards of business ethics, transparency, and legality, independent from business customs and other business practices in a particular jurisdiction. (to learn more, visit "Compliance" and "Stakeholders engagement" sections).

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The Company, in its operations, is a member in the following national and international organizations, associations / organizations:

The CIS Electric Power Council (hereinafter – CIS EPC).
Observer since 2012.Membership in the CIS EPC allows participating in the processes of integration of the CIS member states' energy systems, including ensuring collective energy security; Provision of parallel operation of power systems; Creation of a common electric power market, involvement in preparation of international agreements in power sector; Technical regulations, unification and harmonization of laws and regulations in power industry, etc.

Kazakhstan Electricity Association (hereinafter – KEA).
Membership since 2011. Membership in KEA allows exchanging information and participation in development of a regulatory legal framework in power sector, as well as conferences, seminars and other events.

KAZENERGY Association.
Member of the Association since 2009. Membership in KAZENERGY Association allows participating in government initiatives and activities aimed at improving the RK investment climate, in developing and implementing measures to increase production and scientific and technical potential; as well as the Company may receive assistance in legal, economic, organizational and management matters.

The National Chamber of Entrepreneurs of the Republic of Kazakhstan (hereinafter referred to as the RK NCE).
Membership in the RK NCE since 2013. Membership in the RK NCE helps to strengthen ties with business environment, effective development of electricity business, including as part of improvement of RK regulatory framework.

UN Global Compact.
Membership since 2011. In the context of joining the UN Global Compact, the Company declares its commitment to following the ten principles of the Global Compact in its strategy and day-to-day operations.

As part of above-mentioned Sustainable Development Goals, the Company implements sustainable development initiatives in the below areas:

- the introduction of high ethical standards and building a corporate culture based on trust;
- introduction of sustainable development principles and application of a risk-based approach in the practice of project management at all investment stages: assessment and management of the impact on the social, environmental and economic areas (forced relocation, biodiversity, cultural heritage, etc.) in accordance with Sustainable development guidelines of the Company;
- an increase in financial sustainability;
- facilitate responsible procurement based on principles of fair and free competition, mutual benefit, transparency and full responsibility for the commitments made, as well as the introduction of requirements for suppliers to comply with ethical standards and guidelines for suppliers of the Company, set out in the Guidelines for sustainable development of the Company;
- improving the safety culture through the involvement of employees in occupational safety management system and increasing the effectiveness of control over the occupational health and safety management system through application of international standards;
- increasing the level of social responsibility, following the principles of the UN Global Compact, investment in human assets;
- ensuring environmental sustainability, including the search and implementation of technologies, which are considered as the best from an environmental and economic point of view, streamlining of production processes, implementation of projects using renewable energy sources, identification and prevention of potential emergencies.

The report on the implementation of Sustainable Development Initiatives Plan for 2020 has been posted on the corporate website of the Company: *https://www.samruk-energy.kz/ru/sustainability*

"Samruk-Energy" JSC has been an active participant of the UN Global Compact since 2011 and has followed the 10 principles of the UN Global Compact in its strategy and daily operations.

In view of joining to the UN Global Compact, the Company annually publishes Progress Report, which it posts on *https://www.unglobalcompact.org/* and on the corporate website *https://www.samruk-energy.kz/ru/sustainability/soobshchenie-o-dostignutom progresse-v-2019-godu-ao-samruk-energo.*

All information about the principles, programs of the Company, reports and new projects in the social, economic and environmental areas is posted as they appear on the corporate website in the section *https://www.samruk-energy.kz/ru/sustainability.*

In accordance with the Stakeholder Map, stakeholder engagement is carried out.

STAKEHOLDER ENGAGEMENT

Value	Areas of interest	Interaction platform
SHAREHOLDERS		
Share capital Strategic direction and orientation Enhancing transparency and disclosure standards and practice	Performance Introduction of a development strategy Dividends Transparency of disclosure	Management Reporting Meetings and negotiations Annual report Website Correspondence and inquiries Exhibitions, forums and presentations
SUBSIDIARIES AND AFFILIATES		
Strategic resources and possibilities Opportunities for future development	Introduction of advanced methods and standards Methodological support in the areas of development	Meetings, Forums, round tables and summits Website Working groups Creation of cultural corporate events
EMPLOYEES		
Human resources development Labor relations based on cooperation Loyalty to the company	Wage Employee benefits Safe working conditions Professional growth	Internal meetings Website Trainings and seminars Corporate events Corporate media Surveys and questionnaires Meetings of the Management Board and Board of Directors
STATE AGENCIES, FINANCIAL INSTITUTIONS		
Macroeconomic and social policy Lobbying opportunities	Tax and social security contributions Local employment Investments in projects that influence the population Social stability rating	Involvement in the activities of government agencies Correspondence and inquiries Reporting A dialogue with state authorities regarding legislative and regulatory regulation
POPULATION, CONSUMERS		
Workforce stability and conflict resolution Mutual support and adaptation	Community's approval Reputation and loyalty Regional development Providing uninterrupted heat and power supply Quality service	Annual report Media publications Meetings with representatives of local communities Public hearing Website Development of social projects Stakeholder Engagement Plan
PARTNERS, SUPPLIERS		
Efficient supply chain and value chain Joint development, development and problem solving Voluntary application of standards	Transparency of procurements Ethical business practices	Website Annual report Conferences and meetings and negotiations Consideration of supplier claims Signing partnership agreements
MASS MEDIA		
Transparency and disclosure Constructive cooperation	Transparency and disclosure Reputation Rating	Press releases, press conferences, briefings, round tables Annual report Website
TRADE UNIONS		
Effective communication with internal stakeholders Social guarantees	Labor relations based on cooperation Social stability rating	Collective bargaining Providing benefits and social guarantees

To enhance stakeholder's engagement, the Company annually develops Engagement Plan. The report on the Stakeholder Engagement Plan and on the work of stakeholder feedback mechanisms with recommendations for improvement are annually communicated to the Board of Directors.

According to the 2020 results, activities of the Stakeholder Engagement Plan were fully implemented.

Stakeholder feedback mechanism

It is essential for the Company that all both external and internal stakeholders are heard.

"Samruk-Energy" JSC has the following stakeholders feedback tools that guarantee protection against retaliation and prosecution of anyone who honestly leaves a message.

- 24/7 hotline
  Telephone: 8-800-080-47-47, nysana.cscc.kz,
  e-mail: mail@sk-hotline.kz
- Feedback form on the corporate website *https://www.samruk-energy.kz/ru/feedback-all*.
- The "Feedback" form for the category of persons associated with ongoing investment projects, where local communities, contractors, or persons related to the project can express their opinion *https://www.samruk-energy.kz/ru/obrat*
- Feedback for shareholders and investors. Investor questionnaire *https://www.samruk-energy.kz/ru/shareholder/ independent-registrar*
- Requests, enquiries with leaving contact details on the website *https://www.samruk-energy.kz/ru/company/contact*
- Ombudsman
  By email: o.bekbas@samruk-energy.kz
  By phone: 8/7172/69-23-56

The Company monitors all incoming requests, which allows the Company to study the concerns of all stakeholders, identify systemic issues, and determine the effectiveness of existing mechanisms for interacting with stakeholders for further response.

Inquiries statistics*

No.	Source	Number		
		2018	2019	2020
1	Hot line	33	29	46
2	Administrative support office, among them:	9,773	10,297	9,741
	From state agencies	456	445	298
	From the Shareholder	537	617	596
	Inquiries and complaints	45	38	72
3	Directly to the Security Service	6	6	2
4	Feedback form on the website	1	4	6
5	Ombudsmen	39	28	36
6	Trade unions	26	28	29
7	Courts and supervision agencies	25	10	10
8	Written inquiries to the head	–	5	2
TOTAL		**175**	**148**	**203**

** inquiries that are not related to "Samruk-Energy" JSC group of companies current operations were consolidated*

Mentioned appeals were analyzed in terms of the aspects concerned, the identification of regions with the highest number of appeals, the category of persons who sent their appeals to the group of companies, statistics about appeals and analysis of complaints. Each complaint was assigned a category.

In 2020, stakeholders were interested in issues of payment and remuneration, dismissal, and employment.

Responses to all incoming inquires of the Company were provided in a timely manner. Answers were provided in ways convenient for stakeholders. Confidentiality and anonymity of appeals remained. The facts of harassment were not reported.

Conclusions based on stakeholder inquiries were communicated to the Board of Directors of the Company, which prepared recommendations and developed actions aimed at the improvement of stakeholder engagement quality.

"ECONOMIC" CATEGORY

"CREATED AND DISTRIBUTED ECONOMIC VALUE" ASPECT

Economic performance of the Company is shown in created and distributed economic value table.

The created economic value present the main sources of the Company's income, namely, income from electricity production, transmission and sale, as well as from the sale of coal and obtained remuneration.

The created value is distributed between suppliers and contractors, employees of the Company, shareholders and lenders, the state, as well as local communities.

Distributed economic value	
Payments to suppliers and contractors	Operating expenses – payments to counterparties for materials, product components, equipment and services, rental payments etc.
Payments to employees	Payroll, social taxes and contributions, pension and insurance payments, expenses for medical services for employees and other forms of employee support
Payments to capital suppliers	Dividends to all categories shareholders and interest paid to lenders
Payments to the Government	Tax payments
Investments to local communities	Donations to charitable and non-governmental organizations and research institutions, expenses for supporting public infrastructure, as well as direct funding for social programs, cultural and educational activities

According to results of 2020, the created economic value amounted to 382 bln tenge and the distributed economic value amounted to 313 bln tenge, as a result, the undistributed economic value amounted to 69 bln tenge. According to the approved Development Plan for 2021–2025, the created and distributed economic value is planned to be increased in 2021 and 2022.

Economic value, mln tenge

Indicator*	2018	2019	2020	2021	2022
	Actual	Actual	Actual	Forecast	Forecast
Created economic value	**352,681**	**337,794**	**382,199**	**447,167**	**523,658**
Sales proceeds	351,100	336,233	380,990	446,568	523,369
Interest received (percent)	1,581	1,561	1,209	599	289
Distributed economic value	**272,860**	**275,649**	**312,894**	**361,369**	**374,656**
Payments to suppliers and contractors	161,571	161,556	194,357	239,696	252,203
Payments to employees	37,210	39,589	43,700	44,554	46,452
Payments to capital suppliers	34,047	32,369	32,571	33,984	30,645
Payments to the government	39,617	41,882	42,152	42,994	45,221
Undistributed economic value	**79,822**	**62,145**	**69,305**	**85,798**	**149,002**

** Previously indicators were calculated on an accrual basis. In order to exclude non-cash transactions and depreciation, current indicators were calculated using the data of the cash flow statement. Ownership interests in joint ventures were taken into account in the figures.*

FINANCIAL ASPECTS AND OTHER RISKS AND OPPORTUNITIES FOR THE ORGANIZATION'S OPERATIONS RELATED TO CLIMATE CHANGE

Discussions over climate change issue continue across the globe for more than several decades. The United Nations Framework Convention on Climate Change (UNFCCC) signed in 1992 by more than 180 countries, confirms the international community's concern about this issue.

Relying on experts' opinion, Samruk-Energy takes climate risk into account in defining the context of the organization and SWOT analysis when developing an energy transition strategy. To be fair one must mention that global decarbonization trends largely shaped by developed countries as opportunities, are more risks and challenges for emerging markets.

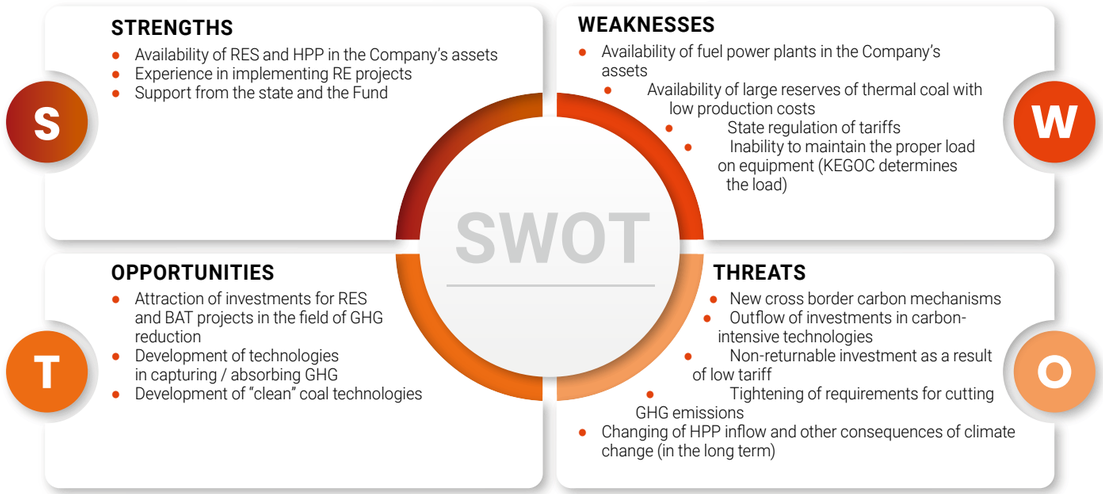
On the one hand, protraction in following global development trends results in social costs associated with man-made impact on the environment and restricting access to state-of-the-art technologies and financial resources, but on the other hand, forcing the transition can lead to a loss of economic competitiveness, de-industrialization, and rise of electricity prices, job cuts in traditional industries, not to mention the problems associated with the need to ensure the reliability of energy supply.

Guided by principles of sustainable development, to maintain an optimal balance between the economic accessibility of electricity, security of supply and environmental and social sustainability, Samruk-Energy prefers a well-considered and gradual energy transition, whereby renewable energy sources will be used along with conventional ones, considering that this direction is well-targeted path for development of fuel and energy sector of Kazakhstan.

At the same time, the existing experience in the implementation of projects in the field of alternative energy sources indicates the presence of several issues that need to be addressed at the state level.

The main directions and goals for reducing the carbon intensity of the Company's processes and products are described in the long-term Development Strategy and Environmental Policy of the Company. Thus, considerable attention at the Company is paid to the development of RES and HPP, energy management systems were introduced everywhere, comprehensive programs were developed to improve energy efficiency and energy conservation, and a serious project on gasification of Almaty power plants is planned to be implemented. EPA regulate the Company's highest emitting subsidiaries through the national greenhouse gas emissions trading system, which was created to achieve the national contribution declared in the Paris Agreement of –15% by 2030 from the 1990 level.

SWOT ANALYSIS OF SAMRUK-ENERGY STANDING WITH REGARD TO CLIMATE CHANGE ISSUE



"INNOVATIVE DEVELOPMENT AND DIGITIZATION" ASPECT

Innovative development

The Company's development strategy provides for the provision of reliable competitive supplies of energy resources in the markets where it operates through the deployment of innovative technologies that increase the efficiency and environmental friendliness of coal generation sources.

The research "Development of the technology of furnace devices for boiler units for firing high-ash coal from Ekibastuz deposit's layer No.3 and depleted coal/coal by-products" was conducted in collaboration with Nazarbayev University. The research execution period is 2018–2020.

In order to conduct research work, a joint research laboratory "Clean Coal Technologies" was established at the premises of the "Nazarbayev University Research and Innovation System" PI.

The following works were performed in 2020:
- Pre-commissioning activities and experimental studies on combustion, air and steam-air gasification of high-ash Ekibastuz coal, carbonaceous rocks and coal by-products was conducted in superadiabatic combustion mode (AGSS).
- Continuation of experimental studies on firing of high-ash Ekibastuz coal by-products on combined unit of fluidized bed and circulating fluidized bed (CU FB CFB).
- Experimental research on air, steam-air and steam-oxygen gasification of high-ash Ekibastuz coal and its by-products at atmospheric pressure in CB and CFB was conducted.
- Mathematical model was developed and calculations for steam-oxygen gasification of high-ash Ekibastuz coal were made.
- Development of technical proposals for the concept of industrial and power boilers with FB and CFB for firing high-ash Ekibastuz coals and its by-products.

The outcome:
- The data confirming the possibility of efficient combustion of high-ash coal by-products in the FB and CFB were obtained;
- The data on the influence and improvement of operating conditions of the boiler were obtained; such conditions ensure the best environmental performance (minimization of sulfur and nitrogen oxides emissions) when firing high-ash coal by-products in FB and CFB;
- Data regarding the influence of Ekibastuz coal ash content on the gasification process were obtained;
- Data on the influence of operating factors on the process of air, steam-air and steam-oxygen gasification were obtained;
- A comparative analysis of FB and CFB furnaces was conducted in order to select the most preferable technology for firing high-ash Ekibastuz coal and its by-products depending on the ash content of coal waste;
- Final report with proposals on using high-ash Ekibastuz coal and its by-products for power production was released.

To improve technical and economic indicators when firing high-ash coals at thermal power plants of the Company, the possibility of introducing the technology fuel oil free startup of boiler system (plasma-fuel system) was explored.

The project implementation will allow solving the following tasks:
- stabilization of the combustion of a pulverized coal torch at reduced loads of boiler units;
- elimination of fuel oil consumption in the flame combustion of low-grade coals;
- elimination of the negative effects of co-firing of coal and fuel oil in one furnace volume, which lead to a decrease in the efficiency and reliability of the boiler.

This technology has been successfully applied in the People's Republic of China, the Russian Federation, Indonesia, etc. at power units from 200 to 1,000 MW.

The project implementation was approved by the resolution of "Samruk-Energy" JSC Board of Directors at the meeting on December 14, 2020.

Digitization

Using the potential of digital technologies will allow the Company to boost productivity, safety at work and reduce the cost of production of goods and the delivery of services, which in turn will contribute to the implementation of the strategic initiative "Improving the efficiency of operations".

The Company aims to ensure digitization by incorporating digital principles into corporate strategy, business model, activities and culture:
- 1. Business orientation
- 2. Partnerships with business
- 3. Search for best practices
- 4. Timely implementation of projects with agreed budget
- 5. Automation of processes
- 6. Transition to digital format

Project SKE.03.01P "Implementation of automatic frequency and power control"

The project is being implemented for the first time in the EEC and is a joint project with "KEGOC" JSC, implemented under the Digital Kazakhstan state program.

Due to the ALFC, "KEGOC" JSC will regulate and control the power of the stations of the "Samruk-Energy" JSC group of companies within the specified limits, i.e influence directly on power units / hydraulic units (decrease or increase of power) in real time when the circuit-mode situation in the power system changes.

Phase 1 – "Conceptual Design" was completed in 2020. At the moment, the implementation of phase 2 – "Implementation" has begun. Within the framework of Phase 2 – "Implementation", the development of design and estimate documentation has been completed and construction and installation work is underway.

"Business Loss Analysis Using Data Analytics" Project

It is implemented in "AZhC" JSC and allows to store and manage large amounts of data on electricity consumers, as well as search for anomalies in order to identify possible commercial losses. In 2020, as part of the initiation of the project, a technical specification was developed, as well as marketing of prices.

An on-site examination was carried out, as well as analysis of more than 28 thous. electricity consumers of "AZhC" JSC using a data analytics system.

Project "Implementation of a pilot automated medical examination system"

In order to increase the level of safety of working personnel and the entire enterprise as a whole, and also to increase the efficiency of the medical examination procedure, the event "Implementation of the pilot of an automated medical examination system" was initiated at "Ekibastuz GRES-1" LLP and at TPP-3 of "APP" JSC.

Two complexes of hardware and software were installed, tests were carried out.

"ENERGY EFFICIENCY" ASPECT

Energy

The Company's energy policy places a priority on energy conservation and improvement of energy efficiency, which contributes to reduction of energy consumption and minimization of the environmental impact.

The Head office of the Company consolidates and analyzes data on energy consumption and key energy efficiency indicators across "Samruk-Energy" JSC group of companies, compares it with past periods and identifies opportunities for improvement.

The Company's activities in the field of energy conservation and energy efficiency are based on the methodology of international standard ISO 50001 "Energy management systems".

The Company has the program for energy conservation and improvement of energy efficiency for 2015–2025. This program is a key instrument for planning and implementing activities in the field of energy conservation and energy efficiency.

The Program aims to develop measures for wise and economically feasible use of fuel and energy resources.

A 10.5% decrease in power consumption of the gross marketable product of SA in 2025 compared to the base 2014 is the expected effect from the program implementation.

Target-oriented tools of the Program:

- setting targets for energy conservation and energy efficiency for SA;
- continuous monitoring of the achievement of specified targets through energy-economic analysis in line with the developed methodology for calculating key energy efficiency indicators;
- development, implementation and improvement of the energy management system at SA;
- implementation of organizational and technical activities on energy conservation and energy efficiency in compliance with the approved action plans for energy conservation and energy efficiency across SA;
- carrying out standard activities aimed at energy conservation and energy efficiency at SA;
- creation of an integrated system for automated metering of energy resources consumption.

As part of the ongoing work on energy conservation and improvement of energy efficiency, 62 measures aimed at reduction of fuel and energy resources consumption were implemented during the last year, which allowed saving 406 thous. tons of standard fuel across "Samruk-Energy" JSC group of companies.

Energy consumption within the organization

The total energy consumption has a steady decline during the period under review 2018–2020 in relation to the base 2014 (17.7 mln GJ).

In the reporting year, 13.9 mln. GJ of energy was consumed, including 2.6 mln GJ from renewable energy sources. In general, over the years, there is a positive trend towards an increase in energy consumption from RES, which is driven by the growth of RES share in the country's electricity production.

At year-end 2020, the growth of fuel consumption (coal and gas) was resulted in an increase in electricity production at ESDPP-1 and the growth of heat output at Almaty Power Plants.

The growth of fuel consumption the organization (coal and gas)

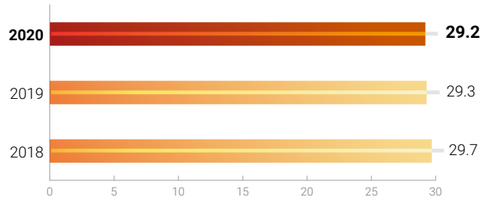
Consumption within the organization	2018	2019	2020
Total fuel consumption, mln GJ, incl:	310.5	291.2	306.3
Coal	298.1	279.9	291.8
Gas	10.0	9.2	12.0
Fuel oil	1.2	0.8	0.9
Petroleum	0.2	0.2	0.2
Diesel	1.2	1.2	1.2
Electricity consumption, mln GJ	11.8	11.3	11.5
incl. from RES	1.0	1.3	2.6
Heat consumption, mln GJ	2.7	2.6	2.4
incl. from RES	–	–	–
Total energy consumption, mln GJ	14.5	14.0	13.9
incl from RES	1.0	1.3	2.6

Energy intensity

The volumes of consumption of fuel and energy resources within the organization, as well as volumes of electricity and heat produced, electricity transmitted and coal mined were used in this indicator.

According to the 2020 results, the energy intensity of the gross commodity product across "Samruk-Energy" JSC group of companies amounted to 29.2 t.s.f / mln tenge and decreased compared to the previous year figure.

Energy intensity, mln tenge



**Ton of conventional fuel*

The reduction of energy consumption

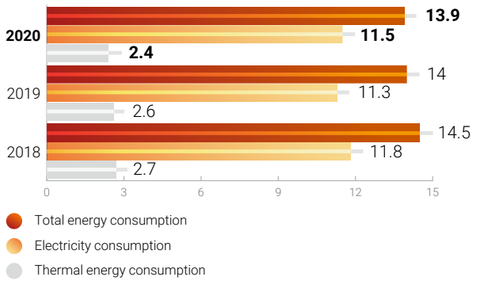
Electricity consumption has decreased in relation to base year (14.0 mln GJ), it slightly increased in comparison with the last year and was 11.5 mln GJ.

Heat consumption also decreased in relation to the base year (3.7 mln GJ), and so in relation to the last year and amounted to 2.4 mln GJ.

In general, there is a trend towards reduction in total energy consumption over the years in relation to the base year 2014 (17.7 mln GJ).

The reduction in total energy consumption was driven by reduction of energy use for power plant needs.

Total energy consumption, mln GJ



ASPECT “MATERIALS USED”

The products of “Samruk-Energy” JSC are thermal and electric energy, as well as thermal coal.

The regulation of this industry is carried out by state bodies represented by the Ministry of Energy of the Republic of Kazakhstan and the Committee for the Regulation of Natural Monopolies of the Ministry of National Economy of the Republic of Kazakhstan.

Electricity and heat were produced using fossil fuels. Chemical reactions occurring during the combustion of coal, gas and fuel oil lead to the natural formation of a number of substances, which, in the absence of appropriate control, can lead to a loss of the required quality of the environment. For such control, Kazakhstan has a system of state regulation in the form of environmental and natural resource law (for more details, see the section “Environmental Category”).

The company does not carry out any marketing communications regarding the manufactured product, including advertising and promotion.

List of materials used in our facilities in the manufacture of products

In the production of electricity:	Measurement unit	Materials used, volume		
		2018	2019	2020
Coal	tons	17,619,007	16,565,570	16,652,949
Fuel oil	tons	15,010	15,746	19,925
Gas	thous. m³	35,928	38,472	46,370

In the production of heat:	Measurement unit	Materials used, volume		
		2018	2019	2020
Coal	tons	839,883	764,291	1,446,269
Fuel oil	tons	14,031	2,358	1,740
Gas	thous. m³	251,620	226,580	284,914

For auxiliary needs in the production of both types of products:	Measurement unit	Materials used, Volume		
		2018	2019	2020
Petroleum	t.n.f	3,588	3,570	3,656
Diesel fuel	t.n.f	25,210	28,586	34,662

“Samruk-Energy” JSC products are heat and electricity, as well as thermal coal, respectively, the requirements for environmental labeling and packaging are not applicable to manufactured products.

ASPECT “INFORMATION POLICY AND SECURITY”

As part of improving stakeholder engagement, there is a Communication Strategy at “Samruk-Energy” JSC, which involves a single approach to corporate communications, determines the target audience, communication principles, media planning, anti-crisis response, internal and external PR tools and external positioning of the Company.

The mission of the Communication Strategy:

To ensure a positive image of the Company by offering target audiences complete, most transparent and relevant information about operating results.

Vision of the Communication Strategy:

A well-established communication channels, which enable to raise the Company to the level of a leader of public opinion and influence regarding the development of Kazakhstan’s power sector.

Moreover, there is an Information Policy at the Company that determines the principles, procedure, timeframe, list and methods of disclosing information, types of information, stakeholder engagement, including cooperation with shareholders and investors, measures for protection of information, monitoring and quality control of disclosed information.

The primary aim of information security is “Samruk-Energy” JSC information and data protection, as well as its supporting infrastructure from any accidental or malicious actions. Any hacker attack threatens to damage data and information, as well as its owners or supporting infrastructure. The tasks of ensuring information security are set out in the Company’s Information Security Policy, monitoring and control, forecasting and preventing such incidences, as well as minimizing damage from their implementation.

No confidential information leakage was admitted in 2020. Monitoring of user actions made when using personal computers showed a significant decrease in violations of “Samruk-Energy” JSC internal regulatory documents on information security in comparison with previous years.

In 2017, the project “Introduction of the system for management and ensuring information security” was launched as part of Transformation Program.

"ENVIRONMENTAL" CATEGORY

ASPECT "COMPLIANCE WITH REQUIREMENTS"

Explanation of the essential topic and its boundaries

Being the largest electricity holding company in Kazakhstan, "Samruk-Energy" JSC is aware of the importance of the environmental aspect in a sustainable development of the company. Environmental protection and efficient use of resources play an important role in operations of the Company and its subsidiaries and affiliates.

The RK Environmental Code classifies primary production activities of "Samruk-Energy" JSC subsidiaries as special nature management, and these activities are regulated by the relevant requirements and standards. Thus, each subsidiary and affiliate of "Samruk-Energy" JSC is responsible for its environmental footprint within the obtained environmental permit and other conditions of special nature management.

The RK environmental legislation encourages nature users to reduce their impact on the environment using economic incentive mechanisms. So, the new Environmental Code of the Republic of Kazakhstan was approved on 02.01.2021, whereby the "polluter pays" principle was revised and significantly strengthened.

Of course, in environmental protection, we, first off, adhere to existing legislative requirements and norms in Kazakhstan, but at the same time we strive to comply with more stringent standards of developed countries, consistently implementing a number of energy-saving, material-saving and environmental protection measures.

Management approach

Taking into account the existing experience and specific features of technologies used, the available types of fuel, peculiarities of our climate, as well as a number of other motivating and sometimes constraining factors common to sustainable development concept, we have developed an environmental policy as a comprehensive long-term program, which is part of the Company's Development Strategy.

To manage environmental safety – as part of comprehensive occupational safety – an environmental management system (EMS) has been established at "Samruk-Energy" JSC group of companies, which is a component of corporate governance system and an essential part of non-financial risk management system. EMS at "Samruk-Energy" JSC is constantly assessed for compliance with the best world practices with the involvement of independent international consultants and is improved step by step. All subsidiaries and affiliates of the Company engaged in production activities have implemented the ISO 14001 "Environmental Management" standard.

In accordance with the approved Long-Term Strategy, the Company plans to seek to reduce the impact of production activities on the environment by modernizing existing technologies and using renewable energy sources.

As preventive measures, a continuous environmental assessment of the effectiveness of production processes is conducted through industrial environmental monitoring. The monitoring is based on measuring and calculating the rate of emissions into the environment, harmful production factors. Industrial environmental monitoring is carried out with the involvement of independent laboratories accredited in the manner established by the RK legislation in the field of technical regulation. Atmospheric air, surface and underground waters, soils are the objects of industrial monitoring.

In addition, in case of emergencies, compulsory environmental insurance and liquidation funds are provided in accordance with the requirements of the Republic of Kazakhstan legislation.

Assessment of management approach

Particular attention is paid to the new technologies: RES development, oil fuel-free start-up and other energy-efficient technologies.

The Company has successfully implemented several investment projects in RES and HPP sector since 2013: 300 MW "Moynak HPP" JSC, 45 MW First wind power plant, 2 MW solar power plant, retrofit of "Shardarinsk HPP" JSC with an increase in capacity to 126 MW.

Given the large reserves of coal in Kazakhstan and its attractiveness in terms of price, it is feasible to support the development of innovative technologies to improve its environmental characteristics. To this end, the Company established the Clean Coal Technologies research laboratory together with "Nazarbayev University AEO".

Moreover, the Company implements a comprehensive environmental protection activities program, which provided the following results at the end of 2020:

- lack of emergency spills and other types of emissions;
- the share of "clean" energy production – RES and HPP – 8.7% of the total output of the company's group;
- among the group of companies, the specific emission of pollutants per 1 kWh of production decreased by 3.8% compared to 2019. For 3 years (2018–2020), there has been a positive trend in reducing the specific emissions of nitrogen oxides by 4% and dust by 1.5%;
- the specific indicator of ash and slag waste formation decreased by almost 10% over 3 years (2018–2020) in the fuel generation sector.

At the end of 2020, a mandatory environmental audit at the enterprises of the "Samruk-Energy" JSC group was not carried out due to the lack of grounds established by law, which include significant damage to the environment, reorganization or bankruptcy of legal entities-users of natural resources engaged in environmentally hazardous economic and other activities.

To prevent damage to the environment, the legislation involves environmental inspections, which may result in imposing fines for violating legislation requirements. 5 inspections were carried out in 2020 – 2 times at "SDPP-1" LLP, "SDPP-2" JSC – 2 times, "APP" JSC and "Bogatyr Komir" LLP. Some violations of requirements of legislative acts were revealed, the amount of fines amounted to 14.45 mln tenge. All fines were paid in full. Corrective activities were carried out.

The monetary value of significant fines and the total number of non-financial sanctions for non-compliance with environmental laws and regulations

	Measurement unit	Amount		
		2018	2019	2020
The sum of money of significant fines	thous. tenge	721.5	4,751	14,448
number of cases when non-financial sanctions were applied	–	0	0	20
Cases filed through dispute resolution mechanisms	–	–	–	3

The analysis of the audit materials showed that violations of the law are allowed mainly not at the examination, but at auxiliary processes. For example, for the processes in coal warehouses, for industrial sites, and for earthworks during small construction operations and for the low culture of line personnel when dealing with consumer waste.

In 2020, 3 applications of individuals and legal entities with complaints on the topic of environmental protection were recorded. All cases were reviewed and processed in accordance with the internal complaints mechanism.

Total expenditures and investments in environmental protection broken down by types

The Company implements a comprehensive environmental protection activities program covering such aspects as:

- protection of atmospheric air;
- reduction of greenhouse gases;
- reclamation of ash dumps;
- waste management;
- protection and efficient use of water resources;
- implementation of management systems and the best safe technologies;
- R&D and other works;
- environmental training and advocacy.

In line with existing law of the RK, "Samruk-Energy" JSC group of companies have an environmental protection action plan agreed with the authorized body, the implementation of which is mandatory requirement for special environmental management.

	Measurement unit	Amount		
		2018	2019	2020
* costs associated with waste management and cleaning of emissions, discharges, as well as the elimination of environmental damage	thous. tenge	6,556,645	4,242,256	5,604,706
** expenses for the prevention of environmental impact and environmental management system		72,616	373,908	286,567

ASPECT "WATER AND WASTE WATER"

Explanation of the essential topic and its boundaries

Water is a unique substance and an essential component of all living creatures on Earth. Along with that, water is used in many processes in production of goods necessary for human life.

Historically the water has played a great role in power industry: at "Samruk-Energy" JSC group of companies, water is used not only as a driving force for hydro and steam turbines, but also for feeding reservoirs and compensating for losses in other processes, to irrigate ash beaches, to maintain the water level in ash dumps, and for public living needs of employees.

"Samruk-Energy" JSC objectives regarding water resources protection is to minimize the impact, including:
- decrease in the volume of fresh water consumption;
- increase in the share of reused water;
- reduction of wastewater discharges and concentrations of harmful substances in wastewater

Considering that "Samruk-Energy" JSC's portfolio includes hydropower and thermal power plants, we classify interaction with water into water use and water consumption, respectively. At the same time, 98% of the volume of water withdrawn is classified as water use at HPPs, and 2% – as water consumption. "Samruk-Energy" JSC group of companies does not consume water in regions that experience water shortage.

Management approach
Interaction with water as natural resource

Interaction with water resources at "Samruk-Energy" JSC SA is regulated and managed in accordance with the current legislation of the RK. Subsidiaries of "Samruk-Energy" JSC withdraw water in volumes determined by production needs in accordance with the developed projects and regulations that are agreed with authorized state agencies.

Thus, the main sources of water for technological needs are: Sharyn River and Bestyubinsk Reservoir (Moinak Hydropower Plant), the Syrdarya river and Shardara reservoir (Shardarinsk Hydropower plant), channel named after K. Satpayev ("Ekibastuz SDPP named after Bulat Nurzhanov" LLP, "Ekibastuz SDPP-2 Plant" JSC), Shidertinsky channel ("Ekibastuz SDPP-2 Plant" JSC), Big Almaty Lake and the basin of Big Almaty Lake (Cascade of HPP), Kapshagay Reservoir (Kapshagay HPP).

To save water, reverse water supply systems with a bulk reservoir-cooler and once-through hydraulic ash removal systems are used at Ekibastuz stations and Almaty power plants use recirculating water supply systems with cooling towers as well as reuse wastewater from ash dumps.

Water discharge related impact management

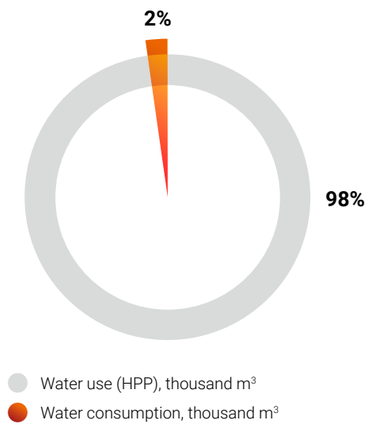
Wastewater of production enterprises of "Samruk-Energy" JSC group of companies consists of industrial and domestic wastewater. The main volume of wastewater is industrial wastes; they are not discharged into natural sites. They are used as hydrotransport to remove ash and slag waste to ash dumps.

Permissible standards for content of pollutants in wastewater and their volume are established by law. Before being discharged, wastewater is properly treated to the approved sanitary and hygienic standards.

Moreover, to avoid environmental damage, analytical monitoring of processes of changing water and temperature regimes of groundwater through a network of observation wells, repair of equipment and pipelines of HAH system is carried out on a regular basis.

During the reporting period, there were no emergency discharges and spills of oils, fuel, waste, chemicals, and other substances that caused damage to the environment.

Water intake



ASSESSMENT OF THE MANAGEMENT APPROACH

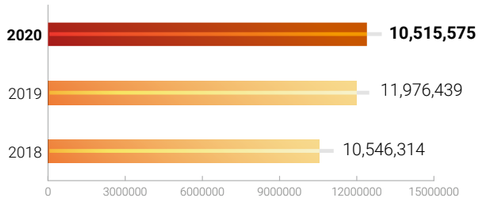
Subject disclosure:

	All areas Megaliters			Areas experiencing water shortage
	2018	2019	2020	
WATER INTAKE				
The volume of water taken by sources				
from surface water sources (total)	10,498,150	11,924,598	10,473,288	no
fresh water (≤1,000 mg /l of total dissolved solid)	10,498,150	11,924,598	10,473,288	no
other water (> 1,000 mg /l of total dissolved solid)	0	0	0	no
from underground sources (total)	7,341	6,630	6,061	no
fresh water (≤1,000 mg /l of total dissolved solid)	0	0	0	no
other water (> 1,000 mg /l of total dissolved solid)	7,341	6,630	6,061	no
sea water (total)	0	0	0	no
fresh water (≤1,000 mg /l of total dissolved solid)	0	0	0	no
other water (> 1,000 mg /l of total dissolved solid)	0	0	0	no
stratal water (total)	0	0	0	no
fresh water (≤1,000 mg /l of total dissolved solid)	0	0	0	no
other water (> 1,000 mg /l of total dissolved solid)	0	0	0	no
from public and other water supply systems	40,577	44,917	36,227	no
fresh water (≤1,000 mg /l of total dissolved solid)	40,577	44,917	36,227	no
other water (> 1,000 mg /l of total dissolved solid)	0	0	0	no
Total water volume from public and other water supply systems				
surface	40,577	44,917	36,227	no
underground	0	0	0	no
sea	0	0	0	no
stratal	0	0	0	no
The total amount of water taken	**10,546,314**	**11,976,439**	**10,515,575**	**no**
DISCHARGE				
Discharge by types				
Surface	77,001.4	73,751.3	75,313	no
Underground	0	0	0	no
Sea	0	0	0	no
Public and other water supply systems	0	0	0	no
Volume of wastewater given for use to other organizations	0	0	0	no
Total discharge	**77,001.4**	**73,751.3**	**75,313**	**no**
Wastewater according to treatment level				
Without purification				no
Before fishery requirements	Required level of purification			no
Before cultural and household requirements	Required level of purification			no
Other	MPD norms	77,001.4	73,751.3	75,313	no

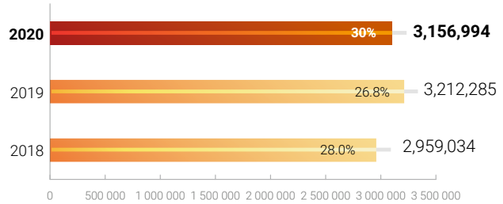
	All areas Megaliters			Areas experiencing water shortage
	2018	2019	2020	
WATER CONSUMPTION				
Total water consumption	**201,229**	**198,438**	**197,838**	**no**
WATER USE				
Total water consumption	**10,345,085**	**11,778,000**	**10,317,737**	**no**
WATER EFFICIENCY OF PRODUCTION				
	All areas m³/kWh			
The volume of water withdrawn per unit of output	**0.333**	**0.396**	**0.335**	**no**

The share and total volume of recycled and reused water for the reporting period:

Total volume of water withdrawn, thous. m³



The volume of recycled and reused water, thous. m³



ASPECT "BIODIVERSITY"

Explanation of the essential topic and its boundaries

Given that the portfolio of "Samruk-Energy" JSC includes hydropower plants, renewable energy sources and RECs, the Company evaluates the "Biodiversity" aspect as significant in relation to these assets. However, we believe that fuel stations of "Samruk-Energy" JSC and coal mines of "Bogatyr Komir" LLP do not have a direct negative impact on wild vegetation and animals because they are located within settlements or in industrial areas, as well as taking into account that the scarcity of biodiversity of the construction site was considered as an environmental solution during the design of these production facilities.

Thus, "Samruk-Energy" JSC subsidiaries' operations may have a negative impact on the ornithological fauna, fish fauna and other freshwater ecosystems, as well as on the flora and fauna of coastal zones within zones of impact of "Shardarinsk HPP" JSC, "Moynak HPP" JSC, Cascade of HPP, Kapshagay HPP, as well as "FWPP" LLP and "AZhC" JSC.

Management approach

At planning production activities, an environmental impact assessment including on the flora and fauna is performed at "Samruk-Energy" JSC group to minimize adverse effect on biodiversity. The EIA procedure is regulated by the legislation of the Republic of Kazakhstan. Monitoring of the impact on the flora and fauna during further operation of enterprises is also regulated.

Evaluation of management approach

At the stage of design, FWPP made provisions to reduce the environmental impact of wind power plants – given that light pollution leads to disruption of the biorhythms of living creatures, nighttime wind turbine lighting is minimized up to the use of only sidelights.

At "AZhC" JSC, to minimize the cases of death of birds on overhead lines from electric shock, lines are reconstructed by equipping with insulated wires.

In order to minimize the death of fish on water turbines, all hydropower plants are equipped with fish protection devices. In addition, based on the recommendation of Kazakh Research Institute of Fisheries, as a fish protection measure, the surface of the water at night is illuminated by spotlights near the water intake in front of the turbine water conduits, thus light spots scare the fish. The movement of fish occurs through bends for idle spillway (IS). To reduce the impact on water and terrestrial (coastal) ecosystems, the operating modes of hydropower plants are agreed with the Committee for Water Resources of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, mayor administrations, as well as with the management of SPNR (for example, in the case of Moynak HPP).

Visual field observations were introduced at HPP and WPP to monitor the impact on the plant and animal world.

Protected and rehabilitated habitats

In 2020, "Samruk-Energy" JSC did not operate in territories that have any special sanitary or environmental regime or the status of specially protected natural territories.

Location with respect to a protected area or area of high biodiversity value outside protected areas	Type of operations	The value of biodiversity, characterized by a feature of a protected area or area with high biodiversity value outside the protected area.	Territory management status / class
"FWPP" LLP (Ereymentau city, Akmolinsk region)			
Buyratau State National Natural Park is 45 km away	Electricity production	There are 2 species of birds included in the Red Book of Kazakhstan in Ereymentau mountains (imperial eagle and steppe eagle). However, clusters of birds were found in lowlands and forest plantations along highways and railways, which in turn are located away from the wind turbines installed at the WPP. Cases of collision with the wind turbine blades since the facility was commissioned were not reported.	Natural park
Moynak HPP (Almaty region)			
The Charyn National Park is located downstream of the Charyn River at about 55 km away from the Moynak Hydro power plant	Electricity production	"Moynak HPP" JSC cooperates with UNDP experts in Kazakhstan on the project for preservation of relic aspen grove, which is located downstream of the Charyn River.	Natural park

ASPECT "EMISSIONS"

Explanation of the essential topic and its boundaries

For "Samruk-Energy" JSC, the aspect of the impact on air from production activities of its TPPs is the most significant in comparison with other environmental aspects. This is logical, because the majority of electricity produced by the Company's group (in 2020 – 91.3%) is generated using fossil fuels, resulting in origination of flue gases that pollute the atmospheric air. At the same time, because of chemical reactions that occur during fuel combustion, greenhouse gases are released into the air, affecting climate change.

Management approach to reducing greenhouse gas emissions

Kazakhstan ratified the Paris Agreement in 2015, thus reaffirming its commitment to the global fight against climate change. "Samruk-Energy" JSC takes climate change seriously. The main directions and goals for reducing the carbon intensity of processes and products are described in the long-term Development Strategy and the Environmental Policy of the Company. Thus, the strategic goals of the Company include the development of renewable energy and hydropower plants, energy management systems have been introduced everywhere, comprehensive programs on increasing energy efficiency and energy conservation were developed.

As part of supporting RES, conditional consumers of "Samruk-Energy" JSC group purchased 765 mln kWh of "green" energy in 2020. Expenditures for purchase of electricity from RES across the group amounted to circa 28 bn tenge, which is twice the volume of 2019 (378 million kWh).

In addition, such subsidiaries of "Samruk-Energy" JSC as "Ekibastuz SDPP-1" LLP, "Ekibastuz SDPP-2 Plant" JSC, "APP" JSC and "Bogatyr Komir" LLP are facilities that were set quotas and have obligations to reduce GHG emissions as part of the national GHG emissions trading system.

Management Approach to emissions of significant pollutants

The main sources of pollutant emissions in the Company are 1st category fuel stations. Significant substances common to TPP are nitrogen oxides, sulfur oxides, carbon monoxide, dust (ash).

The efficiency and correctness of environmental decisions taken during the design of stations is confirmed by the years of their operation. The choice of construction site for Ekibastuz stations of national importance is not a coincidence – proximity to the fuel source has been provided, which minimizes the negative impact of coal transportation, and most preferable conditions for dispersion of pollutants such as the height of the chimneys, the location that considers the topography and wind pattern, remoteness from residential areas were ensured.

Taking into account the opinion of the public and authorized bodies, gasification of CHP-2, 3 is planned at Almaty stations located in urban agglomeration in addition to the CHP-1 and WHC already converted to gas.

Emissions into the air are strictly regulated by environmental legislation. Air pollutant emissions are produced in volumes determined by production processes in accordance with the developed projects and standards, which are agreed with authorized state agencies and specified in special permits.

To minimize ash emissions, ash collecting technologies are used – at Ekibastuz state district power plants these are electrostatic precipitators, and at Almaty TPPs – new generation emulsifiers. To suppress the production of other gases, low-emission burners are used, the modes are regulated thanks to the high pressure heaters and 4th steam extraction.

Permanent industrial environmental monitoring of compliance with the standards for maximum permissible emissions is carried out and reports are submitted to the regulatory body on a regular basis.

Evaluation of management approach

According to the 2020 results, the volume of electricity production by renewable energy sources (RES) of the group amounted to about 336 mln kWh, thus Samruk-Energy share in RES market was about 10%.

Shardarinsk HPP complete retrofit program was finished in 2020 – the reconstruction increased the capacity of the HPP from 100 MW to 126 MW, which will provide an additional increase in the share of "clean" energy.

The decision on gasification of Almaty CHP-2 was taken in 2020, which will enable to improve the environmental situation in the southern metropolis. At the same time, it is planned to implement the project on reconstruction of Almaty CHP-3 with an increase in the installed capacity to 450 MW.

According to the 2020 results, the following was achieved across the group of companies:

- lack of emergency situations that resulted in environmental damage;
- the share of "clean" energy production – RES and HPP – 8.7% of the total output of the company's group;
- unit emission of CO_2 in comparison with 2019 is owing to the reduction of unit consumption of fuel equivalent (UCFE);
- unit emission of pollutants into air has reduced by 3.5% in comparison with 2019 indicator owing to an increase in share of generation using RES and share of production by HPP, gas-fired CHP-1, as well as GRES-1, environmental performance of which is better than of other coal-fired power plants of "Samruk-Energy" JSC group of companies;
- reduction of unit emission of SO_2 across the group of companies (g / kW * h) by 6%, unit emission of NO by 3% compared to with similar indicators of 2019.

Direct greenhouse gas emissions

	Measurement unit	volume		
		2018	2019	2020
Carbon dioxide	thous. tons	33,744	31,593	33,413.98
Methane		351.98	353,850	341.6
Nitrogen oxide		0,293	0,275	0,296

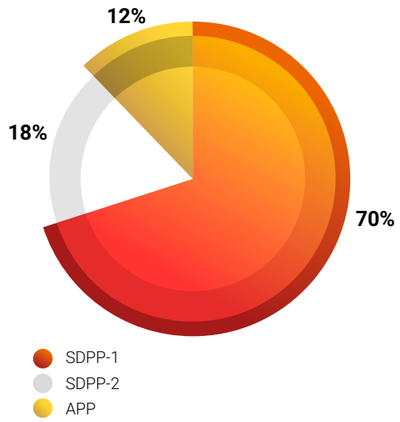
Methodologies: Guidelines for National Greenhouse Gas Inventories, IPCC, 2006; Guidelines for evaluation of greenhouse gas emissions from thermal power plants and boiler houses, Astana, 2010, Appendix 9 to Order No. 280-p of the RK MEPWR dated 05.11.2010.

The Republic of Kazakhstan law does not require a mandatory assessment of indirect greenhouse gas emissions, however, we suppose that the indicated volumes of greenhouse gas emissions contain 95% of total greenhouse gas emissions, including indirect (Scope 1 and 2) of "Samruk-Energy" JSC group of companies, since when calculating direct emissions, SA auxiliary power is taken into account.

Emissions of ozone depleting substances (ODS) and other emissions

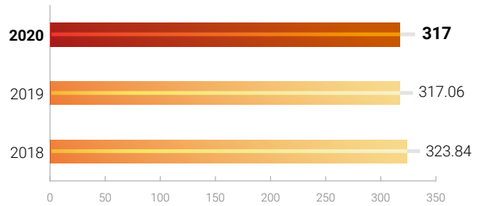
	Measurement unit	volume		
		2018	2019	2020
Production volume of ODS	–	–	–	–
Import volume of ODS		–	–	–
Export volume of ODS		–	–	–
Persistent Organic Pollutants		–	–	–
Volatile organic compounds	tons	297,2	261,6	261,4

SA input into aggregate emissions of the Company "Generation" sector 2020

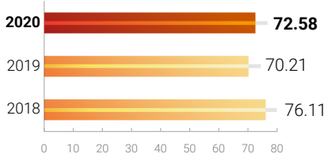


Pollutant emissions, thous. tons

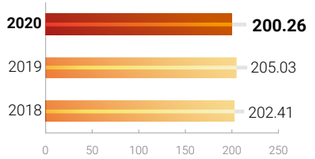
Volume of gross emissions across "Samruk-Energy" JSC group fo companies



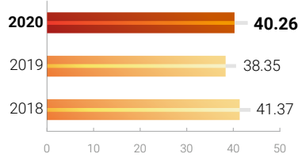
NOx



SO_2



Ash



ASPECT "WASTE"

Explanation of the essential topic and its boundaries

The production process is bound to waste generation, and when managing those wastes "Samruk-Energy" JSC group of companies strive to comply with environmental, sanitary and epidemiological requirements and standards in the field of treatment of certain types of waste.

Taking into account the specifics of operations of "Samruk-Energy" JSC large enterprises, production wastes are classified as large-tonnage – ash and slag waste at TPP and overburden at "Bogatyr Komir" LLP coal mine. These types of waste are non-hazardous and make up most of the total waste. Other types of waste are classified as consumption waste.

Measures regarding them involve separate collection and further transfer of these wastes for recycling or disposal.

Management approach

As required by Kazakhstan environmental legislation, the volumes of waste disposal are controlled. As regards the consumer waste, there are requirements for separate collection and temporary storage in specially equipped places, as well as types of waste that are not acceptable for burial at landfills are determined.

Thus, the types of waste, which are suitable for reuse and classifying as secondary raw materials followed by transfer to corporate entities and individuals, are determined. At "Samruk-Energy" JSC group of companies such wastes include waste paper, cardboard and paper waste, plastic and plastic waste, mercury-containing lamps, scrap of non-ferrous and ferrous metals, electronic and electrical equipment, batteries, tires and their fragments and other hazardous waste.

The total mass of waste by type and method of treatment

		Measurement unit	Mass		
			2018	2019	2020
1	Total waste produced, incl	thous. tons	79,435.9	75.476	97,513.5
2	Hazardous		18.8	20	21.3
3	Non-hazardous		79,417.13	75.456	97,492.2

*real-time data

Evaluation of management approach

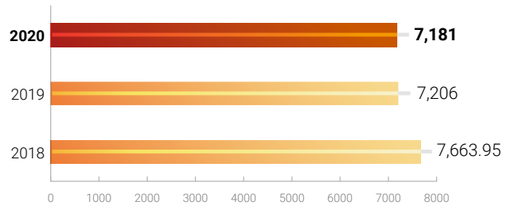
Production waste across "Samruk-Energy" JSC group is disposed in the most secure way.

To mitigate the negative impact of "Bogatyr Komir" LLP on adjacent territories, the works on reducing the volume of overburden disposal at external dumps, for this purpose, the projects on using the internal mined-out space of "Severny" and "Bogatyr" open-pit mines as internal. For preventing oxidative processes and prevent spontaneous combustion of coal-bearing rock stored in dumps, measures on isolating dumps with inert rocks and compacting the roof of dumps are taken.

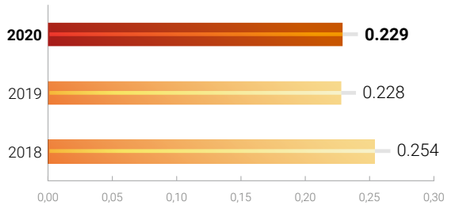
Ash and slag waste of TPP are buried in ash dumps, dust suppression works are carried out as well, at SDPP – under the edge of the water, and at Almaty stations – using a unique combined technology with topping a layer of soil and planting of perennial and shrubs. Reclamation of depleted parts of ash dumps is carried out annually. Overall, the development of hydropower plants and renewable energy facilities also contributes to the reduction of ash and slag waste per unit of production.

At the same time, ash and slag disposal also belongs to production waste management activities – they are used in construction of roads in Pavlodar region. About 10 thous. tons of dry ash were disposed in 2020. However, the demand for ash and slag as a raw material is low.

Ash and slag waste, thous. tons



Per unit indicator of ash and slag generation by sector Fuel generation, kg of ASW/kWh



"SOCIAL" CATEGORY

The Company recognizing the social responsibility of business, in order to ensure maximum benefits to society from its operations, accepts voluntary commitments for the responsible participation in the lives of the Company's employees, the population in the regions where the Company operates and society as a whole.

Human resources management is one of the priority areas in the Company's business and human resources are managed on the basis of the Personnel Policy of "Samruk-Energy" JSC for 2018–2028.

Personnel Policy's mission

To pool efforts of human resources for the achievement of strategic goals of the Company in the long term and providing a competitive advantage in the market.

Personnel Policy's vision

A single effective corporate culture aligned to the values of each employee, which contributes to the growth of human potential and dynamic sustainable business development.

The strategic role of the HR function is expressed primarily in the planning of labor resources for the future in quantitative and qualitative terms.

The Company pays special attention to managing the planning and providing labor resources by managing the organizational structure and number of employees, managing the quality and competences system, and recruiting and selecting personnel.

"Samruk-Energy" JSC is one of the largest employers in the Republic of Kazakhstan. As of December 31, 2020, the Company's headcount amounted to 17,783 people.

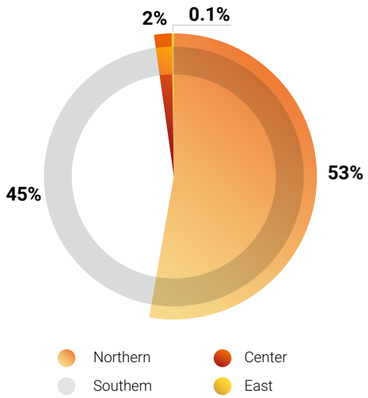
"Samruk-Energy" JSC group's personnel structure has remained stable over the past years. The average length of service of employees – 12 years.

The company strictly complies with existing legislation, in the event of other significant changes related to activities, including in the event of termination of the employment contract, it notifies employees in writing at least one month in advance.

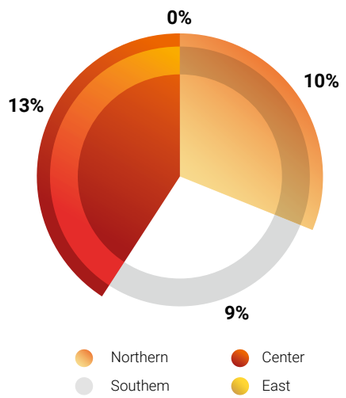
The share of full-time employees in the reporting period was 100%.

The share of top managers in significant regions of operation, hired from among the representatives of the local population, reached 100% in the reporting period.

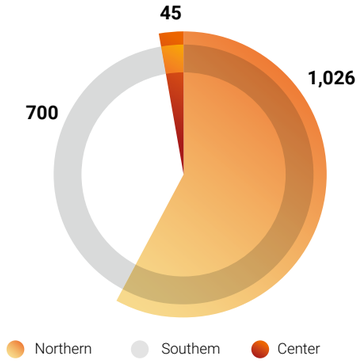
Total workforce by region for 2020



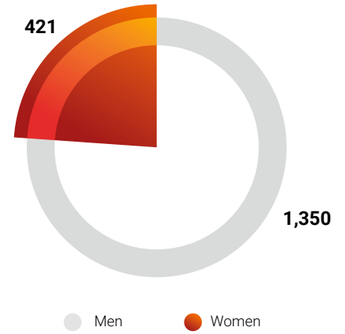
Staff turnover by regions for 2020



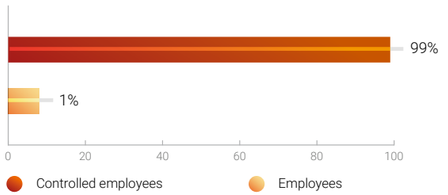
Newly hired employees by regions for 2020



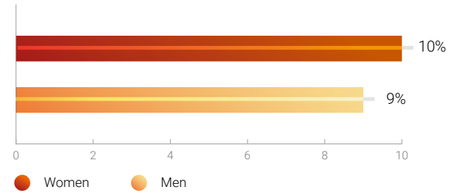
Newly hired employees by gender for 2020



Total workforce by employment type for 2020



Staff turnover by gender for 2020



Staff profile

No.	Indicator	Employees	Share
1.	**Total headcount (list-based at the end of 2020)**	**17,783**	
2.	**Gender**	**17,783**	
2.1.	Men	13,184	74%
2.2.	Women	4,599	26%
3 .	**Age groups (average age of employees – 38 years)**	**17,783**	
3.1.	under 30 years	2,975	17%
3.2.	from 30 to 50 years	9,452	53%
3.3.	over 50 years	5,356	30%

In connection with the production specifics of the Company's operations, male employees are involved in the main production areas, whose share of the total staff in 2020 was 74%.

"Samruk-Energy" JSC supports 7 Principles for the Empowerment of Women, developed through a partnership between UN-Women and the United Nations Global Compact, was signed. This document assumes adherence to the principles of gender equality as a key element of sustainable development, as well as the conviction that companies that provide women and men with equal opportunities are more successful and achieve better results. To achieve this goal, the Company has adopted the Action Plan.

During the reporting period, 272 employees were granted parental leave across "Samruk-Energy" JSC group. Of these, 252 are women and 20 are men. In the reporting year, 172 employees continued their work, including 163 women and 9 men.

In 2020, the employee turnover rate was 6%. The main reasons are the prospect of getting a higher salary elsewhere and the lack of career and professional development and training.

Because of specifics of its operations, "Samruk-Energy" JSC has no risk of using child and forced labor, as well as performance of hazardous work by young employees.

Safety and labor protection

The company, guided by the principles of sustainable development, pursues a policy to reduce industrial injuries and improve working conditions for employees.

In accordance with the Action Plan for the management of health and safety issues in the Company's group for 2020 and the Company's Health and Safety Policy, all subsidiaries and dependent companies have developed and approved labor protection work plans, carried out a set of organizational and preventive measures.

To provide employees with security assurances, the Company will continue to develop its social protection program (medical insurance, life insurance, pension provisions, accident insurance, etc.), improve working and living conditions.

As required by law, the Company also pays sick leave, medical insurance, insurance of an employee against accidents when performing job responsibilities, annual medical examination of employees and financial assistance in case of workplace injury. In line with p. 2 of article 17 of the Republic of Kazakhsan Law "On compulsory insurance of an employee against accidents when performing job responsibilities", "Samruk-Energy" JSC group of companies concludes life and health insurance contracts for employees engaged in high injury rate jobs.

Throughout the group of companies, in accordance with Article 203 of the Labor Code of the Republic of Kazakhstan, there are production councils (formerly committees) for labor safety and protection. It consists of representatives of the employer, representatives of workers, including technical inspectors for labor protection on a parity basis.

The international standard "Occupational Health and Safety Management System OHSAS-18001" has been introduced.

All subsidiaries and affiliates of the Company have certified their workplaces for working conditions. In accordance with the certification of workplaces, workplaces with harmful and hazardous working conditions have been identified. At the same time, all employees are provided with appropriate benefits, including personal protective equipment and overalls in accordance with the legislation of the Republic of Kazakhstan.

In accordance with article 185 of the Labor Code of the Republic of Kazakhstan, workers employed in jobs associated with increased danger, machines and mechanisms, undergo pre-shift and post-shift medical examination.

On a regular basis, "Samruk-Energy" JSC group of companies carries out vaccinations for its employees, and also uses other forms of maintaining immunity in order to prevent diseases.

The Company has introduced the practice of conducting planned and unscheduled (sudden) inspections to comply with the requirements of international standards, regulatory legal acts of the Republic of Kazakhstan, internal regulatory documents of the Company in the field of occupational safety and health. During the reporting period, 9 scheduled inspections, 3 unscheduled (sudden inspections) were carried out.

Registration, the procedure for reporting and accounting of industrial accidents was carried out in accordance with Chapter 20 of the Labor Code of the Republic of Kazakhstan "Investigation and accounting of work related accidents" and other regulatory legal acts of the Republic of Kazakhstan.

In accordance with the corporate standard "Incident accounting and investigation", the practice of conducting internal investigations of accidents has been introduced in order to determine the root (system) causes. In accordance with the above corporate standard, investigations of incidents that did not lead to accidents are conducted.

Despite the large number of preventive and corrective measures implemented, 8 accidents related to work were registered in 2020: 7 of them were with a severe outcome, 1 with an easy outcome.

Injury description	2018	2019	2020
Chemical burn, thermal burn	1	2	–
Bruise	1	1	1
Traumatic amputation	–	–	1
Electric injury (thermal burn)	–	1	1
Fracture	5	5	1
Combined injuries (fracture, bruises, tears of internal organs)	1	–	4
Eye injury	–	–	–
Traumatic brain injury, brain concussion	2	2	–
Total	10	11	8

Indicators for 2020	
LTIFR	0.27
FIFR	0
LDR	230.15
Lost days ratio	816
Missed days ratio	158,852
Occupational morbidity rate	no

Fire safety

All entities that are part of "Samruk-Energy" JSC group of companies are provided with primary fire extinguishing equipment: portable and mobile fire extinguishers, equipped with fire hydrants, provided with boxes with powder composition (sand), as well as fire-resistant fabrics (felt, etc.).

Supervisory government bodies, employees representatives of "Samruk-Energy" JSC, as well as labor protection specialists of an enterprise monitor the availability of fire-fighting equipment during scheduled and unscheduled inspections.

In 2020, 1 case of fire was recorded at the facilities of enterprises belonging to "Samruk-Energy" JSC group of companies. On June 25, 2020, at "Ekibastuz GRES-1" LLP, during hot work inside the cabin of the overhead crane, glowing particles of welding hail hit the combustible polymer heaters, which resulted in the ignition of the insulation of the overhead crane cabin. Reason: Failure to comply with fire safety measures in the production of welding and other hot work. There are no casualties.

Measures taken to avoid accidents at work

The following measures are taken in order to reduce workplace injury rate across "Samruk-Energy" JSC group of companies:

- All employees are informed about circumstances and causes of accidents.
- All production personnel receive unplanned instructions (in case of accident occurrence)
- Unscheduled test of employees for OR, occupational safety rules knowledge is held at business units at which an accident took place.
- Occupational safety days with participation of CEOs of companies are organized on a monthly basis. Actions

aimed at elimination of identified violations are taken according to the results of the occupational safety days.
- Occupational health and safety services organize comprehensive inspections of equipment, buildings, facilities and workplaces. Action plans with deadlines and persons in charge based on results of comprehensive inspections are developed.
- All production personnel are trained according to the Rules for training, instruction, and testing of employees' knowledge of occupational safety.
- Seminars and meetings with engineers and technicians of structural subdivisions authorized to give assignments, manage and perform works are held prior to the repair campaign; such workshops cover practical trainings on the correct access for teams to perform works and prepare work orders.
- At least once every five years, enterprises undergo assessment of workplaces with respect to working conditions.
- Equipment that exhausted its service life and posing a serious threat to production personnel is replaced according to the schedule.
- The practice of conducting leadership behavioral safety audits is being introduced.
- The maps / registers of risks at workplaces are updated, and additional trainings on identification of hazards and risk assessment for staff are held.

Motivation and remuneration

The company adheres to the following policy of remuneration and motivation:
- setting a minimum guaranteed level of remuneration in the Company for all employees at a level exceeding the legislatively established minimum amount of remuneration, taking into account the need to meet basic living needs and provide a certain income, taking into account local conditions;
- wage indexation based on the consumer price index;
- periodic increase in wages resulting from better performance;
- the use of flexible bonus systems for complete consideration of an individual labor contribution of an employee;
- the objectivity and unity of the system of payment and motivation of workers and its competitiveness at the national level;
- rewarding with corporate and industry awards.

The average salary of employees at "Samruk-Energy" JSC group of companies in 2020 increased in relation to the same indicator by **12%** – from **243,722** tenge to **273,628** tenge. The growth of the average salary of production staff amounted to **14% – from 225,632** tenge to **256,611** tenge, administrative staff amounted to **4% – from 450,171** tenge to **467,305** tenge.

The minimum wage across the group of companies is 135,526 tenge. The ratio of the minimum wage for women to the minimum wage for men is 100%. The wage is set based on the salary scheme and the tariff rate.

In order to increase the content of wages and compensate for inflationary processes, as well as in accordance with the concluded Collective Agreements at "Samruk-Energy" JSC group of companies, the indexation of wages was carried out by an average of **7.5%** in 2020.

In order to motivate employees, "Samruk-Energy" JSC, in recognition of merit, develops types of non-material motivation and forms of indirect additional financial remuneration – social protection programs for employees and additional benefits.

The Company, in accordance with the Collective Agreement, provides for: overtime pay, pay for work on holidays and weekends, at night, allowances and surcharges, pay for employees engaged in heavy work, work with harmful

(especially harmful), dangerous working conditions, additional paid annual leave, financial assistance in connection with the birth of a child, financial assistance for the wedding and one-time bonus in connection with the anniversary (50, 60 and 70 years). According to the Collective Agreement, upon termination of the employment contract, employees are paid a compensation payment in the amount of 3 wages in connection with retirement.

Employees who combine work with education in educational institutions are also provided with additional leave for the period of examination or adjustment sessions, the preparation and protection of the graduation project (work), and the passing of final exams.

To motivate and encourage employees across "Samruk-Energy" JSC group of companies, the honoring of distinguished employees with state, departmental and industry awards from the CIS Electric Energy Council, Kazakhstan Association of Oil and Gas and Energy Sector Organizations "KAZENERGY", "Kazakhstan Electricity Association" ALE, "Samruk-Kazyna" JSC, etc was held as part of the corporate culture development.

According to the results of 2020, 22 employees were awarded the badge "Enbek sinirgen energetic", the Order "Enbek Danky" of III degree, "Kurmet" Order of the RK, "Eren enbegi ushin" medal, "KAZENERGY" medal – 4, the Medal of the MED "Elektr energetika salasyna koskan ulesi ushin", badge of the RK Ministry of Energy "Kurmetti energetic", jubilee medal "Kazakhstan Konstitutsiyasyna 25 zhyl", jubilee medal "Kazakhstan Konstitutsiyasyna 25 zhyl".

Development and career growth

The specifics of power industry requires constant continuous training and retraining of personnel for admission to work and maintaining a high level of professionalism. "Samruk-Energy" JSC group strives to constantly develop and train employees. Personnel training and development are a key success factor in ensuring economical, trouble-free and efficient operation of the equipment and the company as a whole.

The main directions of staff development of the Company's group:
- Leadership Development Program;
- Operation of coal-fired boiler / steam turbines of thermal power plants;
- "Project Management", "Situational Leadership" trainings;
- Master's programs (BA, Ms);
- Corporate English language and state language courses;
- Seminars, trainings and conferences on the functional orientation of employees' occupation.

In 2020, employees completed health and safety training for responsible persons; in accordance with the RK Law "On Civil Protection"; they also completed training in workplace safety and basics of fire safety", "Legislation in the field of energy conservation and energy efficiency". Energy management in production. Management of energy conservation programs development and implementation. "Energy conservation and energy efficiency improvement", "The Role of risk management and internal control system in corporate governance" and "Corporate Governance and Sustainable Development ".

In addition, as part of the implementation of the mandatory Leadership program, 100% of CEO completed trainings; CEO-1 – 92%; CEO-2 – 91%.

For CEO-1, the trainings "People Management", "Change Management", "Public Speaking", "Strategic Management", "Coaching Skills" and "Digital Skills" were conducted. For CEO-2, the trainings "People Management", "Change Management", "Strategic Management", "Coaching Skills" and "Digital Skills" were held.

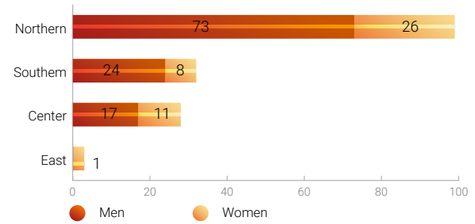
According to the Digital Transformation Program (a roadmap for the Culture of High Performance Initiative), the thresholds for the percentage of executives who completed leadership programs trainings were achieved.

Average hours of training per employee per annum, by category of employees

Personnel category	Total headcount as of the end of 2020		Number of training hours for 2020		Average training hours per employee/year
	men	women	men	women	
Top management	60	6	1,289	129	21
Executives, specialists	3,247	2,091	37,144	23,914	11
workers, employees	9,877	2,502	662,331	167,779	67

Personnel category	Total headcount as of the end of 2019		Number of training hours for 2019		Average training hours per employee/year
	men	women	men	women	
Top management	56	7	1,627	203	29
Executives, specialists	3,218	2,105	35,323	23,106	11
workers, employees	9,800	2,513	591,253	151,614	60

Average number of training hours per employee per year, by region



In line with existing Rules for performance appraisal of the Company's employees, the following assessment is carried out:

- a comprehensive (final) assessment of goals and competencies, which includes: self-assessment, review meetings, a review of skills, potential, assessment and providing employees with guidelines to improve performance and development opportunities.
- an interim review of employees performance, which is carried out on a quarterly basis, in order to monitor the degree of achievement of goals for the reporting period.

The performance of 94% of administrative and management staff was evaluated, of which 95% are men and 94% are women.

To maintain and unravel competitiveness, proactively respond to external and internal challenges, build the potential of promising, highly professional and involved employees, educate own executive staff, the Company develops a system of succession and talent management.

"Samruk-Energy" JSC group of companies creates a single personnel reserve for occupying key positions and introduces selection and appointment procedures from the talent pool based on the principles of objectivity, transparency and fairness, voluntariness, and efficiency.

The process of formation and development of the personnel reserve is closely integrated with the annual employees' performance appraisal, based on which a talent map is created and individual development plans (IDP) of succession pool members are prepared, involved mentoring, internship programs and a succession program are developed.

As part of the development of corporate governance, "Samruk-Energy" JSC Board of Directors and company management bodies pay a great deal of attention to the preparation and implementation of a plan for succession to senior positions.

Social stability and development of corporate culture

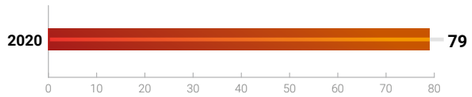
The annual measurement of indicators of social stability and employee involvement allows taking timely measures on increasing employee loyalty and trust, social welfare, and employee involvement, improving working conditions and processes associated with staff work, developing communication systems and informing about any changes.

In 2020, the methodology for determining the engagement index and social stability rating was updated. The purpose of updating the methodology is to increase the practical significance of results and the value of recommendations to ensure social stability in a team.

In connection with the current epidemiological situation in the Republic of Kazakhstan, in 2020 the study was conducted by telephone survey within Samruk Research Services platform.

According to the research results for 2020, the Social Stability Index across the Company's group was 79%*.

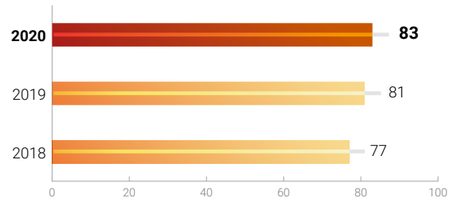
The share of engaged production employees across the Company's group



** Comparison in dynamics by the SRS indicator will be possible from 2021*

The indicator of the survey of **administrative and management staff engagement** across the Company's group in 2020 amounted to 83%, which shows an increase of 2% compared to 2019*.

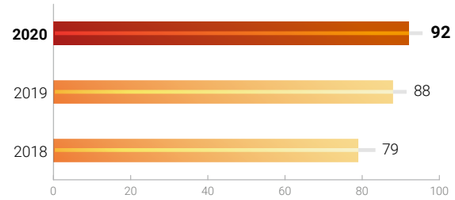
The share of engaged administrative and management staff across the Company's group



** To conduct a comparative analysis with the results of previous years, the engagement index for 2018 and 2019 was recalculated according to the example of the 2020 methodology.*

The indicator of the survey of the Company's (Head office) **administrative and management staff** in 2020 was 92% and is in the positive zone. Compared to 2019*, the share of employees involved increased by 4%.

The share of engaged employees of the Company



** To conduct a comparative analysis with the results of previous years, the engagement index for 2018 and 2019 was recalculated according to the example of the 2020 methodology.*

Conciliation committees are formed and operate in the "Samruk-Energy" JSC group of companies, consisting of representatives from the employer and representatives of trade union workers, whose main function is explanatory work among employees, complaints and appeals consideration procedures.

"Samruk-Energy" JSC group of companies strives to provide a competitive social package, the availability of which allows attracting qualified employees. Compensation and benefits are designed to improve the welfare and level of social protection of employees and their families. The number of social payments and benefits provided to employees of the Company's Group in accordance with signed collective agreements include:

- financial assistance for health care provided at vacation, for the birth of a child;
- financial assistance for burial (an employee and immediate relatives), for the treatment of retired employees, for emergency situations, etc.
- financial assistance in connection with loss of income (registration of maternity leave or leave due to the adoption of a newborn child);
- voluntary health insurance;
- health resort treatment
- a one-time incentive payment in connection with employees anniversary celebration (50, 60 and 70 years);
- expenses for holding festive, cultural and sports events;
- payment of loans;
- allowance for injury and loss of primary income earner;
- New Year's gifts to children, etc.

Social guarantees and benefits for 2020 were provided in accordance with the Collective Agreement in the amount of 2,228,698 thous. tenge.

Share of employees under collective bargaining agreement

No.	Indicator	Value (2020)	Measurement unit
1.	Total number of employees (headcount) as of the end of 2020	17,783	people
2.	Including employees under collective bargaining agreement for 2020:	15,567	people
3.	Share of total employees under collective bargaining agreements:	88%	%

The Company implements the following activities for health improvement, and recreation organization:

- the provision of additional days to paid annual labor leave for years of employment;
- regular promotion of healthy lifestyle among employees using corporate media;
- partial compensation for the cost of trips to health camps and children's health centers for children with disabilities and orphans for employees of the Company.

Payments and benefits provided to full-time employees which are not provided to employees who work under conditions of temporary or part-time employment, broken down by core activities

No.	Indicator	For full-time employees	For employees with part-time or temporary employment
1.	**Payments and benefits to employees**		
1.1.	Life insurance	Provided	Provided
1.2.	Healthcare (medical insurance)	Provided	Provided
1.3.	Compensation for disability	Provided	Provided
1.4.	Maternity/paternity leave	Provided	Provided
1.5.	Granting pension (one-time payment upon retirement)	Provided	Not provided
1.6.	Transfer of company shares into ownership	Not provided	Not provided
1.7.	Other (health resorts treatment, financial assistance in connection with the birth of a child, financial assistance for the treatment of family members, financial assistance for rehabilitation)	Provided	Provided

Young employees' policy

The Company is fully engaged in increasing youth involvement, aimed at creating an active life position of the young generation, patriotic education, social support of youth and providing the Company with highly competent specialists in the future.

The objectives of this area are:

- creation and development of the Youth Council under the management of the Company from among the youth assets of companies.
- interaction with youth public associations;
- participation of young specialists in scientific and practical conferences, forums, competitions and other events;
- the work with specialized educational organizations within cooperation on matters like training, search and selection of best graduates, organization of internships for students, participation in the improvement of curricula and the development of dual training, the development of scholarship programs, etc.;
- development of social support programs for young professionals, young families;
- development of adaptation systems, internships, mentoring, training, career and professional planning in relation to young specialists.

Every year this youth movement strengthens its position. Young active members of the Company participate in work-related and social life. There are many creative talents among them who are involved in organizing corporate events.

In 2020, young specialists implemented several activities to fully support the volunteer movement.

In the beginning of 2020, the Youth Asset of the Company's group provided charitable assistance to the families of employees who faced difficulties resulted in COVID-19 pandemic.

As part of the "Young in Soul" volunteer project, volunteers took part in distributing food baskets to the elderly, veterans and the disabled.

As part of the project "Taza Kazakhstan – Contribution to nature conservation" volunteers held an eco-cleanup day in Kazakhstan regions.

On the eve of the New Year, the youth activists turned the wishes of children suffering from cancer into reality with the help of "Magic Christmas Tree" charity event.

The company declares its intention to attract and retain young, talented workers, create jobs for young workers, develop a mentoring institute, and educate gifted school graduates at universities of Kazakhstan, near and far abroad in power industry majors.

As part of implementation of "Jas Orken" program, "Samruk-Energy" JSC group of companies accepted 4 young specialists and 5 trainees for the internship as part of implementation of "Digital Summer" program.

All young specialists for the period of rotation are given access to take an electronic adaptation course.

With the support of "Samruk-Energy" JSC, Almaty University of Energy and Communications held the Republican Olympiad in Physics and Mathematics.

Human rights

As regards observance of human rights, the Company conducts its business in strict compliance with the legislation, recognizes the importance and value of fundamental human rights and freedoms proclaimed by the UN, including freedom of association, recognition of the right to collective bargaining, labor rights, the right to a healthy environment, health protection. No cases of discrimination against employees were reported during the reporting year.

The principles of human rights observance are set out in the Code of Business Conduct of "Samruk-Energy" JSC.

Moreover, as part of its interactions with its suppliers and contractors, the Company requires compliance with labor laws, including compliance with health and safety requirements. The relevant requirements are included in the standard contracts of the Company and SA with suppliers.

Employees have the right to collective bargaining in the context of current legislation through permanent Conciliation Commissions, Committees for the settlement of social and labor conflicts.

The recruitment at "Samruk-Energy" JSC is carried out in accordance with the Rules for the competitive selection of personnel for vacant positions and the adaptation of new employees at "Samruk-Energy" JSC using the elements of testing and by complying with principles of transparency and meritocracy, taking into account professionalism, personal qualities of a candidate and his compliance with the qualification requirements and competencies for the position, as well as the principles of fair and equal treatment of employees. "Samruk-Energy" JSC provides maximum assistance in preventing any form of discrimination, the use of child and forced labor, as well as the selection and promotion of personnel solely based on professional skills and knowledge.

12 trade union organizations comprising 15,567 members operate at "Samruk-Energy" JSC in order to regulate and protect the professional, economic and social labor rights and professional interests of "Samruk-Energy" JSC employees.

"Samruk-Energy" JSC trade union assist in protection of interests of employees – members of the Company's trade union in terms of compliance with labor laws, established social guarantees and compliance with contract provisions.

The company establishes dialogues with stakeholders on various aspects of its operations. In particular, to obtain information on concerns and complaints, a mechanism for submitting and reviewing complaints was developed using the feedback system on "Samruk-Energy" JSC external website – a written request or a telephone call to the "hot line".

Thus, 67 appeals were registered across the Company in 2020, and all of them were settled during the reporting period. The Company registered 73 complaints in the same period of 2019.

There were no confirmed cases of discrimination against employees in the group of companies of "Samruk-Energy" JSC based on the results of 2020.

Number of complaints about the practice of labor relations filed, processed and settled through formal grievance mechanisms

No.	Indicator	Value
1.	The total number of complaints about the practice of labor relations filed through formal grievance mechanisms during 2020, among them	67
1.1.	Processed during the reporting period	67
1.2.	Settled during the reporting period	67
2.	Indicate the total number of complaints about the practice of labor relations filed before the beginning of the reporting period and settled during the reporting period	

Presentation of health and safety issues in formal agreements with trade unions

No.	Indicator	Value
1.	**Do official agreements (global or local) with trade unions address health and safety issues**	**yes**
2.	**If yes, information on the extent to which health and safety issues are covered by local agreements signed by an organization. Local level agreements usually address issues such as:**	
2.1.	Individual protection means	yes
2.2.	Joint health and safety committees with participation of representatives of management and employees	yes
2.3.	Participation of employees' representatives in health and safety inspections, audits and accident investigations	yes
2.4.	Education and training	yes
2.5.	Grievance mechanism	yes
2.6.	The right to refuse dangerous work	yes
2.7.	Periodical inspections	yes
3.	**If yes, information on the extent to which health and safety issues are covered by local agreements signed by an organization. Local level agreements usually address issues such as:**	
3.1.	Compliance with recommendations of the International Labor Organization (ILO)	yes
3.2.	Actions or mechanisms for solving issues	yes
3.3.	Obligations regarding target performance standards or the level of practical approaches applied	yes

Implementation of social programs and interaction with local communities

"Samruk-Energy" JSC, being a socially responsible company, strives to pay attention to the social well-being of the regions where subsidiaries are located.

In 2020, "Samruk-Energy" JSC was involved in active interaction with the "Samruk-Kazyna Trust"Corporate Fund on the implementation of social programs aimed at solving socially significant issues in the regions of "Samruk-Energy" JSC presence.

Thus, as the result of interaction of subsidiaries of "Samruk-Energy" JSC ("APP" JSC, "Samruk-Green Energy" LLP, "Ekibastuz GRES-1" LLP, "First Wind Power Plant" LLP) with local executive bodies, a list of social problems was identified as well as a list of non-profit organizations capable of initiating and implementing projects within the framework of solving these problems.