



SAMRUK
KAZZYNA

BUILDING THE FUTURE TODAY: INFRASTRUCTURE FOR SUSTAINABLE DEVELOPMENT

SUSTAINABILITY REPORT



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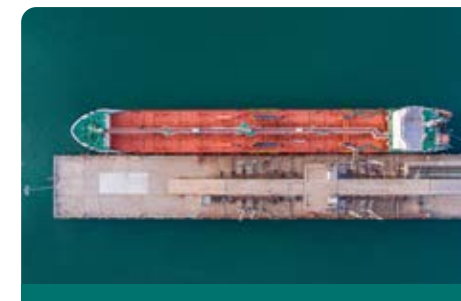
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Sustainability reports Samruk-Hazyna JSC are available in electronic format in the state, Russian and English languages on the company's website

ABOUT THE REPORT

The presented Sustainability Report of Joint-Stock Company "Sovereign Wealth Fund "Samruk-Kazyna" [GRI 2-1](#) for the year 2022 (hereinafter – the Report) is prepared in accordance with the 2021 Global Reporting Initiative Sustainability Reporting Standards (GRI), the international standards for sustainability reporting

We have been publishing Sustainability Reports on an annual basis since 2016. [GRI 2-3](#) The report is intended to inform a wide range of stakeholders, including our employees, shareholders and investors, partners and customers, the population in the regions where we operate, and the general public about the results of our efforts in achieving sustainable economic development and creating long-term value. It also highlights our contribution to the economic, infrastructural and social development of the country, as well as our commitment to climate protection and environment preservation.

The Report presents consolidated information on Joint-Stock Company "Sovereign Wealth Fund "Samruk-Kazyna" (hereafter – the Fund) and its portfolio companies for the period from January 1 to December 31, 2022. [GRI 2-3](#)

Information about the boundaries of the Report is provided in Annex 2. [GRI 2-2](#)

In preparing this Report, both management and audited financial statements of the Fund, prepared in accordance with International Financial Reporting Standards (IFRS), were used. [GRI 2-2](#)

As a demonstration of our commitment to providing transparent and open information, we have improved our reporting practices by strictly following the principles and international reporting standards.

Throughout the Report, markers are provided to indicate the correlation between material topics and the reporting standards used, aimed at enriching the reporting experience and increasing its transparency.

This enhancement enables us to deliver comparable and decision-useful ESG information for investors and all stakeholders.

The current Report was prepared by the Fund's employees, with consultations conducted with relevant experts within the Fund Group involved in the data and information gathering process. Moreover, the Report has undergone an independent external process by HPMG Tax and Advisory, in accordance with the ISAE 3000 standard. [GRI 2-5](#)

The Sustainability Report of the Fund is approved by the Board of Directors and is made available to stakeholders through publication on the corporate website. [GRI 2-14](#)

The current Report is approved for release on June 20, 2023. [GRI 2-3](#)



ADDRESS OF A MEMBER OF THE BOARD OF DIRECTORS



Dear readers,

It is my great honor to present to you the Sustainability Report of Samruk-Kazyna JSC for the year 2022 and share with you the significant achievements and progress made by the Fund in fulfilling its mission of ensuring the sustainable development of the country's economy and creating long-term value.

Every year, Samruk-Kazyna JSC, one of the 30 largest funds in the world, makes a substantial contribution to the economy of the Republic of Kazakhstan, combining and effectively managing assets worth \$ 64 billion in the oil and gas, transport and logistics, energy, chemical and nuclear industries. [GRI 2-6](#)

The past year, like for many organizations worldwide, presented us with a range of challenges and complexities, stemming from global geopolitical tensions and financial market instability. This led to sharp increase in interest rates, limited financing options, and stricter requirements for projects. However, in the light of the changing economic landscape and changes in logistics chains, new opportunities are also opening up before us. We have reflected this in our updated 10-year Development Plan, focusing our investments primarily in the economy of Kazakhstan, including strategic projects supporting the socio-economic development of the country.

We believe that our desire to diversify our investment portfolio and support innovative projects with high export potential will be the key to our continued success.

The implementation of ESG principles is one of the main strategic priorities of the Fund Group. [GRI 2-22](#) We intend to improve further and implement best practices in the field of corporate governance, social and environmental responsibility, industrial safety, constantly increasing our openness and transparency to society.

For example, in 2022, 13 meetings of the Public Council were held, where 230 experts participated, the media covered all meetings, after each meeting the speakers give interviews. Within the framework of public control, the work of Samruk-Kazyna JSC and national companies (JSC NC KazMunayGas, JSC NC Kazakhstan Temir Zholy, HEGOC JSC, Kazakhtelecom JSC, CF Samruk-Kazyna Trust, Center for Social Interaction and Communications PI) was openly heard. The Public Council provided 118 recommendations on the issues under consideration, namely privatization and restructuring of assets, priority investment projects, charity, social stability indices, public control of national companies, etc. Another new form of interaction with society is open meetings with citizens. In September, representatives of the Fund and experts, as part of the IPO campaign, traveled all over Kazakhstan and held more than 200 meetings with residents of cities and villages about the placement of shares of JSC NC KazMunayGas. Tens of thousands (more than 153 thousand) people attended these meetings.

In 2022, which was declared the Year of Occupational Safety and Health, the Board of Directors continued to focus on monitoring the health and safety of our employees. At five in-person meetings, the Board of Directors heard reports on industrial safety. At the same time, the issues of climate change, reducing the carbon footprint and improving energy efficiency have become an integral part of corporate governance. The Board of Directors approved the Low-Carbon Development Concept including a Plan for the transition to a low-carbon business model, which defines a single basis for low-carbon development as an integral component of our long-term development and is a strategic document of the Fund to achieve carbon neutrality. [GRI 2-6](#)

For the first time, we have established quantitative commitments to reduce the carbon footprint by 10% over the next 10 years from the base 2021 with the prospect of achieving carbon neutrality by 2060. The targets on carbon footprint reduction are also set for the Fund's portfolio companies that are significant in terms of reducing greenhouse gas emissions.

Taking into account the growing interest of stakeholders in our ESG indicators, we have decided that an independent verification of sustainability reporting will be carried out on an annual basis. In addition, the Fund and large portfolio companies will be evaluated by independent leading international rating agencies

and receive ESG ratings. This will allow our stakeholders to track our progress in ESG, improve the level of transparency and reliability of data in our non-financial reporting.

The topic of our Sustainability Report for 2022 reflects our strategic priorities and our efforts aimed at ensuring responsible and sustainable investment, effective asset management, ensuring sustainable and reliable supply of energy resources, contributing to the further development of the country.

Sincerely yours,

**BOLAT BIDAQHMETOVICH
ZHAMISHEV**

*Member of the Board of Directors
Independent Director Samruk-Kazyna JSC*

INTERVIEW OF THE CHIEF EXECUTIVE OFFICER



– What does sustainable development mean for the Fund Group today?

Current global trends once again emphasize the importance of sustainable development issues. In addition, the fuel and power industry is one of those industries that will be significantly affected by these changes.

E, S and G are the three pillars that directly influence our operational results and the value created for our shareholders. Implementing ESG principles for us means ensuring long-term financial stability, while maintaining the health and well-being of our employees, environmental balance in the regions where we operate, as well as following best business practices and corporate governance principles (ESG principles). This is not new to us. Pursuing ESG is a fundamental cornerstone of our strategy. [GRI 2-22](#)

– What has been achieved in the field of sustainable development in 2022?

Since 2016, we have been ensuring transparency of our operations and annually publishing separate sustainability reports, in which we disclose information on various topics of interest to our stakeholders.

We continue to successfully implement measures for energy efficiency and efficient use of energy and water resources.

We continue to successfully implement measures for energy efficiency and the efficient use of energy and water resources. Building on the success of our previous 6-year energy-saving program, which resulted in a 27% reduction in energy intensity of our products, this year we have approved our new 5-year program and its implementation plan.

The Fund's portfolio companies are adopting the best available techniques, installing filters to reduce the negative impact on the environment and automatic emission monitoring systems. Equipping thermal power plants with electric filters and emulsifiers led to a 4-fold reduction in ash emissions over 10 years.

In line with our decarbonization goal, we are increasing the share of renewable sources in the structure of electricity production.

Thus, JSC NC KazMunayGas financed the production of clean electricity in Kazakhstan by acquiring international renewable energy certificates I-REC (International Renewable Energy Certificate) this year¹ with the volume of 8.5 million kWh. I-REC certificates in accordance with international practices (GHGP, CDP, RE100, ISO, etc.) allow you to claim the reduction of GHG emissions associated with the use of electricity under Scope 2.

Despite the optimization of the organizational structure of the Fund, we have established a dedicated division to coordinate the Fund's activities in the ESG direction. At the Management Board level, a Sustainable Development Committee has been formed, involving the leaders of portfolio companies, with the aim of enhancing effectiveness and coordination in the field of sustainable development. Additionally, since 2019, the Management Board has been supported by

the Health, Safety Committee, which oversees and monitors the implementation of measures related to occupational health and safety. This year, the Fund has become a participant in the global "Vision Zero" concept aimed at achieving zero injuries. Despite the challenging circumstances posed by the ongoing COVID-19 pandemic, we have continued to work successfully and achieve our set goals. In 2022, the injury rate was reduced by 16% – from 133 to 111 employees compared to 2021.

Additionally, we support projects that provide access to education, healthcare and other essential services. We are also committed to promoting gender equality and increasing the representation of women in the leadership positions across the Fund's Group of companies. Our goal is to increase the proportion of women on management boards, boards of directors and supervisory boards throughout the Group to 20% by the end of 2023, and to 30% by 2030.

– What are the key areas of the Fund's low-carbon development? What changes should be expected in Kazakhstan's energy system?

The key directions of the Fund's low-carbon development include measures in the field of alternative energy, resource and energy efficiency enhancement, infrastructure improvement, as well as effective carbon footprint management and business processes.

It is planned to implement a number of infrastructure projects by 2032, introduce best practices and advanced technological solutions, such as: after gasification of the Almaty energy complex, development of generation of renewable energy sources and hydroelectric power plants up to 30%, increase the share of renewable energy in purchased electricity up to 45%, implementation of energy efficiency measures, electrification of rail transport and motor transport, reduction of losses and leaks, reduction of methane emissions, implementation of offset projects, etc.

– What challenges and opportunities does the Fund see on the path of low-carbon development?

Kazakhstan is facing a growing demand for electric energy and capacity, which leads to systematic emergency shutdowns of generating equipment at power plants and an increase in the deviation of the power balance at the border of the UES of Kazakhstan with the UES of Russia. This year, electricity consumption and the load on the grid exceeded the indicators of 2021 by 6.5%, and the maximum load on the power system was recorded in Almaty at 1 696 MW. In the long term, the construction of new generating capacities is required, but the barrier to the development of the industry is the state policy to curb utility prices, which leads to an increase in the depreciation of fixed assets and the number of equipment accidents. In this regard, there is a low attractiveness of the electric power industry. For the development of the industry, it is necessary to build new generating capacities at a faster pace and update fixed assets, but this may be difficult in conditions of restraining utility prices. It is necessary to find a balance between price restraint and ensuring the sustainable development of the electric power industry.

This year, we have observed challenges in passing the heating season across the country, and therefore, the largest energy facilities in Kazakhstan, which are part of the Fund's Group of Companies, have been the subject of our close attention.

Despite these challenges, I look to the future with optimism and am confident in the strength and sustainability of our organization and the Kazakh economy as a whole. I firmly believe that with the right investments, partnerships and leadership, the Fund will continue to play a significant role in stimulating economic growth and building opportunities for everyone.

¹ I-REC certificates confirm the fact of renewable electricity production. They are traded in 51 countries of the world, issued according to international standards and recognized by global organizations.

– What was significant for the Fund in the past 2022?

2022 was the year of systemic reforms. The Fund has faced numerous challenges and difficulties. In these circumstances, the Fund had to adjust the terms and schedules of projects implementation, seek alternative sources of financing, and restructure business processes in its operating activities to maintain social stability at production facilities and ensure operational safety at production, transportation and processing sites. Thanks to timely measures taken, the Fund managed to mitigate the risks associated with this. This year, the Fund has undergone major changes aimed at improving the efficiency and effectiveness of our work. The organizational structure was optimized, a new procurement procedure was adopted, salaries for production personnel were increased, and the role of the Public Council was strengthened.

As part of the privatization plan for 2021–2025 approved by the Government of the Republic of Kazakhstan, the IPO of JSC NC HazMunayGas was conducted successfully. In the history of the stock market of Kazakhstan, the initial public offering of shares of JSC NC HazMunayGas is the largest local IPO with listing only on Kazakhstan stock exchanges. The key to the success of this IPO was the large-scale work carried out by the Fund and JSC NC HazMunayGas to prepare for it, the rapid development of digital technologies in the financial sector, which greatly facilitated the submission of applications by individuals, as well as the openness of the Fund and the company to the investment community

The financial indicators of the Fund have formed better than a year earlier. The Company generated positive free cash flow, reduced the total debt of the Fund² by 9%, from \$23.4 to 21.3 billion. The financial stability indicator Debt/EBITDA at the end of 2022 also shows a positive result at the level of 1.73.

The amount of dividends and payments to the budget of the Republic of Kazakhstan amounted to KZT2.0 trillion, including KZT1.7 trillion in taxes, which is 10% of annual revenues to the republican budget. The Fund fulfilled its obligations to shareholders to pay dividends, which became the largest in the history of the Fund – KZT170 billion.

The production indicators of the Fund Group have improved, such areas as the production and transmission of electricity, oil and gas transportation, container transit and telecommunications have shown steady growth.

A number of new facilities have been introduced. On July 29, as part of strengthening of the external power supply scheme in Turkestan, a new electric grid facility was introduced – a new substation “Ortalyk” with a voltage of 220 kV. This project of Kazakhstan Electric Grid Management Company JSC “KEGOC” worth KZT9.9 billion was carried out at the company’s own expense. During its implementation, equipment and materials of domestic manufacturers were used as a priority.

On September 12, a wind farm with a capacity of 60 MW was launched in the Shelek corridor of the Almaty region, a unique region for the development of renewable energy potential.

On November 8, 2022, the first-born for the economy of Kazakhstan was launched – the gas chemical complex of Kazakhstan Petrochemical Industries Inc LLP (KPI) on the territory of the special economic zone in Karabatan. The production capacity is 500 thousand tons per year, which puts it on a par with the largest players in the global polypropylene production market.

We are facing new large-scale tasks. The Government approved the second package of priority projects of the Fund, consisting of 20 projects for more than KZT 20.4 trillion in the oil and gas, energy, railway and telecommunications industries.

In our annual sustainability reports, we will provide our stakeholders with information about our progress.

In conclusion, I would like to express my gratitude to our employees, partners and stakeholders for their support and contribution to the success of the Fund.

Sincerely yours,

**NURLAN KARSHAGOVICH
ZHAKUPOV**

CEO, Samruk-Kazyna JSC

²Debt at par

VALUE CREATION

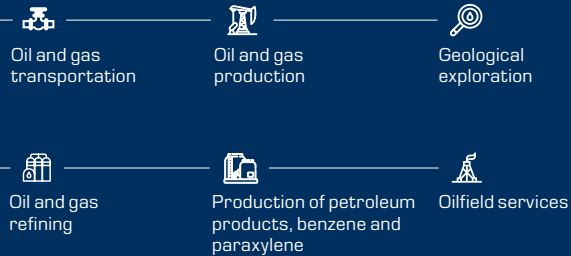
GRI 2-1, GRI 2-6

TRANSPORT AND LOGISTICS SECTOR



138 229 (+0,9%) **1,61** (-6,1%)
0,46 GJ/10 thous tons km gross (electric locomotives) (-0,2%)
51% in total railway freight turnover | **15%** in total railway passenger traffic

OIL & GAS SECTOR



58 422 (+2,7%) **4,34** (-36%) **83,7** (-0,8%)
2,78 GJ/t of extracted CHC (+14,5%)
26% in oil production | **53%** in oil transportation | **84%** in oil refining

TELECOMMUNICATIONS SECTOR

Providing all types of telecommunication services

24 147 (-7,2%) **0,05** (-8,0%) HZT **6 751** ARPU



CONSOLIDATED ASSETS

33,6 (+11%)
 HZT trillion

DIRECT ECONOMIC VALUE CREATED

16,7 (+26,6%)
 HZT trillion

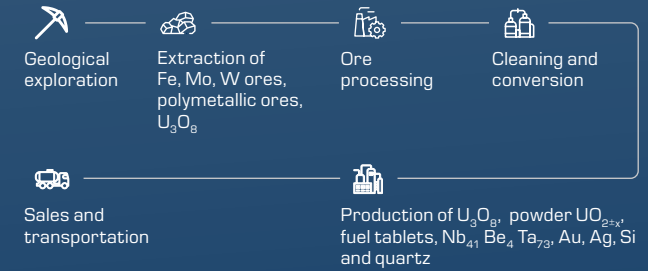
PAYMENTS TO THE STATE

2 (+51%)
 HZT trillion

Number, person | Water withdrawal, million m³ | Energy Intensity

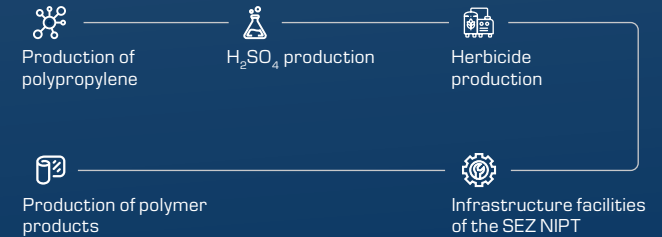
GHG Intensity, tons of CO₂-eq. per million HZT of sales.

MINING AND METALLURGICAL SECTOR



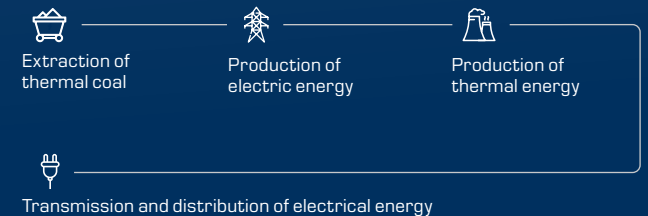
21 305 (+0,9%) **0,01** (-42%) **22%** of global natural uranium mining market
9,2 (-9,2%) **0,25 тыс.** thousand GJ/t U (+1,2%)

PETROCHEMICAL AND CHEMICAL SECTORS



565 (-2,2%) **0,32** (+39,9%)
14 GJ/t of chemical products (-37,7%)

ELECTRIC POWER SECTOR

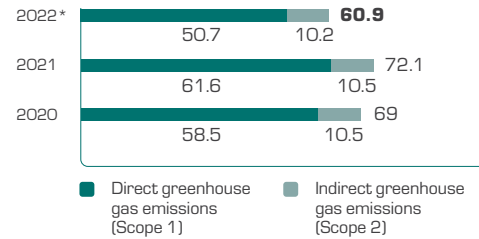


15 399 (-0,6%) **86,53** (-28,6%) **32%** of electricity generation in the country
211,2 (-0,06%) **9,5** GJ/thousand kWh (-2,5%)

KEY SUSTAINABILITY INDICATORS

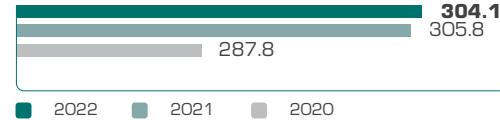
ENVIRONMENT

CARBON FOOTPRINT, MILLION TONS CO₂-EQ*

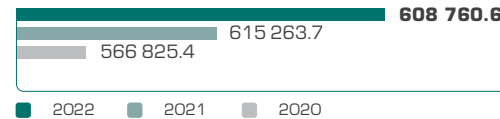


*Significant changes in greenhouse gas emissions are associated with the revision of the methodology and coverage of the calculation

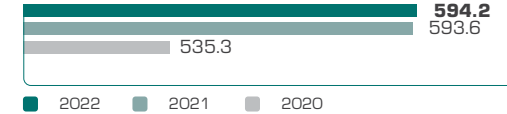
WATER FOOTPRINT, M³ MILLION



EMISSIONS OF POLLUTANTS, TONS

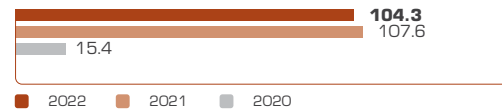


TOTAL ENERGY CONSUMPTION, GJ MILLION

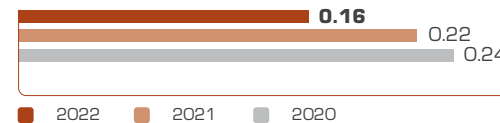


LABOR PRACTICES

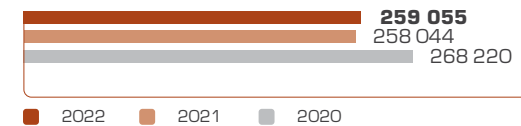
INVESTMENTS IN TRAINING AND DEVELOPMENT OF EMPLOYEES, KZT BILLION



LTIFR INDICATOR

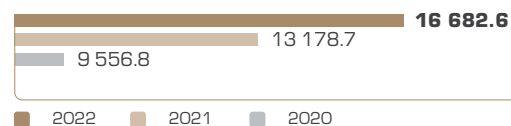


LIST NUMBER OF FULL-TIME EMPLOYEES AT THE END OF THE YEAR

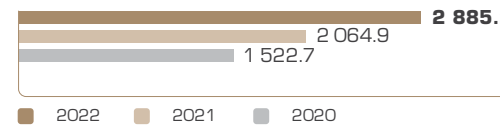


CONTRIBUTION TO THE DEVELOPMENT OF REGIONS AND LOCAL COMMUNITIES

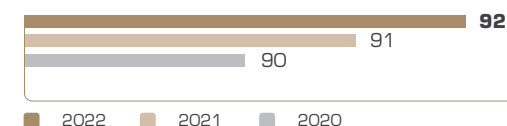
CREATED DIRECT ECONOMIC VALUE, KZT BILLION



PAYMENTS TO THE STATE KZT BILLION



THE SHARE OF GOODS, WORKS AND SERVICES PURCHASED FROM DOMESTIC PRODUCERS, %



KEY EVENTS IN THE FIELD OF SUSTAINABLE DEVELOPMENT IN 2022

APRIL

- Approval of the Low-Carbon Development Program of HEGOC until 2031 and vision to achieve carbon neutrality by 2060

JUNE

- Approval of the Low-Carbon Development Program of Air Astana JSC for 2023-2032
- Approval of the Low-Carbon Development Program of Hazpost JSC
- The first Annual Health&Safety Forum of Samruk-Kazyna JSC

SEPTEMBER

- Approval of the Low-Carbon Development Program of Samruk-Kazyna Ondeu LLP for 2022-2031
- NC HTZ JSC was assigned an ESG Assessment of 57 points (out of the theoretical 100), which translated into its "A2" Sustainability Rating, the second-highest score on Moody's ESG Solutions' Sustainability Rating scale
- HEGOC issued the first "green" bonds in the amount of KZT35 billion at a rate of 35 million unsecured coupon bonds, par value of KZT 1 000 per unit

NOVEMBER

- Qazaq Green Power PLC is registered in the jurisdiction of the AIFC to manage "green" assets (RES, HPP).

DECEMBER

- Approval of the Low-Carbon Development Program of Kazakhtelecom JSC for 2022-2032
- II-nd meeting of the Committee on Sustainable Development of Samruk-Kazyna JSC
- HEGOC's "green" bonds were successfully placed on the trade floor of the Kazakhstan Stock Exchange (KASE) for a total amount of KZT 16.1 billion with a margin of 3%
- Approval of the Low-Carbon Development Concept of JSC NC HTZh and its subsidiaries until 2060
- Approval by the Management Board of the Energy and Resource Saving Program of Samruk-Kazyna JSC until 2027.
- Assignment of the ESG Rating at the level of 51/100 by the rating agency S&P Global Ratings to JSC NAC Hazatomprom
- Approval of the strategic goal "Implementation of ESG principles" within the framework of the Development Plan of Samruk-Kazyna JSC for 2023-2032
- Update of the ESG risk rating of JSC NC HazMunayGas with the assessment "Medium risk" by the Sustainability rating agency"

MARCH

- JSC NC Hazatomprom has officially become a full member of the UN Global Compact

MAY

- Samruk-Kazyna JSC joined the concept of zero injuries "Vision Zero"

AUGUST

- Acquisition by JSC NC HazMunayGas of international renewable energy certificates I-REC (International Renewable Energy Certificate)
- Approval by the Board of Directors of the Transition to Low-Carbon Development Concept of Samruk-Kazyna JSC

OCTOBER

- Approval of the Concept of energy transfer of JSC NMC Tau-Ken Samruk until 2060
- Approval of the energy transition program of Samruk-Energy JSC for 2022-2060

ABOUT THE FUND

The Fund was founded in 2008 by the Decree of the President of the Republic of Kazakhstan. The Fund plays a key role in the sustainable development of the economy of Kazakhstan through the management of the most important state assets.

The sole shareholder of the Fund is the Government of the Republic of Kazakhstan. The relationship between the Government and the Fund Group is carried out through the Board of Directors in accordance with the principles of corporate governance.

The Fund's Group of Companies includes enterprises of the oil and gas and transport and logistics sectors, chemical and nuclear industries, mining and metallurgical complex, energy and real estate. The total assets under management of the Fund at the end of 2022 amounted to KZT33 574 billion. [GRI 2-6](#)

- TOP 20 leading funds in the world (United Nations)
- TOP 10 Most Effective Funds (SWFI), transparency rating 10 out of 10 (SWFI)
- TOP 30 among the leading SWFs by Assets (SWFI)
- Credit rating of Fitch BBB, S&P (BBB-/A-3), Moody's (Baa2)

The Fund is internationally recognized, and it is considered one of the most efficient and transparent funds in the world.

MISSION

Our mission is to ensure sustainable economic development and create long-term value through effective management of a diversified asset portfolio and supporting businesses in the interests of the people of the Republic of Kazakhstan.

VISION

Our vision – to be a leader in the national economy, making a breakthrough in innovative development based on the principles of human prosperity and environmental protection through responsible investments.

The Fund's role is to ensure synergy among portfolio companies, execute investments, especially in non-resource industries and new areas where the private sector is limited, to develop target industries by providing expertise, competencies and investments, to attract investments, including foreign ones, through strategic partnerships, to foster a progressive business culture based on property protection principles and shareholders' rights, and support of domestic companies, including small and medium-sized businesses, develop international partnerships with global strategic investors and industry leaders, as well as other sovereign wealth funds.

OUR STRATEGY

In 2023, the Fund approved the Development Plan for 2023–2032. In accordance with this Plan, three strategic directions of development were chosen:

- effective asset portfolio management;
- ecosystem for business;
- sustainable development.

The Fund has identified sustainable development as one of the foundations for qualitative growth and increasing shareholder value. The Development Plan for the strategic direction of Sustainable Development includes the following key initiatives: corporate governance, openness, transparency and compliance, social responsibility, H&S best practices, human capital development, environmental responsibility and resource conservation, decarbonization and green financing.

PRINCIPLES AND GOALS OF SUSTAINABLE DEVELOPMENT

Our approach to sustainable development is based on a solid Fund, these are the Funds and values on which our activities are based. They support us in achieving our goals.

Respect for human rights	Ethical conduct
Openness	Intolerance to corruption
Transparency	Inadmissibility of conflicts of interest
Accountability	Personal example

The Fund and our portfolio companies share a commitment to the Sustainable Development Goals adopted by the United Nations (hereinafter referred to as the UN SDGs), the principles of the UN Global Compact, the Principles of Responsible Investment of the UN, the Principles of the Equator.

At the strategic planning level, the Fund ensures consistency of the strategy, goals and objectives with the overall sustainable development Goals, including, but not limited to, the goals expressed in the UN SDGs, as well as the Paris Climate Agreement, and relevant national and regional goals. Sustainable development activities are included in the Action Plan for the implementation of the Development Strategy (Development Plan) of the Fund. For more information about the commitment to the UN SDGs, the Fund's strategic goals and activities in the field of achieving targets, – [see Annex 1. Commitment to the UN SDGs.](#)

The Fund has established qualitative and quantitative indicators of ESG goals for the Fund and portfolio companies.

PRINCIPLES AND GOALS OF SUSTAINABLE DEVELOPMENT

3 GOOD HEALTH AND WELL-BEING



HUMAN CAPITAL DEVELOPMENT

- Human capital development, strengthening competence in new areas

🔗 [Our people](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

3 GOOD HEALTH AND WELL-BEING



H&S BEST PRACTICES

- Striving for “zero injuries” and achieving LT IF of 0.14 (2023)
- Training of 100% of production personnel on safety culture (2023)

🔗 [Our people](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

5 GENDER EQUALITY



CORPORATE GOVERNANCE

- ESG-rating of the Fund group (70 percentile by 2032)
- Increasing the proportion of women in the management bodies of the Fund’s companies

30% by 2030

- The share of independent directors in the composition of the Fund’s BoD and PC

Maintaining at 50%

🔗 [Our Approach to Sustainable Development](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

SUSTAINABLE DEVELOPMENT GOALS



7 AFFORDABLE AND CLEAN ENERGY



RESOURCE SAVING

- Reducing the energy intensity of production activities (-10% by 2027)

🔗 [Our response to global challenges](#)

🔗 [Environment](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

13 CLIMATE ACTION



«GREEN» FINANCING

- Formation of a portfolio of offset projects (5.8 million tons of CO₂-equiv. by 2032)

- The share of renewable energy and hydroelectric power plants in electricity production

26% by 2032

🔗 [Strategy is translated into investments](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

13 CLIMATE ACTION



DECARBONIZATION

- Reduction of direct and indirect greenhouse gas emissions (Scope 1 and Scope 2) > (-10%) by 2032
- Increasing the share of low-carbon generation in the purchase of electricity 45% by 2032

🔗 [Our response to global challenges](#)

🔗 [Strategy is translated into investments](#)

🔗 [Our Approach to Sustainable Development](#)

🔗 [Environment](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



OPENNESS, TRANSPARENCY AND COMPLIANCE

- Certification of anti-corruption compliance systems for compliance with the requirements of international standards ISO 37001:2016 “Anti-bribery Management Systems” and ISO 37301:2021 “Compliance Management System”

- Increasing the share of women in the management bodies of the Fund’s companies

🔗 [About the Fund](#)

🔗 [Our approach to sustainable development](#)

🔗 [Annex 1. Commitment to the UN Sustainable Development Goals](#)

🔗 [Annex 4. Our approach to stakeholder engagement](#)

Why is this important to us?

Many aspects of our business involve human rights, including the working conditions of our employees, health and safety, digital data, technology and the practices of our suppliers. Therefore, our behavior in the context of doing business and building business relationships can have a significant impact on society, both positive and negative. In addition, the growing expectations of our stakeholders confirm that human rights are a significant topic for the Fund.



Our goals and objectives:

- Increasing wages for low-paid professions and positions in 2023-2027
- Gradual increase in the share of women in the Board and executive bodies of portfolio companies up to 30% by 2030
- Encouraging diversity of ages, gender and national balance in the Fund's group of companies

Material topics	Impact type	Direct impact
Human rights and anti-discrimination	+	●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

VALUE OF HUMAN RIGHTS AND ETHICAL CONDUCT



Indeed, the Code of Ethics of a civil servant does not apply to employees of the Fund Group. However, we are the largest representative of the quasi-state sector, the largest employer in the country, and we are under the close attention of the public, within the framework of the principles we ourselves have declared – openness and accountability.

The Chief Executive Office of the Fund

The Republic of Kazakhstan is a State governed by the rule of law, the highest values of which are a person, his life, rights and freedoms. According to item 2 of Article 14 of the Constitution of the Republic of Kazakhstan, no one may be subjected to any discrimination based on origin, social, official and property status, gender, race, nationality, language, attitude to religion, beliefs, place of residence or any other circumstances.

And we, as the Sovereign Wealth Fund, strictly honor fundamental human rights. We recognize the indisputable importance of granting equal rights to everyone. [GRI 2-23](#)

Our Code of Conduct, approved by the Board of Directors in 2017, prohibits discrimination and harassment on any grounds. [GRI 2-23](#) The Code establishes general standards of conduct for all employees, regardless of their position, and reflects the basic values and ethical principles of work in the Fund. The Code applies not only to employees of the Fund, officials and directors of the Fund, but also to the member

companies of the Fund Group. Business partners, suppliers and other third parties who work with the Fund or represent the Fund are recommended to adhere to the provisions of this Code.

From year to year, our position on basic human rights remains unshakable and unchanged: we do not use child labor, do not practice forced labor, and recognize the equal rights of all employees and contractors, regardless of their race, religion and gender. However, we are aware of their exceptional importance for society as a whole, and therefore we recognize the above aspects as material for the Fund.

[GRI 406-1](#), [GRI 408-1](#), [GRI 409-1](#), [GRI 2-23](#)

Familiarization with the Code is mandatory for all employees. The Code of Conduct is available to the stakeholders on our official website in three languages – Kazakh, Russian and English. [GRI 2-23](#)

INTOLERANCE TOWARDS CORRUPTION

We follow the principle of absolute intolerance to corruption in any form. The main internal documents regulating anti-corruption issues in the Company are:

- Code of Conduct;
- Anti-corruption policy;
- Whistleblowing policy.

The Anti-Corruption Policy approved by the Board of Directors in 2021 includes principles in relation to corruption, gift giving and acceptance, fraud and other illegal actions. [GRI 3-23](#)

One of the key principles of this Policy is “the commitment of senior management and the establishment of a “Tone at the Top”. The first head of the Fund Group company is personally responsible for corruption offenses of subordinates. These changes have already been approved for the entire Group of companies of the Fund. [GRI 3-3](#)

Why is this important to us?

Corruption is an illegal business practice and one of the major compliance risks. It undermines social and economic development and destabilizes the business environment. This is contrary to our values and affects the trust of our stakeholders. Corruption is unacceptable in the Fund in any manifestations, therefore we have developed a number of internal documents regulating the issues of combating corruption in the Company.



Our goals and objectives:

- Effective and close interaction with the anti-corruption service, financial monitoring bodies and the prosecutor's office
- Certification of anti-corruption compliance systems for compliance with the requirements of international standards ISO 37001:2016 «Anti-bribery management systems» and ISO 37301:2021 «Compliance management system»

Material topics	Impact type	Direct impact
Combating corruption	+	●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

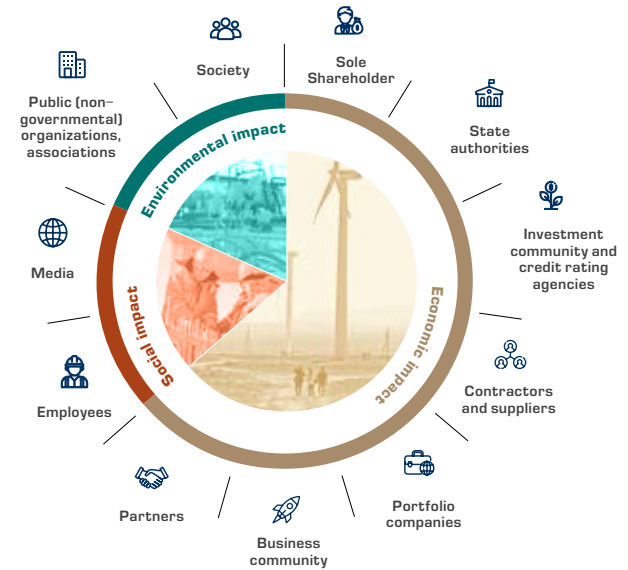
According to our Policy, the Fund, as well as officials and employees, do not finance political parties, public associations in order to obtain or maintain an advantage in their activities. The Fund also does not finance charitable and sponsorship projects in order to obtain or maintain an advantage in its activities. [GRI 415-1](#) The Policy is posted on the corporate website of the Fund in Kazakh, Russian and English to provide full access to all employees, as well as to all stakeholders. [GRI 205-2](#)

OPENNESS, TRANSPARENCY AND ACCOUNTABILITY

The successful development of the Fund, a key player in the national economy, largely depends on how the interaction with stakeholders is built. We believe that dialogue and direct participation of stakeholders are the key to ensuring sustainable economic development and creating long-term value. We build relationships based on mutual trust, transparency and honesty. The system of regular interaction with stakeholders implies the provision of meaningful and reliable information, ensuring the possibility of a bilateral dialogue, awareness of environmental hazards and risks associated with the activities of portfolio companies, the development of a flexible complaint mechanism.

To regulate the main aspects of the dialogue with stakeholders, a PR strategy and an Action Plan for 2022 were developed, and a Policy on interaction with portfolio companies is in effect. In the reporting year, the Policy was amended – unnecessary links were optimized and eliminated, additional mechanisms were created to increase the efficiency of interaction for the efficiency of implementation of the Fund's business processes. [GRI 2-29](#)

FIGURE № 1. STAKEHOLDER MAP [GRI 2-29, GRI 413-1](#)



A Public Council has been working to exercise public control over the activities of the Fund and its portfolio companies since December 2021. The Council was established through an open competitive selection of candidates. It consists of ten people: seven representatives of civil society and three representatives of the Fund. Its own information resources cover each meeting of the Fund's Public Council, as well as various media are invited, events are covered both in online publications and on television. A page of the Fund's Public Council has been created on the corporate website, where all recommendations issued by it are published.

In 2022, 13 meetings were held (involving 230 external experts) – these are decision-makers, public figures, industry experts, representatives of associations and non-governmental organizations for comprehensive and expert consideration of issues. 118 recommendations were given.

In addition, press briefings of the Fund's Group heads are regularly held, where they answer questions from the media and the public. The Fund actively talks about its work in social networks, including in the telegram channel @samrukazynaofficial. Another new form of interaction with society is open meetings with citizens as part of the IPO campaign. In September, representatives of the Fund and experts traveled all over Kazakhstan and held more than 130 seminars with residents of cities and villages about the placement of shares of JSC NC KazMunayGas. More than 150 thousands of people attended these meetings. We are ready to strengthen further the transparency of our activities in order to work and develop in harmony with society.

☺ [More detailed information about our interaction is provided in the Annex.](#)

CONFLICT OF INTEREST PREVENTION

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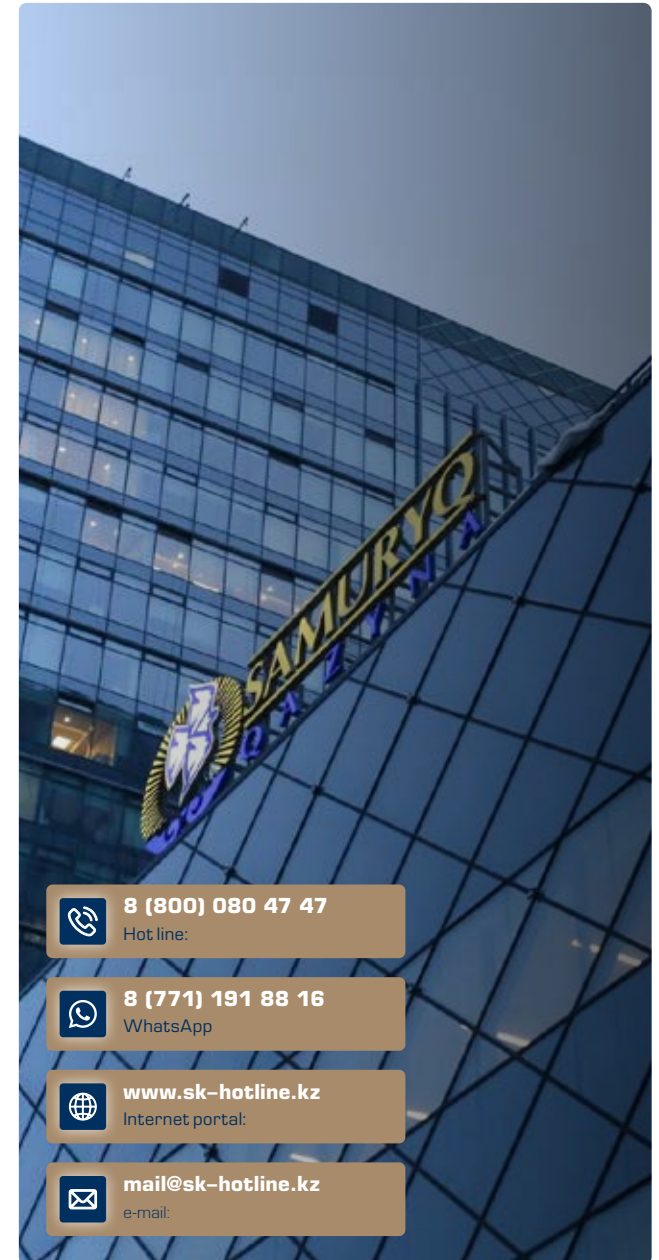
The Fund is an employer for a quarter of a million people. Each of them should have the opportunity to address their questions to the Manager of any level. And the most importantly to receive comprehensive, quality explanations. It is important for people to understand that they will be heard.

Chief Executive Officer of the Fund

Considering the different nature of our stakeholders, we have developed a Stakeholder Map (see Annex No. 4), which takes into account a number of mechanisms for continuous interaction with each of them, such as:

- official website (feedback window on the official website sk.kz);
- e-mail of the Public Relations Department;
- official accounts of Telegram Samruk-Kazyna official, Instagram samrukazyna_official and Facebook of the Fund with the ability to comment on the information posted;
- The Fund's press center, where emergency (on urgent issues of concern to stakeholders) and weekly briefings are regularly held, first heads report on the activities of the Fund, etc. All performances are broadcast online with the opportunity to ask questions via video link, thus providing an opportunity for everyone to participate without territorial restrictions (online);
- Feedback systems Hotline (for reporting corruption and other violations) and Nysana (for employee appeals);
- unified platform for receiving and processing all citizens' appeals E-Otinish.

Each employee of the Fund Group or any third party, including procurement suppliers, can report any violations of the Code of Conduct, including corruption, discrimination, unethical behavior and other violations, by contacting an independent centralized Hotline in case of any doubts about the legality of the actions of any of the employees, contractors or other persons whose activities are related to the Fund. Anonymity and protection from harassment of applicants is guaranteed by the Whistleblowing Policy. Information about the email address and Hotline numbers is available on our corporate website and on the websites of all our portfolio companies. [GRI 2-26](#)



PARTNERSHIPS AND MEMBERSHIPS IN ASSOCIATIONS

The Fund's Group of Companies strives to comply with and implement the best sustainability practices, including the key principles of the UN Global Compact, and consistently builds up its competencies in partnership with the world community:

- IFSWF member (International Forum of Sovereign Wealth Funds);

- Partnership with the Committee for the Promotion of International Trade of the People's Republic of China within the framework of the Hazakh-Chinese Business Council;
- Partnership with DIT, the Department of International Trade of the Ministry of Foreign Affairs of the United Kingdom within the framework of the Hazakh-British Business Council;
- Partnership with HITA, the Korean International Trade Association within the framework of the Hazakh-Korean Business Council;
- Member of the International Concept of Zero Injuries "Vision Zero". [GBI2-28](#)

PARTNERSHIP AND MEMBERSHIP OF THE FUND'S PORTFOLIO COMPANIES





OUR RESPONSE TO GLOBAL CHALLENGES

”

We are driving the transition to low-carbon development, setting the tone and strategic guidelines for our portfolio companies.

01

Why is this important to us?

The world is on the verge of critical global climate change. Temperature changes entail a number of adverse climatic phenomena (droughts, floods, abnormal heat, etc.), the scale of which is growing from year to year. We see it as our responsibility to use all the resources at our disposal to achieve carbon neutrality, help our portfolio companies and other stakeholders decarbonize their global supply chains, and minimize the negative impacts of global climate change.



Our goals and objectives:

- Reduce your carbon footprint by 10% by 2032 from a base year of 2021 and achieve carbon neutrality by 2060
- Increasing the share of low-carbon generation in electricity purchases to 45% by 2032 (from 2021 levels)

Material topics	Impact type	Direct impact
Energy	-	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

DECARBONIZATION

Kazakhstan, being the largest emitter of greenhouse gases in Central Asia³, expresses its commitment to the global goal of addressing climate change. The country has established a database of strategic documents related to climate change. We adhere to the goals of being one of the first in this aspect – the Concept of the transition of the Republic of Kazakhstan to a “green economy”. The Concept includes indicators for improving energy efficiency and reducing carbon dioxide emissions in the power sector. In 2016, Kazakhstan ratified the Paris Agreement. Furthermore, after the announcement by the President of Kazakhstan in December 2020 on the goal to achieve carbon neutrality, the country began developing a Strategy for Achieving Carbon Neutrality by 2060, in which we are actively participate.

As a socially responsible organization, we can play an significant role in promoting the climate agenda in Kazakhstan and worldwide. We are a driver for the transition to low-carbon development, setting the tone and strategic direction for our portfolio companies. The Fund shares the global concern about climate change and supports global efforts to reduce greenhouse gas emissions. To this end, the Fund has calculated the carbon footprint of the Fund Group for 2022. It amounted to 60.9 million tons of CO₂ equivalent. Of these, 50.7 million tons of CO₂ equivalent are direct CO₂ emissions, 10.2 million tons of CO₂ equivalent are indirect emissions. Among the Fund's enterprises, the highest direct greenhouse gas emissions are attributed to Samruk-Energy JSC (65%), which is primarily engaged in electricity generation from coal-fired power plants. The share of direct greenhouse gas emissions from the oil and gas industry (JSC NC KazMunayGas and JSC NC QazaqGaz) is 28%, as their activities are also focused on fossil fuels. All other companies of the Fund account for less than 7% of the total emissions.

³ According to redicap (The Regional Dialogue on Carbon Pricing)

Since 2013, the country has established an emissions trading system and we keep track and inventory of direct greenhouse gas emissions. Currently, the emissions trading system covers only a part of the sectors and accounts for nearly 50% of all greenhouse gas emissions in Kazakhstan. However, our major portfolio companies are participants in this system and receive emission allowances.

Within the framework of the modern climate agenda, we recognize the need to reduce the growing burden on the climate and the environment. We align ourselves with the climate targets set by our country and support the initiative to achieve carbon neutrality in the Republic of Kazakhstan by 2060. As a major holding representing the state's interests in sectors of the economy with significant climate impacts, the Fund plays a key role in the transitioning Kazakhstan's economy onto a sustainable path. We invest in various projects for the construction and modernization of production facilities that use more efficient and environmentally friendly production technologies. We support innovative projects aimed at using renewable energy sources, such as solar and wind power, attracting investments in projects that align to these trends and have the potential for profitability.

We have identified decarbonization as one of our priority strategic objectives, aimed at enhancing sustainability, ensuring energy security and strengthening competitiveness. In order to establish target indicators, we conducted modeling in 2022 based on three development scenarios for the Fund until 2032, with the prospective of achieving carbon neutrality by 2060: “Business as Usual”, “Decarbonization” and “Deep Decarbonization”.

The most optimistic scenario, Deep Decarbonization, aims to achieve a 10% reduction in carbon footprint by 2032 compared to the 2021 level. This scenario assumes a faster energy transition through accelerated commissioning of nuclear power plants, with the first unit starting operation in 2032. It also involves increasing the share of RES and HPPs to 30%, raising the level of electrification in the transportation sector to 19%, and increasing the share of electricity purchased from alternative sources to 45%.

Under a neutral scenario (Decarbonization), it is only possible to maintain emissions at the level of 2021. Whereas in the "Business as Usual" scenario, projects a 19% increase in

carbon footprint, as it assumes the continuation of current trends without a focus on decarbonization.

Our low-carbon development directions align completely with the national "Strategy for Achieving Carbon Neutrality by 2060". In all scenarios, we recognize the need for new capacity additions to avoid energy shortages in the country. However, achieving our carbon reduction goals is impossible without the deployment of nuclear power plants, with the first unit in 2032. The introduction of an environmentally friendly source of baseload power will help reduce the reliance on coal-fired power plants and enable the decommissioning of the aging units at the Ekibastuz GRES-1 power plant.

The results obtained served as the basis for the Low-Carbon Development Concept approved in the reporting year and the Action Plan for the Transition to a Low-carbon Business Model. The Concept outline the vision, goals and key directions of a fair and economically viable low-carbon development of the Fund with an estimated implementation cost of around \$20-25 billion USD. In the reporting year, all major holding companies developed their own transition plans aligned with the Low-Carbon Development Concept, including specific goals, activities, projects and associated costs.

© [Quantitative indicators are described in more detail in the Greenhouse gas emissions section.](#)

GROWTH CONSTRAINTS

The volatility of GDP has a negative impact on the state budget, increasing reliance on external debt and transfers from the National Fund. This, in turn, limits investments in infrastructure projects, despite the fact that more than 50% of budget expenditures are social. The lack of investment is not compensated by the private sector. One of the limiting factors is the current tariff policy aimed at reducing the impact on the end consumers. As a result, depreciation of fixed assets in the country increased from 36% in 2015 to 38.7% in 2019 (75.5% in electricity supply, 64.2% in mining industry and 58.9% in information and communications).

The lack of investment in technological progress is also manifested in the low level of economic productivity. The solution of this systemic problem is one of the key factors for sustainable GDP growth and increasing the incomes of citizens of the country.

The application of the established tariffs by the Fund implies the occurrence of the following risks of tariff formation: deterioration of the financial result for the Group of companies of the Fund, failure to fulfill the indicators of the Development Plan, the application of penalties.

The Fund's ongoing priority projects in the field of electric power and gasification of regions may require updating a number of regulatory documents. It is planned to conduct continuous work together with interested state bodies in order to modernize the regulatory framework.

CLIMATE RISKS AND OPPORTUNITIES

Kazakhstan faces challenges in following the global decarbonization trend. Our country has one of the highest energy and carbon intensities in the world due to the continued reliance on coal as a primary source of energy. A rapid transition to renewable energy could lead to systemic issues of

energy security. International organizations demand a shift away from hydrocarbon fuels as they contribute to greenhouse gas emissions and climate change. However, a sudden abandonment of coal and oil in Kazakhstan would result in the collapse of the entire economy.

We recognize the significance of climate risks and opportunities on the activities of the Fund Group as a whole. Therefore, we assess them at the Fund level and task portfolio companies with implementing climate risks and opportunity assessments in accordance with TCFD. The adoption of TCFD recommendations

strengthens and develops corporate risk management practices, preparing the Fund for anticipated regulatory tightening in financial markets.

On the one hand, the climate agenda is seen as challenges to the traditional energy system and carries significant transitional risks for the Fund. For instance, coal mining and coal-fired electricity generation, which are integral to the production processes of the Fund's portfolio companies, employ

40,000 workers across the country. Therefore, the Fund emphasizes a gradual and sensible transition to low-carbon technologies without completely abandoning traditional energy sources. Achieving carbon neutrality by 2060 should be based on a balance between energy and environmental security. Thus, alternative energy, particularly nuclear energy, plays a crucial role in the step-by-step reduction of Kazakhstan's coal dependency.

On the other hand, the transition to carbon neutrality presents new growth opportunities for us. Our key capabilities in a gradual and sensible energy transition:

- Acceleration of portfolio diversification;
- Development of new industries;
- Creation of new jobs and enhancing workforce skills;
- Accessing finance and investments;
- Technology transfer and knowledge sharing. [GRI201-2](#)

FIGURE 1. MANAGING CLIMATE RISKS AND OPPORTUNITIES OF THE FUND

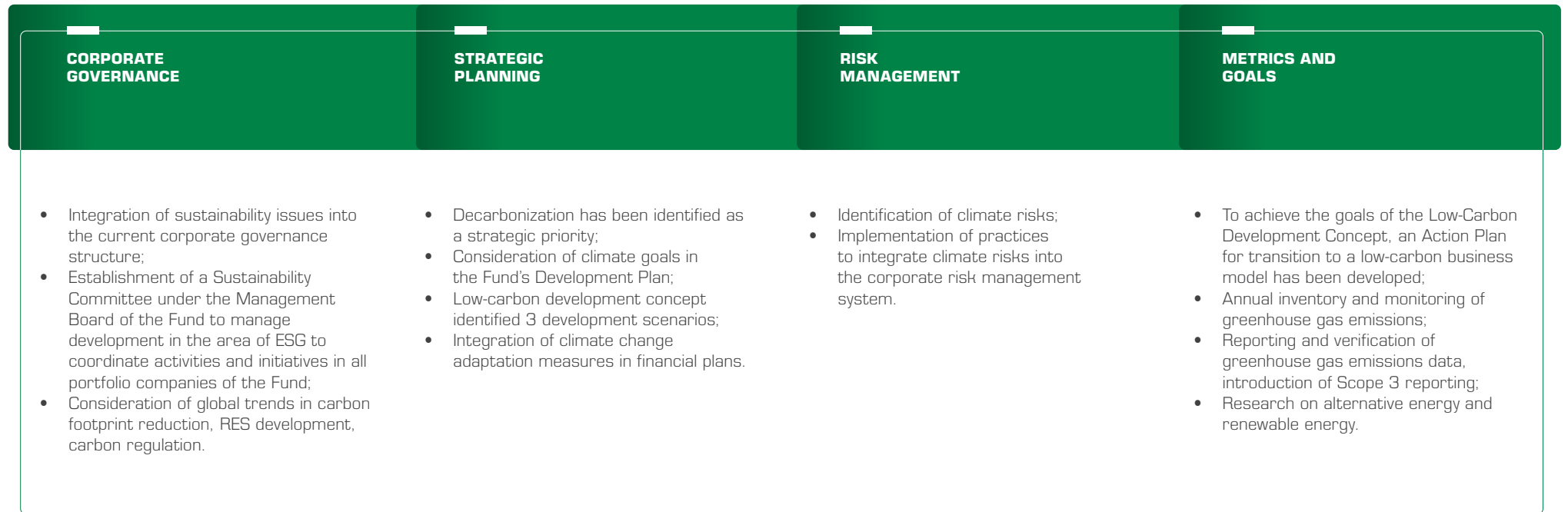


TABLE 2. RISKS ASSOCIATED WITH THE TRANSITION TO A LOW-CARBON ECONOMY GRI201-2

Transition Risks	
Policy and Legal risks	
<p>Risks:</p> <ul style="list-style-type: none"> Increased costs of compliance with the requirements of national environmental legislation Increased costs due to stricter national and international carbon regulations Restrictions on doing business as a result of the proliferation of new climate initiatives 	<p>Measures:</p> <ul style="list-style-type: none"> Monitoring compliance with legislation in the field of environmental protection and deadlines for submitting applications for emission permits and reporting to state regulatory authorities; compliance with technical regulations Monitoring the use of the quota limit for greenhouse gas emissions, conducting an inventory of greenhouse gas emissions Implementation of the practice of disclosure of climate-related information, risks and opportunities in accordance with the requirements of the CDP and TCFD. AFM implementation at 12 installations of the 1st category of the Fund Group Improving environmental and climate risk management practices by implementing programs to improve the efficiency of materials, energy and water use, and rational waste management Communication with stakeholders on improving legislation Ensuring the commercial attractiveness and payback of projects, which is limited currently by the tariff policy aimed at curbing growth. Using the offset mechanism
Технологические риски	
<p>Risks:</p> <ul style="list-style-type: none"> Increased costs for strengthening the national electric grid to ensure readiness to connect new large energy sources, integration of renewable energy sources and energy storage systems Increased costs for modernization and technical re-equipment of energy infrastructure, introduction of low-carbon technologies Rising prices for energy, raw materials and other resources 	<p>Measures:</p> <ul style="list-style-type: none"> Approval of the Low-Carbon Development Concept including a Plan for the transition to a low-carbon business model Approval of the Fund's Resource and Energy Conservation Program until 2027; The Fund has started implementing elements of Smart Grid technology, using the example of HEGOC JSC; Start of the construction of a maneuverable PSU in Turkestan (for more details, see page 42); Interaction with government agencies and organizations on the development of the electric energy and electric capacity market Increase of the gas resource base due to geological exploration and new projects Implementation of priority projects (table № 7) Financing and implementation of the R&D program Development and use of new technologies, such as RES, energy-efficient technologies, BAT, carbon capture and storage technologies, etc.
Market risks	
<p>Risks:</p> <ul style="list-style-type: none"> Refusal of financing due to the high level of greenhouse gas emissions Margin reduction due to rising prices for raw materials and energy Risk of changes in supply and demand for certain climate-related goods, products, and services Risk of lost profits due to the start of a new commodity supercycle 	<p>Measures:</p> <ul style="list-style-type: none"> Monitoring the implementation of the electricity sales plan, ongoing investment projects, and the development of the Fund's capital investments Attracting a significant amount of investments, which previously were mainly aimed at the development of the oil and gas sector Transparent and competitive conditions for the selection of investment projects and ensuring a high level of stability for investors Ensuring a planned and reasonable energy transfer based on a reasonable balance between the pace of development of human civilization and ensuring ecological balance
Reputation risks	
<p>Risks:</p> <ul style="list-style-type: none"> Imbalance between socio-economic development and environmental impact (energy security risks) Negative social impact as a result of abandoning the use of coal (5 single-industry towns and about 40,000 workers depend on the country's coal industry) 	<p>Measures:</p> <ul style="list-style-type: none"> Membership in international associations and initiatives Obtaining an ESG Ratings

Physical Risks

Short-term risks caused by extreme weather events, such as cyclones, hurricanes, floods

Risks:

- Prolonged period of abnormally high or low air temperatures
- Extreme weather events

Measures:

- Voluntary property insurance against damage (accidental death, loss or injury) resulting from the occurrence of accidental and unforeseen direct physical impacts.
- Protection of employees' property interests through a system of compulsory insurance of employees against accidents in the performance of their work (job) duties.
- Mandatory environmental insurance.

Systematic (chronic) risks caused by long-term changes in climate models

Risks:

- Water stress and climate change in the Caspian Sea catchment area
- Changes in the level of the Caspian Sea and rivers in the regions where the Fund Group operates

Measures:

- Reservoir water desalination plant at Karazhanbas field
- Reconstruction and expansion of the Astrakhan-Mangyshlak main water pipeline
- Elimination of historical waste
- Monitoring of inundated and flooded wells

With respect to the risks associated with climate change, we have assessed and recognised provisions for decommissioning and remediation of environmental damage by the Fund's portfolio companies that extract resources from the subsoil. Such provision as at 31 December 2022 amounted to KZT363 064 million. [GRI201-2](#)

In order to implement jointly initiatives and projects, attract investments, the Fund will expand the practice of interaction with major international organizations and sovereign wealth

funds. Moreover, in addition to attracting investments for the sustainable development of the country's economy, cooperation with international strategic partners will have a positive effect through the transfer of advanced knowledge, practices and technologies. Strengthening global partnership initiatives along with geographical diversification will allow the Fund to gain access to new markets and increase international investment experience, combining resources and competencies through investment mechanisms and enhancing the image of the Republic of Kazakhstan and the Fund.

We are convinced that achieving carbon neutrality by 2060 should be based on a rational balance between energy and environmental security. Therefore, alternative energy, in particular, nuclear generation, plays a key role in the gradual withdrawal of Kazakhstan's economy from coal dependence.



STRATEGY IS TRANSLATED INTO INVESTMENTS

”

We strive for the status of the Leader of the national economy, and we understand that the stability of our financial results has a direct impact on the country's economy.

02

Our Fund strives for the status of the Leader of the national economy, and we understand that the stability of our financial results has a direct impact on the country's economy. [GRI 3-3](#)

Our portfolio includes strategic and socially significant assets. About 30% of the Fund's revenue falls to regulated entities, 12% – to subjects of natural monopolies.

According to the results of the Fund's activities in 2022, there is an increase in financial indicators, including income from core activities (+26% compared to the fact of 2021) and net income (+24% for the period). In 2022, the state paid subsidies for KZT53.4 billion. [GRI 201-4](#)

By the end of 2022, there has been a significant improvement in the financial stability indicators of the Fund's Group. Consolidated assets of the Fund's group amounted to KZT33.6 trillion as of 31 December 2022, an increase of KZT3.3 trillion, or 11% as compared to the same indicator in 2021. Debt/EBITDA as of year-end 2022 declined to 1.73 as compared to 2021 due to growth of EBITDA and lower debt, mainly driven by early repayment of foreign currency denominated loans, refinancing of loans and appreciation of foreign currency. The decrease in this indicator is a reliable indicator of the financial stability of the Fund Group.

TABLE 4. DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED, KZT BILLION⁴

Indicator	2020	2021	2022
Direct economic value generated			
Total revenues⁵	9 556.8	13 178.7	16 682.6
Economic value distributed			
Total expenses⁶	-8 974.2	-11 270.3	-14 313.8
Economic value retained			
Profit	582.5	1 908.4	2 368.9
Payments to the State ⁷	-1 522.7	-2 064.9	-2 885.2
Payments to capital suppliers (dividends)	-251.9	-247.9	-486.3
Capital investments	1 434.4	1 572.4	1 880.3

In 2022, the direct economic value created by the Fund amounted to KZT16 682.6 billion, the distributed value — KZT14 313.8 billion, and the retained value — KZT2 368.9 billion. [GRI 201-1](#)

⁴ In accordance with the GRI recommendations on disclosure 201-1, the financial statements of the Fund prepared in accordance with IFRS were used to prepare the table.

⁵ Total revenue and other income in the statement of comprehensive income.

⁶ Total costs and expenses in the statement of comprehensive income.

⁷ Payments to the budget and CIT in all regions of the Fund Group's activities.



TABLE 4. PRODUCTION INDICATORS, UNITS.

Name of indicators for portfolio companies	UoM	2020	2021	2022
Oil and gas condensate production	million tons	21.8	21.7	22
Production of natural and associated gas by assets for the share of HMG	billion m ³	8.2	8.1	8.2
Oil transportation	million tons	73.2	74.6	74.7
Oil and gas refining	million tons	18.1	18.8	19.9
Wholesale sale of HMG petroleum products, domestic market	million tons	2.2	3.6	4.1
Coal mining	million tons	43.3	44.6	42.5
Uranium mining	thousand tons	19.6	21.8	21.3
Natural gas sales:	billion m ³	23.8	23.6	22.7
including the domestic market	billion m ³	15.9	17.6	18.4
Gas pipeline transportation	million m ³ /km	86 590	95 422	83 744
Electricity production	billion kWh	31.4	35.6	35.9
Electricity transmission volumes (KEGOC)	billion kWh	46.2	54.6	58.5
Cargo turnover (railway)	billion t-km	231.8	233.3	245.2
Passenger turnover (railway)	billion p-km	8.6	9.5	12.4
Passenger traffic (air)	million people	3.7	7.2	7.9
Postal and courier services	million units	137.8	131.7	114.7
Number of fixed lines	thousand lines	2 893.5	2 774.5	2 636.6
Number of BIA ⁸ customers	thousand ports	1 833.2	1 860.7	1 857.4
Number of pay TV subscribers	thousand points	863.9	918.7	917.5
Number of mobile phone customers	million customers	14.8	14.5	14.4

In order to optimize the management of the Fund, in 2022, a restructuring was carried out with a reduction in the number of administrative and management personnel of the corporate center by 2 times, from 248 to 124 people and the number of management positions from 10 to 5. The number of structural divisions has been optimized by 33%, the official positions of “advisers” as staff units have been eliminated. It was decided to

close the Fund’s foreign representative offices. The number of corporate centers has been halved – from 2 786 to 1 393 people, foreign specialists among the administrative and managerial staff have been halved — from 47 to 24, foreign members on the boards of directors from 23 to 14.

⁸ broadband internet access



DIVIDENDS AND OTHER PAYMENTS TO THE BUDGET

Being a state-owned enterprise, the Fund is subject to various taxes and fees established by the Government of Kazakhstan. By the end of 2022, more than KZT1 696 billion was paid to the state in the form of taxes and other payments.

In addition to paying taxes, the Fund contributes to the state's income through dividends, which it pays to the state as the sole shareholder. By the end of 2022, KZT170 billion of dividends were paid, which is twice as much as in 2021.

The Government authorizes the Fund with various obligations related to sponsorship and financing. Since the Government is the ultimate shareholder of the Group, expenses related

to the fulfillment of such obligations are recognized in the consolidated financial statements as "Other distributions to the Shareholder" in equity.

TABLE 5. PAYMENTS TO THE STATE, RK, KZT BILLION

Name	2021	2022
Dividends	88	170
Other distributions	68	132
Taxes paid to the budget of the Republic of Kazakhstan ⁹	1 167	1 696.4
Payments to the National Fund from the privatization of assets	0.6	0.1
TOTAL	1 324	1 998.5

We intend to increase further transparency and openness in the payment of taxes. For this purpose, in the period 2022–2023, we intend to introduce a system of horizontal monitoring in matters of tax payment within the framework of a pilot project of the State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan. This initiative will increase transparency, reduce tax risks, fines and penalties and, in the future, reduce the costs of tax administration. Horizontal monitoring is a global trend in tax administration, which is actively promoted in the members-countries of the Organization for Economic Cooperation and Development and has already been implemented in more than 53 countries around the world.

⁹ Excluding Individual Income Tax



Why is this important to us?

Given the formed production and raw material base, we are striving for the development of new redistributions. Entering new redistributions sets us the task of building up human resources, strengthening competencies in new areas and continuously improving the skills of employees, based on the best world practices.



Our goals and objectives:

- Commissioning of 14 projects worth 1.6 trillion tenge with the creation of 1.3 thousand permanent jobs in 2023
- Formation of a network of domestic and foreign scientific and technological partners
- Increased funding for applied research to 8 billion tenge until the end of 2026

Material topics	Impact type	Direct impact
Local communities	+-	●●
Economic Performance	+	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

NEW PRODUCT CONVERSIONS AND JOB CREATION [GRI 3-3, GRI 203-1](#)

INDUSTRY, INNOVATION AND INFRASTRUCTURE

Development of R&D and innovation, high-tech industries

Building up scientific and research potential will ensure competitiveness in the long term. We are working on the development of scientific research, building close relationships with the research community and increasing the practical effect of scientific research, including with the support of research work by domestic personnel. Important attention is paid to the issues of commercialization of research and development work in order to obtain a timely economic effect from scientific developments.

We have created a Center for Scientific and Technological Initiatives – a “single window” for scientific and innovative activities. This step coordinates more effectively the work on the development of scientific research, industrial innovations and innovation culture in portfolio companies, and will ensure the introduction of domestic and foreign research and development activities (hereinafter referred to as R&D) in production.

According to the results of 2022, the CSTI considered more than 120 applications for R&D (according to the procedures of the Corporate Standard on R&D and Innovation adopted on March 17, 2022), of which 70 projects totaling KZT8.5 billion were approved for implementation at meetings of the Scientific and Technical Council of the Fund, including 51 projects of JSC NAC Kazatomprom, 12 projects of JSC NC HazMunayGas, 4 projects of Samruk-Kazyna Ondeu LLP, 2 projects of Samruk-Energy JSC and 1 project of JSC NMC Tau-Ken Samruk.

At the moment, we are implementing a new information system to support scientific and innovative activities, which will provide for the internal needs and features of the business processes of the Fund Group, and will also include all the necessary functions to ensure the reception and consideration of applications for R&D. Additionally, it is expected to launch and ensure an effective and transparent mechanism for the selection, examination and monitoring of R&D projects, taking into account international experience. As part of the work plan, an innovative audit of the Fund Group will be conducted, an analysis of the state of development of the scientific, technical and innovative infrastructure of the Fund Group enterprises and the development of appropriate recommendations. [GRI 203-2](#)

Resource base development and infrastructure modernization

Currently, a shortage of the gas resource base in the country is expected due to ambitious plans for gasification and decarbonization of industry, development of gas chemical industries.

At the same time, resource development is limited by the following key constraints:

- the sale of gas for domestic consumption is unprofitable for market participants. The current gas purchase price from subsurface users is lower than the cost of its production, and the actual sales price (current wholesale and retail gas sales price) is lower than the cost of sales;
- due to the general unprofitability of the gas market, the interest of private investors is low.

In conditions of impending shortage, increasing the resource base is a strategically important priority for the Fund.

Increasing the extraction of raw materials using the full capacity of production enterprises will help to realize the export potential. It will also ensure the independence of raw materials to create a base for the production of products with high added value, where special attention will be paid to the goods in demand in accordance with the analysis of potential global needs.

The increase in the resource base is possible due to the implementation of new exploration projects, as well as the expansion of existing fields.

Thus, in 2022, according to the results of exploration and additional exploration at existing fields, the total increase in 2022 amounted to 19 million tons. Based on the results of basin modeling and analysis of historical data, 5 most promising sites have been identified that require additional research by staging advanced seismic surveys as part of the geological study of the oil subsurface.

The package of priority projects of the Fund also includes the construction of gas processing facilities projects. As part of the increase in commercial gas resources to 30 billion m³ per years, JSC NC QazaqGaz is implementing a project for the construction of the Kashagan Gas Processing Plant with a capacity of 1 billion m³ per year. In addition, it is planned to implement a project to increase the processing of Kashagan gas at stage 2A with a capacity of 2-4 billion m³ per year.

Commissioning of new generating capacities in 2024–2031 (the restoration of power unit No. 1 at Ekibastuz GRES-1 with the installation of new electric filters, the expansion of Ekibastuz GRES-2 with the installation of units No. 3 and No. 4, the construction of GRES-3, etc.) will increase the coal consumption of the stations by 233% and will amount to about 37.8 million tons per year, that requires an increase in coal production at the mines of Samruk-Energy JSC.

Modernization of existing and construction of new infrastructure

In 2022, 5 projects for KZT1 344 billion were introduced.

In 2022, the work was carried out on the first package of priority investment projects, including the reconstruction and expansion of the Astrakhan-Mangyshlak water pipeline, construction of a desalination plant in the village of Kenderli, gasification of the Sarsha area and the Warm Beach resort area, reconstruction of the Mangystau region gas transmission system, construction of the Kashagan gas processing plant with a capacity of 1 billion m³, construction of the main gas pipeline looping Makat-North Caucasus and gas infrastructure for gas supply of Almaty CHP plants 1, 2 and 3.

In 2022, the plant of Kazakhstan Petrochemical Industries Inc. LLP was commissioned, which should promote seriously the Kazakh gas chemical industry and will produce 500 thousand tons of various grades of polypropylene per year. The company has a large export potential: 10% of products are planned to be sold on the domestic market, based on needs, and 90% – for export to Europe, Turkey, China and the CIS.

JSC NC KazMunayGas has also implemented projects on modernization of crude gas injection compressors at the Kashagan field and install the 4th gas re-injection compressor at the Karachaganak field. An important strategic event for JSC NC KazMunayGas was the acquisition of an 8.4% stake in the Kashagan project from the Fund for \$3.8 billion.

A 60 MW wind farm with the prospect of expanding to 300 MW in the Shelek Corridor, a unique region for the development of renewable energy potential, was put into operation. The new plant includes 24 wind power plants, each with a

nominal capacity of 2.5 MW. The new wind farm will generate 225.7 million kWh of electricity per year.

HEGOC has implemented a project to build a substation “Ortalyk” with a capacity of 220 kWh in the Turkestan region. In 2022, the substation was put into operation. The aim of the project is to increase the energy security of the Republic of Kazakhstan and the reliability of the national energy system. The construction of a mixed cycle plant with a flexible generation regime will create favorable conditions for the integration of renewable energy sources into the energy system of the Republic of Kazakhstan.

In November 2022, binding documentation was signed on the entry of the strategic partner SIBUR Holding PJSC into projects for the production of polypropylene and polyethylene.

The Fund has identified a list of priority projects consisting of two packages. The first package includes 13 projects for KZT3.6 trillion. These are water supply projects in the western regions of Kazakhstan, projects in the field of gas supply, electricity and the development of railway transport. The second list consists of 20 projects for KZT20.4 billion. These are projects in the field of petrochemistry, gas supply, electricity, including renewable energy, telecommunications and the development of railway transport.

In 2023, it is planned to launch 14 projects for KZT 1.6 trillion with the creation of 1.3 thousand permanent jobs. 4 projects are included in the priority list.

DECENT WORK AND ECONOMIC GROWTH

Industrial development and job creation

Taking into account the current socio-economic situation of the country's development and the role of the Fund for the national economy (the Fund's share in the country's economy was 5.7% in 2022), we are focused primarily on investments in the economy of Kazakhstan, including for implementation of strategic projects. The management model of the Fund in the next 7 years is defined as a strategic holding with the tasks of maintaining the social and infrastructural development of the country.

The Fund continues to perform the function of supporting the country's economy through the implementation of infrastructure projects, as well as regional and industrial development projects.

In accordance with the Fund's investment policy, which includes the principle of responsible investments and takes into account the ESG criteria, the Fund implements two packages of priority investment projects of the Fund group totaling more than KZT24 trillion. These projects cover the areas of expansion of critical infrastructure of oil and gas chemistry, electric power, gas infrastructure, railway transport, telecommunications, construction of wind power plants with innovative energy storage systems for Kazakhstan. (Table 7).

The implementation of priority projects will have a long-term effect on the activities and value of the Fund's assets, will create new jobs, and will also be system-forming and will affect the development of industries and the strengthening of the national economy, will have an impact on improving the investment climate as a whole.

New product conversions and the creation of industries

The key role of the Fund in the economy of the Republic of Kazakhstan is diversification and development of the economy through investments in high-tech projects, especially in the field of processing raw materials and creating value chains. To do this, we are actively working to attract large foreign investors to implement innovative projects. This is done through a strategic Partnership with foreign investors, which allows creating conditions for implementation of projects with high growth and development potential (for example, construction of wind farms with innovative systems for Kazakhstan electricity storage).

Special attention is paid to high-tech industries that can increase added value in the industrial sector.

An example of such a project is the integrated gas chemical complex, opened in November 2022, the operator of which is a subsidiary of the Fund – Kazakhstan Petrochemical Industries Inc. (KPI) LLP. KPI is the first large-scale plant in the petrochemical industry of Kazakhstan, carrying out deep processing of raw materials. The project is aimed at diversifying the economy of Kazakhstan and moving away from the raw materials orientation of exports. The plant produces up to 500 thousand tons of polypropylene per year, which is about 1% of the world's polypropylene production, and allows Kazakhstan to become one of the world's leading producers of this product. Additionally, in the period from 2023 to 2027, the Fund plans to implement a project for the production of polyethylene and the necessary infrastructure, thereby continuing the creation of new product conversions and the development of industrial industries.

It is planned to implement projects for the development of new repartitions in various industries, such as chemical, food (creation of gelatin production, production of a full cycle of fruit growing, creation of an agricultural Fund), manufacturing (production of sandwich panels from mineral wool slabs, production of thermal insulation materials), construction.

A detailed list of projects is given in table No. 7. [GRI 203-1](#), [GRI 203-2](#)

Human resources development and job creation

Creation of new jobs has important aspects for the regions where we operate: social (reducing unemployment, improving living standards), economic (economic growth, small business development), human resource development (attracting and developing specialists) and economic diversification (reducing dependence on certain sectors).

The Fund is the largest employer in the country. The number of jobs created in the Fund's group in the reporting year exceeded 259 thousand people. Entering new product conversions sets new tasks for the Fund to build human resources, strengthen competence in new areas and continuously improve the skills of employees based on the best world practices.

In 2022, 5 projects were commissioned in the sectors of petrochemistry, energy in the amount with the creation of 5 682 temporary and 709 permanent jobs. [GRI 203-2](#)

The implementation of new investment projects of the Group of the Fund will create about 50 thousand jobs. [GRI 203-2](#)

Increasing labor productivity plays a key role in increasing incomes and well-being of the population. We strive for the rational use of resources and the well-coordinated functioning of all factors of production today, for the preservation and maintenance of future generations. This requires concentrating the Fund's current programs and plans on increasing labor productivity – creating productive jobs in high-value-added sectors and applying advanced technologies in production. According to the National Development Plan of the Republic of Kazakhstan, the goal is to increase labor productivity across the country by 45% by 2025. The Fund has reflected this goal in the Development Plan for 2023–2032 and plans to increase labor productivity by 1.5 times by 2032 compared to 2021.

Equal access to infrastructure and markets

As part of reforming the Fund's Group of Companies, efforts continue to stimulate the development of domestic business by ensuring equal access to infrastructure and markets.

Samruk-Energy JSC carries out centralized sale of electric energy from Ekibastuz GRES-1, GRES-2 and Moynak HPP as part of a single group of entities. The purpose of selling electric energy from a single group of entities is to provide

equal conditions to market entities, excluding discrimination due to differences in approved marginal tariffs. Centralized sale of electric energy determines the weighted average cost of electricity for all market entities.

According to the instruction of the President of the Republic of Kazakhstan, further gasification of the country, including the northern regions, will be continued in order to increase the coverage of the population with natural gas to 13.5 million people (65%) by 2030. As part of implementation of this instruction, various options are studied, including the construction of further stages of the Saryarka main gas pipeline project.

Also, according to the Action Plan for implementation of the pre-election program of the President of the Republic of Kazakhstan "Fair Kazakhstan – for all and for everyone. Now and forever", the Fund was entrusted with the task of providing the domestic market with the main types of petroleum products by increasing the volume of processing to 21 million tons per year. Within the framework of the draft roadmap developed by the Ministry of Energy of the Republic of Kazakhstan, the basic design of the expansion of the Shymkent Oil Refinery from 6 to 9 million tons per year has begun. The completion of the Shymkent Oil Refinery expansion project is scheduled

for 2029. The increase in the design processing capacity at the Shymkent Oil Refinery will increase the volume of processing to 21.3 million tons per year.

We will ensure the introduction of transparent mechanisms and the removal of barriers for participants in the gas markets, coal and electricity supplies, railcar supply and access to other infrastructure.

CLEAN WATER

We are implementing projects aimed at solving water supply issues in the regions of our presence.

In 2022, a reservoir water desalination plant was launched at the Karazhanbas field. The aim of the project is to solve the social problems of drinking water shortage in the region. [GRI 203-2](#) Now Karazhanbasmunai JSC uses in its activities the products of the plant (purified water extracted along the way) for production purposes instead of Volga water. As a result of a decrease in the consumption of fresh water by the deposit (by 1.2 million m³), an additional 1.2 million m³ of Volga water is redistributed to the population of the region.



The project on reconstruction and expansion of the Astrakhan-Mangyshlak main water pipeline is implemented in order to solve the water shortage in the western regions and provide water to the population, agricultural producers, industrial and oil and gas producing enterprises. The water pipeline is the only centralized source of water supply for consumers of Kurmangazinsky, Isataisky and Zhylyoisky districts of Atyrau region with an actual annual water supply volume of 4.8 million m³, as well as for the city of Zhanaozen, Beineu, Mangistau, Karakiyansky and Tupkaragansky districts of Mangistau region with an annual water supply volume of 10.5 million m³. The population consuming water is more than 35% of the population of Mangystau region and more than 28% of the population of Atyrau region. Water consumption by the population is growing by 4-5% annually. The reconstruction project provides for an increase in the capacity of the main water pipeline and the renewal of worn-out equipment. Construction and installation work began in 2022, the project is scheduled to be completed in 2023.

The Fund plans to implement another project "Construction of a seawater desalination plant in Henderli with a capacity of 50 000 m³/day". The project is scheduled to be completed by the end of 2024. [GRI 203-2](#) The aim of the project is to provide drinking water to the population and enterprises of Zhanaozen and nearby settlements. The project is low – profit and is implemented at the expense of the Fund Group's own funds. The implementation of the project will reduce the technological load on the Astrakhan-Mangyshlak main water pipeline in proportion to the design capacity of the desalination plant.

AFFORDABLE AND CLEAN ENERGY

Reliable energy

To support the population and improve living conditions in Kazakhstan, JSC NC QazaqGaz, whose gas distribution network is represented in 16 regions of the country, including newly formed ones, implements socially significant projects in the regions of its presence. The implementation of the activities of JSC NC QazaqGaz has a high social and strategic importance for the regions of its presence:

- ensuring energy security, reliable and uninterrupted gas supply;
- transfer of industrial facilities and business entities to natural gas.

By the end of 2022, 57.7% of citizens (11 million people) have access to gas. In 2022 143 000 new consumers in 160 settlements have obtained access to gas. According to the instruction of the Head of State, further gasification of the country, including the northern regions, will be continued in order to increase the coverage of the population with natural gas to 13.5 million people (65%) by 2030. In 2022, the lost profit of JSC NC HazMunayGas amounted to KZT453.9 billion.

Currently, the Fund adheres to the policy of further restraining the growth of gas prices for domestic consumers. Gas prices for socially unprotected segments of the population will be restrained as a priority. JSC NC QazaqGaz carries out wholesale sales of commercial gas at marginal wholesale prices approved annually by the Ministry of Energy. [GRI 203-2](#)

Resource saving

A comprehensive strategy is needed to minimize the negative impact on the environment, in particular on the climate. This means developing environmentally conscious thinking, obtaining global ESG assessments, and using digital innovations to track environmental impacts.

The Fund's assets are focused in such important sectors of Kazakhstan's economy as electric power, mining and processing of minerals, transport and telecommunications, which have significant energy saving potential, as the results of energy audits show.

The Fund is constantly working to improve energy efficiency and reduce the energy intensity of its productions. Thus, from 2014 to 2020, a comprehensive Energy efficiency Improvement Program was implemented, the implementation of which has already allowed reducing the energy intensity index of the gross volume of marketable products by 27% compared to 2014 (up to 3.6 toe /KZT million). As part of the modernization and energy saving, the old (less efficient) equipment is replaced with a new one, the transition from fuel oil to natural gas (as fuel at mining facilities) and the use of new generation additives to increase the flow rate.

CLEAN AIR

The high share of the use of coal for electricity and heat generation, as well as the presence in our portfolio of companies using hydrocarbon fuels to support their production and operational activities, make a key contribution to air pollution and the impact on climate change (the Fund's enterprises account for 26.5% of the emissions of pollutants in the country¹⁰).

One of our main environmental objectives is to reduce emissions of pollutants as a result of production activities and achieve a zero level of regular flaring at oil and gas producing assets.

We plan to continue implementing measures aimed at reducing emissions of pollutants: conversion of coal-fired power to natural gas, expansion of low-carbon power generation (NPP and RES) modernization of technological equipment, introduction of energy-saving technologies, optimization of thermal energy generation and consumption, as well as the development of our own low-carbon generation sources, as well as the use of the best available techniques (clean coal technologies and emission capture technologies). [GRI 203-2](#)

The Fund's power plants completed the replacement of electric filters with new generation filters from the world's leading manufacturers-leaders in the field of ash collection. The capture KPI of 99.6% was achieved. Measures on modernization of the electric filters reduced ash emissions into the atmosphere by 17 thousand tons per unit. Low-emission burner devices were introduced, providing a concentration of nitrogen oxides of no more than 650 mg/m³.

We continue the program on equipping 12 objects of the first hazard category with automated systems for monitoring emissions of pollutants (in the sectors of oil and gas production, oil and gas refining, gas chemistry, electricity production), which allow monitoring emissions into the environment in

real time. The installation has been completed at two sites. At the remaining facilities, the installation is expected to be completed during 2023.

The portfolio of projects planned for implementation in the near future includes projects to reduce the negative impact on the environment of Almaty by switching stations to natural gas combustion, as well as providing consumers of Almaty and the Almaty region with reliable and uninterrupted supply of heat and electricity:

- modernization of Almaty CHP-2 with minimization of environmental impact, involving the construction of a new plant using gas turbine technologies with a capacity of up to 600 MW at the site of Almaty CHP-2;
- reconstruction of Almaty CHP-3 on the basis of CCGT with an increase in the station's capacity to 450 MW;
- construction of a 200-250 MW CCGT at the site of Almaty CHP-1.

According to experts, the gasification project of the plant meets the most stringent requirements of the Republic of Kazakhstan and the European Union. The expected reduction in emissions of pollutants after the gasification of the Almaty energy complex is by 88% (or 8 times) from 49.6 thousand tons to 6 thousand tons. The expected reduction in specific emissions of pollutants for the Samruk-Energy Group of Companies is by 14% from 10.1 g/kWh to 8.6 g/kWh.

The work is also underway in the oil and gas production and refining sector to reduce emissions of pollutants. The oil refineries of JSC NC KazMunayGas Group of Companies are included in the National Project "Green Kazakhstan", the purpose of which is to improve air quality in Kazakhstan. As part of this project, it is planned to reduce the emission limit at these plants from 30.7 to 20 thousand tons per year (reduction of up to 35%). Within the framework of the project, measures aimed at reducing air pollution will be implemented by 2025. Oil refineries have approved Action Plans with

¹⁰ Data on emissions of pollutants in Kazakhstan for 2022 are preliminary and amount to 2.3 million tons



targets for energy and resource conservation and reduction of emissions into the atmosphere by 2031, including such measures as replacement of technically obsolete burners on process furnaces, return of flare gases to the fuel network of the plant, modernization of the vapor capture system when steaming reactors of the delayed coking plant, transfer of bulk operations for light oil products on the overpass of hermetic filling, installation of pontoons on tanks, etc.

One of our most important tasks to reduce emissions into the atmosphere is to increase the useful use and utilization of crude gas, to minimize flaring of gas in the sector of oil and gas production and processing, as in one of the largest emitters of pollutants in the Fund. In an effort to minimize the volume of regular burning of crude gas, JSC NC HazMunayGas in 2015 supported the initiative of the World Bank “Full utilization of associated petroleum gas by 2030”.

In recent years, a number of measures have been implemented to increase the useful use of crude gas, as a result, this indicator has been improved and amounted to 98.8% by the end of 2022. The volume of flaring of crude gas in comparison with 2017 decreased by 89%. The gas combustion rate is at the level of 1.5 tons per 1 thousand tons of produced UVS (in 2021 – 2.1, in 2020 – 2.2), which is 29% lower than in 2021 and 84% lower than the industry average IOGP.

TABLE 6. THE FUND GROUP'S INVESTMENT PROJECTS (BY DIRECTION) [GRI203-1](#), [GRI203-2](#)

Industry, innovation and infrastructure		
Name of the project	Project goal	Terms of implementation
Construction of gas infrastructure for CHP-1, CHP-2, CHP-3, Almaty	Providing consumers of Almaty and Almaty region with gas	November 2021 – December 2023
Reconstruction of Almaty CHP-3 on the basis of CCGT with an increase in the station's capacity to 450 MW	Providing consumers of Almaty and Almaty region with reliable and uninterrupted supply of electric and thermal energy in accordance with load schedules and temperature conditions	2021–2025
Expansion of CHP-1 with the construction of a 200-250 MW CCGT	Expansion of Almaty CHP-1 with the construction of a 200-250 MW CCGT to ensure the reliability of heating and electrification of the city of Almaty	2021–2026
Reconstruction of cable networks in Almaty	Reduction of losses in cable lines and reduction of emergency shutdowns	2022–2030
Construction of a second line on the Dostyk – Moyinty railway section	Increasing the speed of trains, increasing the capacity and carrying capacity of the main transit corridor of Kazakhstan on the China-Europe route.	2022–2025
5G network construction in the Republic of Kazakhstan	Providing broadband access to the mobile Internet and a corresponding increase in data transfer speed	December 2027
Laying of a fiber-optic highway along the bottom of the Caspian Sea	Creation of a digital corridor from Europe to China along the Azerbaijan-Kazakhstan route, passing along the bottom of the Caspian Sea from Azerbaijan to Kazakhstan, and, thereby, the transit of Internet traffic to Central Asia and China. One of the important and large-scale projects to improve the status of our country as a regional digital hub. The implementation of this project will diversify data transit flows	2023–2024
Construction of the Darbaza–Maktaaral railway line	Unloading of the Saryagash checkpoint and attracting additional cargo traffic of up to 10 million tons per year, as well as connecting Maktaralsky district of Turkestan region with the main railway line	2024–2025
Reconstruction of the gas transmission system of the Mangystau region	The project involves the construction of the 2 nd line and the overhaul of the first line of the Beineu Zhanaozen gas pipeline, the overhaul of three lines of the Zhanaozen-Aktau gas pipeline, as well as the reconstruction of the Zhanaozen and Beineu compressor stations	August 2021 – December 2024

Construction of the third rail border crossing «Bakhty» on the Kazakhstan-China border with access to the existing Semey – Aktogay railway section	Increasing the capacity in the Chinese direction to 20 million tons	2024–2025
Construction of a power plant based on a CCGT with a capacity of up to 1,000 MW in the Turkestan region	The construction will increase the energy security of the country, in particular, it will make it possible to compensate for the missing energy capacities, to level the emergency voltage drops that are created by the power system of Central Asia (Uzbekistan, Hyrgyzstan) and independently continuously supply energy to socially-oriented life-supporting facilities. Moreover, this plant will create favorable conditions for the integration of renewable energy sources into the national energy system. 2 thousand new jobs will be created for the construction of the station	2022–2025
Construction of the second line of Beineu-Bozoi-Shymkent MG (1 st stage)	Increasing the capacity of the gas transmission system to increase the gas coverage of the country's population and to provide gas to industrial consumers	2023–2029
Construction of a bypass railway line bypassing the railway junction of Almaty station	It will allow to reduce the delivery of goods through the city by an average 24 hours and unload the Almaty station	2023–2024
Expansion and reconstruction of Ekibastuz GRES-2 with the installation of power unit No. 3	To overcome future energy deficits, the Fund is implementing a project to create new electricity generation capacity	2006–2025
Expansion of Ekibastuz GRES-2 with the installation of power unit No. 4		2022–2028
Decent work and economic growth		
Polyethylene production project	The plant will contribute to maintaining social stability in the region and creating new jobs. In particular, about 8,000 jobs will be created during the construction phase, and 875 permanent jobs will be created during operation. The contribution to the country's GDP is estimated at 1.2%. If a positive decision is made, the implementation of the Polyethylene Production Project will increase the efficiency and improve the diversification of the Fund's business, as well as the competitiveness of the country's economy as a whole through the production of technological and high-margin products (increasing the efficiency of the value chain, business diversification and expanding the portfolio of products made from hydrocarbon raw materials)	2022–2028
Production of butadiene and its derivatives in Kazakhstan	The implementation of the project will create more than 2,000 jobs during construction and 700 jobs (highly qualified specialists) during operation	2022–2025
Construction of a sulfuric acid plant with a capacity of 800 thousand tons per year	It will create new jobs (800 people during construction, 500 people during operation). It will increase the socio-economic development of the region, annual tax deductions will amount to ≈ KZT4 billion. Will reduce dependence on imports of sulfuric acid (imports amounted to: 2021 ≈ 10%, 2022 ≈ 38%). Eliminate the risk of sulfuric acid deficiency: the expected shortage of sulfuric acid in the Republic of Kazakhstan by 2025 will amount to 1516 thousand tons. The associated electricity generation will be 30 MW	2022–2026
Clean water		
Reconstruction and expansion of the Astrakhan-Mangyshlak main water pipeline	Increasing the capacity of the Astrakhan-Mangyshlak main water pipeline and updating worn-out equipment to provide water to the population, agricultural producers, industrial and oil and gas producing enterprises. The water pipeline is the only centralized source of water supply for consumers of Kurmangazinsky, Isataysky and Zhylyoysky districts of Atyrau region with an actual annual water supply volume of 4.8 million m ³ , as well as for Zhanaozen, Beineu, Mangystau, Karakiyansky and Tupkaragansky districts of Mangystau region with an annual water supply volume of 10.5 million m ³ . The population consuming water is more than 35% of the population of Mangystau region and more than 28% of the population of Atyrau region. Water consumption by the population is growing by 4-5% annually	2022–2023
Construction of the sea water desalination plant "Kenderli"	Providing water to the population and enterprises of Zhanaozen and reducing the load on the Astrakhan-Mangyshlak water pipeline	2023–2024

Affordable and clean energy

Unification of the energy system of Western Kazakhstan with the UES	Increasing the capacity and reliability of power supply to consumers of the Western zone of the UES of Kazakhstan with the strengthening of 220 kV electric networks between the western regions of the country, as well as ensuring the output of power planned for the construction of large wind and gas generation facilities	2022–2028
Strengthening of the electric network of the Southern zone of the UES	Strengthening of the electric power system of the Southern zone of the UES of Kazakhstan on the territory of the country to ensure the reliability of power supply to consumers and strengthen the electrical connection between the regions of the Southern zone	2021–2027
Construction of a 1 GW wind farm with an energy storage system in the south-east of Kazakhstan jointly with Total Eren	Carbon dioxide (CO ₂) emissions is expected to reduce by at least 2 million tons annually under the project	2021–2027
Construction of a 1 GW wind farm jointly with ACWA Power	The realization of the project will increase the country's green electricity generation and prevent carbon dioxide emissions (an estimated 3 million tonnes of CO ₂ eq.)	To be determined
Construction of the Hashagan Gas Processing Plant (Stage 1)	Expanding the resource base for further gasification of the country, the development of Kazakhstan's gas processing industry and environmental protection	February 2021 – April 2025
Construction of a Looping of Makat-North Caucasus MG	Ensuring the reliability of gas supply to the population and large industrial enterprises of Atyrau and Atyrau region and to prevent emergencies related to the shutdown of a single-line gas pipeline	November 2021 – June 2023
Gasification of the area «Sarsha» and the resort area «Warm beach»	Providing of natural gas to consumers of the Sarsha locality and the Warm Beach resort area in the Mangystau region	July 2021 – June 2023
Construction of a nuclear power plant with a capacity of up to 2,800 MW	Increasing the capacity and reliability of power supply to consumers of the Western zone of the UES of Kazakhstan with the strengthening of 220 kV electric networks between the western regions of the country, as well as ensuring the output of power planned for the construction of large wind and gas generation facilities	2022–2035
Clean air		
Development of Hashagan Crude Gas Utilization Project (Stage 2)	Production of marketable gas – a «transition» fuel for the energy transition	2023–2028
Construction of Ekibastuz GRES-3 with the installation of power units of stations No. 1 and No. 2 based on clean coal technology	To overcome future energy deficits, the Fund is implementing a project to create new power generation capacity based on clean coal technology	2023–2030
Construction at the Almaty CHP-2 CCGT with a capacity of up to 600 MW	Reducing the negative environmental impact of the plant on the environmental situation of Almaty by switching the plant to natural gas combustion, as well as providing consumers of Almaty and the Almaty region with reliable and uninterrupted supply of heat and electricity in accordance with load schedules	2020–2026

Information on infrastructure projects, best practices, technological solutions of the Fund aimed to achieve decarbonization goals can be found in Samruk-Kazyna's Transition Plan to a Low-Carbon Business Model (Annex 1 to the Low-Carbon Development Concept of the Fund https://sk.kz/investors/financial-performance/reports/low-carbon_development_concept_ru.pdf).

Why is this important to us?

25% of the activities of the Group of Companies of the Fund are socially significant. Therefore, the well-being of the country and our citizens is our priority, and the Fund is interested in making investment decisions, where the positive effect for the population significantly exceeds the material benefit.



Our goals and objectives:

- Implementation of socially significant projects in the regions of its presence
- Carrying out charitable activities and corporate sponsorship, as well as promoting corporate volunteering

Material topics	Impact type	Direct impact	Indirect Impact
Local communities	+/-	●●	
Indirect economic impacts	+	●●●	●●●
Procurement practices	+	●●●	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

ENSURING THE SUSTAINABLE DEVELOPMENT OF THE REGIONS GRI 3-3

The Fund's activities are focused not only on making a profit, we perform the function of redistributing funds between different sectors of the economy for the benefit of the country and our citizens. Rather, on the contrary, the Fund's activities for modernization and support of social infrastructure require investment decisions, where the indirect social effect significantly exceeds material costs. In 2022, the amount of cross-subsidization of the Fund amounted to KZT918 billion. At the same time, KZT256 billion was the amount of capital investments for maintenance not covered by the tariff.

In general, 36 of the 143 activities of the Fund's Group of Companies, or 25%, are socially significant: gas sales to the domestic market, domestic passenger transportation and others.

The socially significant activities of the Fund are represented in all major sectors of the country's economy, such as:

- providing citizens with gas and water;
- forwarding of parcels in the Republic of Kazakhstan, distribution of periodicals, payment of pensions and allowances;
- passenger transportation, cargo transportation in domestic traffic;
- domestic passenger air transportation;
- provision of telecommunication services;
- construction to strengthen the economy and the well-being of the people;
- support of domestic entrepreneurship and development of import substitution;
- charity.

TAKING CARE OF REMOTE REGIONS

The national company Kazpost JSC plays an important role in the economy of Kazakhstan and is a key player in the postal services market. The Fund is the guarantor of reliability and high quality of postal services provided. Kazpost JSC, which is part of the Fund's Group of Companies, provides a wide range of services: postal, financial, agency and digital services, and also has a large number of branches throughout the country (more than 2 700 branches in all significant localities), which allows the population to easily access services anywhere in the country at the most low prices.

Kazpost JSC provides the population with demanded postal services at the lowest prices in the country. Thus, when providing services for the distribution of periodicals by subscription, the company incurs losses on their delivery in the village and city.

In addition to traditional postal services with the constant and irreplaceable work of postmen, Kazpost JSC provides financial services, which include the payment of pensions. The special service "Delivery 80 plus" allows pensioners over 80 years of age to use the service of free pension delivery. Postal operators at their sites deliver the money directly to the addressee [GRI 203-2](#)

Kazakhtelecom JSC continues to develop communications in rural areas. In two years, the Company has provided more than one and a half million rural residents with modern communication technologies. In 2023, it is planned to provide Internet to 142 more rural settlements through the deployment of an LTE network. Also for 2023–2024, the Company plans to develop a broadband network in rural areas. [GRI 203-2](#)

OPEN TRANSPORT CORRIDORS AND LOGISTICS

Railway transport is an important element of the country's infrastructure, providing communication between cities and regions, as well as contributing to the development of the economy. Therefore, the government is trying to reduce the cost of train tickets in order to make travel more affordable for all segments of the population. One of the ways to curb the growth of tariffs is subsidizing the cost of tickets. At the same time, the cost of passenger transportation does not increase due to state subsidies (HZT38 billion) [GRI 203-2](#)

During the reporting year, passenger turnover was more than 12.4 million pkm (30% more than in 2021).

JSC NC Kazakhstan Temir Zholy is actively working to improve the conditions of passenger transportation. The company invests in the modernization of the passenger car fleet, including the purchase of new cars with more modern comfort and safety conditions. Thus, in 2022, 62 Talgo cars were added to the passenger railway fleet of Kazakhstan, and in the coming years, it is planned to purchase about 500 more new cars, which will allow updating a total of two-thirds of the cars. The production of new wagons will be organized in Kazakhstan on the past basis of the Tulpar plant (operating Stadler Kazakhstan LLP). An important aspect is the training of local personnel. Kazakh personnel of the Stadler Kazakhstan LLP plant will be trained at Stadler plants.

JSC NC Kazakhstan Temir Zholy also plays an important role in ensuring the socio-economic development of Kazakhstan by providing affordable transportation rates. At the same time, the level of tariffs in Kazakhstan for the main range of goods is several times lower than tariffs in Russia, Uzbekistan and other CIS countries. This allows Kazakhstani companies to save on transportation costs, which contributes to the development of business and the economy of the country as a whole. At the same time, JSC NC Kazakhstan Temir Zholy, as a national cargo carrier, retains the obligation to transport all cargo without the right to choose (both profitable and unprofitable).

JSC NC Kazakhstan Temir Zholy provides the supply of basic materials extracted and produced in the country at a discount for the needs of the domestic market in order to produce products of medium and high processing. In addition, JSC NC Kazakhstan Temir Zholy transports not only commercial goods, but also socially significant goods under special control, such as coal and grain, and also takes measures to strengthen ties with railways of other countries.

Within the national project "Strong Regions – the driver of the country's development" and the Concept for the Development of Transport and Logistics Capacities by 2030, a project is implemented to Construction of a second track on the Dostyk-Moynty railway section, which will increase cargo traffic and the development of container transportation.

Work is also carried out to increase the transit potential of Kazakhstan, which made it possible to reach a historical maximum in transit in 2022. [GRI 203-2](#)

AFFORDABLE AIR SERVICE FOR ALL CATEGORIES OF CITIZENS

The national air carrier Air Astana JSC strives to contribute to the development of civil aviation in Kazakhstan and change the life of society for the better, adhering to the traditions of social responsibility and implementing charitable and sponsorship projects.

Air Astana JSC provides assistance by providing preferential air transportation for certain categories of citizens of the Republic of Kazakhstan. The airline is considering the possibility of providing free air tickets or discounts for children from poor families flying for treatment or surgery with oncological or cardiovascular diseases incurable in the Republic of Kazakhstan.

Since its Fund, Air Astana JSC has been helping WWII participants, citizens of the Republic of Kazakhstan, to travel around Kazakhstan and the CIS. The airline provides veterans with a 100% discount on flights, excluding airport and other fees.

Another air carrier included in the structure of the Fund, QAZAQ AIR JSC, provides services for subsidized socially significant air transportation in the Republic of Kazakhstan. QAZAQ AIR JSC provides a special preferential fare for passengers from 16 to 22 years old, as well as over 60 years old. The regional route network of QAZAQ AIR JSC includes popular, socially important routes subsidized by the state in the following directions: from Turkestan to Hostanay, Uralsk, Aktobe, from Almaty to Zhezkazgan, from Astana to Taldykorgan and Pavlodar, as well as from Zhezkazgan to Karaganda. [GRI 203-2](#)

CONSTRUCTION AS THE FOUNDATION OF THE ECONOMY AND THE WELL-BEING OF THE PEOPLE

We are actively cooperating with government agencies and local authorities in order to address jointly issues related to the development of regional infrastructure, including the construction of affordable housing and social facilities. As part of this partnership, we participate in the development and implementation of government programs in various regions of Kazakhstan.

As part of this initiative, we invest our own and borrowed funds in construction. As of the end of 2022, we are holders of contracts for the construction of 12 residential buildings and one roofing and cladding materials plant. We also manage construction and real estate and participate in projects for the reconstruction of old and dilapidated buildings, participate in the state program for the construction of factories aimed at import substitution of building materials.

National project “Comfortable School”

The Fund performs the task of realizing the Action Plan for implementation of the pre-election program of the President of the Republic of Kazakhstan “Fair Kazakhstan – for all and for everyone. Now and forever” on the introduction of 1.5 million student places with comfortable learning conditions to solve finally the problem of overloaded classrooms, emergency schools and three-shift training.

We plan to build 401 new schools across Kazakhstan by the end of 2025. This will create more than 842 thousand modern student places and completely cancel the third shift. Schools will be built both in cities and in remote settlements in all regions of the Republic of Kazakhstan. The total amount of financing will be KZT26 billion. At the moment, the National project “Comfortable School” has been approved by the Decree of the Government of the Republic of Kazakhstan. [GRI203-2](#)

SUPPORT OF DOMESTIC ENTREPRENEURSHIP AND DEVELOPMENT OF IMPORT SUBSTITUTION

The Fund and its portfolio companies that purchase goods and services from domestic producers play an important role in the economic development of the regions. In 2022, the amount of purchased goods, works and services amounted to KZT3 591 billion, and 92% of this amount is accounted for by domestic suppliers. [GRI203-2](#)

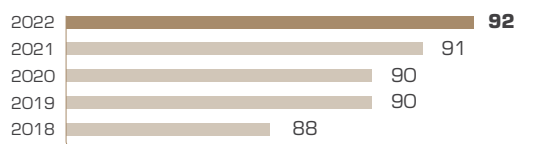
Purchases from domestic suppliers of goods, works and services contribute to the creation of new jobs, the development of infrastructure, the growth of production capacity, the development of supply chains and the competitiveness of local companies. This, in turn, contributes to the economic development of the regions, increases the incomes of the population and reduces social tension.



To ensure equal access to procurement for existing market participants in 2022, taking into account the views of a wide range of stakeholders, we have made significant changes to procurement procedures aimed at supporting businesses, especially local producers and small and medium-sized businesses, expanding access and removing barriers to business, increasing transparency of procurement and minimizing corruption risks. In 2022, the share of local content in purchases was increased to 79% (in 2021 – 77%). Also, the grounds for purchases from one source were reduced by 44%, the list of intra-holding purchases was optimized from 208 to 100 positions, which reduced non-competitive purchases. [GRI 413-1](#)

Purchases from domestic producers also contribute to the development of national production and technological progress, reducing dependence on imports and strengthening the economic independence of the country. One of the mechanisms for supporting domestic producers is the Import Substitution Program, where the manufacturer undertakes to create a production of imported products, and the Fund ensures long-term demand for these products. The Fund approves on a quarterly basis a list of goods for which there is a long-term need for net imports. The program proposes to establish production in Kazakhstan.

FIGURE 2. THE SHARE OF GOODS, WORKS AND SERVICES PURCHASED FROM DOMESTIC SUPPLIERS, %. [GRI 204-1](#)



As part of implementation of the Import Substitution Program aimed at creating new, unparalleled productions in Kazakhstan, from 2018 to 2022, the Fund's companies have concluded 331 offtake contracts totaling HZT101.4 billion. At the same time, 139 offtake contracts totaling HZT19.2 billion were signed in 2022. The conclusion of offtake contracts allowed for the first time in Kazakhstan to establish the production of transformers and shunting reactors (Asia Trafo LLP) and other goods.

Contributing to the promotion of a sustainable and responsible business that complies with the sustainability principles, we have started implementing ESG criteria in several areas of our procurement activities. One of the main directions is consideration of applications from potential suppliers for the implementation of projects within the framework of the Program to Promote the Creation of New Production facilities, according to the approved Procedure for concluding and executing offtake contracts. The evaluation of projects is an important stage in the consideration of applications, and it directly affects the approval by the Commission of the Fund for the further conclusion of an offtake contract with the supplier.

The evaluation of projects includes such ESG criteria as: the use of "green" renewable energy sources (wind farms, nuclear power plants, hydroelectric power plants, solar power plants and renewable sources of electricity) in the life cycle of the goods produced (production of goods, purchase of raw materials, delivery, sale, use, disposal, etc.), including a sign of planned production goods (goods that reduce emissions of greenhouse gases and pollutants), as well as the use of other technologies to reduce the carbon footprint.

OBLIGATIONS UNDER SUBSURFACE USE CONTRACTS

The Fund's portfolio companies, within the framework of subsurface use contracts, finance socially significant facilities, construction of sports complexes, socio-economic development of the region, etc. Thus, the subsoil use contracts of the subsidiaries of JSC NC HazMunayGas provide for the allocation of significant funds for the development of the regions of production presence and social assistance to the needy segments of the population, as well as on the basis of agreements and memoranda concluded with the akimats of the regions, portfolio companies transfer funds to local executive bodies, which, based on the needs of local communities, distribute funds. [GRI 203-2](#)

Paying great attention to the development and training of the younger generation and youth in the regions of its presence, JSC NAC Kazatomprom, within the framework of corporate volunteering and career guidance, has been organizing an information camp on the development of SANA leadership potential for schoolchildren since 2020. The main goal of the camp is development of personal competencies and leadership qualities, emotional intelligence through educational and informational events for students.

We provide an opportunity for students of various universities to undergo practical training and paid internships. Thus, in 2022, 2 students of the L.N. Gumilev Eurasian National University, as well as 6 students of other universities, completed an internship at the Fund, 741 people studying at universities in Kazakhstan and abroad, completed an internship at the Fund's production facilities in the areas of petrochemistry, energy and nuclear industry (Kazakh-British Technical University JSC, S. Utebayev Atyrau University of Oil and Gas, Satbayev University, etc.).

97 people have completed a summer internship at the Fund's production facilities as part of a Summer School in the fields of petrochemistry, energy and nuclear industry.

JSC NAC Kazatomprom traditionally cooperates with universities and specialized colleges of the Republic of Kazakhstan, as well as with educational institutions of neighboring countries, in the specialties of the nuclear industry (K. Satpayev KazNITU, D. Serikbayev EKSTU, M. Auyezov SKSU, National Research Tomsk Polytechnic University, National Research Nuclear University MIFI, Moscow State Institute of Electronics and Mathematics and others). Within the framework of this cooperation, JSC NAC Kazatomprom trains employees in master's degree programs, as well as individuals who are not in labor relations with JSC NAC Kazatomprom and its enterprises in bachelor's degree programs.

CHARITY

We continue to contribute to the social development of the country through charitable activities and corporate sponsorship, as well as the promotion of corporate volunteering. In 2022, within the framework of the current charity project "Zhenis", volunteers, including employees of the Fund's portfolio companies, provided assistance to veterans of the Great Patriotic War and home front workers in the Kostonay region. Our employees participate in various external social initiatives and actions, such as holding concerts for nursing homes for the elderly and disabled in the Pavlodar region and in the villages of the Ekibastuz region, participating in the Biz Birgemiz campaign, the World Cleanup Day campaign and others. [GRI 203-2](#)

During the fires in Kostonay region, our employees provided assistance to the residents of the region. JSC NC Kazakhstan Temir Zholy presented fire trains, Kazpost JSC provided delivery of humanitarian aid, Samruk-Kazyna Trust CF allocated extraordinary grants to NGOs of Kostonay region to finance social projects to help victims, within the framework of the current charity project "Zhenis" volunteers provided assistance to WWII veterans and home front workers in Kostonay region, the medical train "Salamatty Kazakhstan", launched by the Samruk-Kazyna Trust CF, provided medical assistance. Kazakhtelecom JSC has completely freed residents of Auliekol district from subscription fees and implemented a project to restore networks in Kostonay region, providing a new microdistrict "Birlik" in the village of Auliekol with modern telecommunications services. The newcomers used the services for free until the end of 2022.

Samruk-Kazyna Trust

In our charitable activities, we give priority to projects aimed primarily at improving the socio-economic situation of the regions and improving the quality of life of the local population, covering the maximum number of people.

These projects are implemented on behalf of the entire Fund group by a single charity operator of the Fund – Samruk-Kazyna Trust CF in close cooperation with the Fund's portfolio companies, with the population, public and local executive authorities. The initiators of the projects are both portfolio companies and non-governmental organizations. The activity is carried out with the involvement of experts in the field of public and social policy. Charity is carried out on the basis of the principles of legality, equality, voluntariness and publicity. In order to ensure the openness of the decisions taken, potential users had the opportunity to participate and speak at

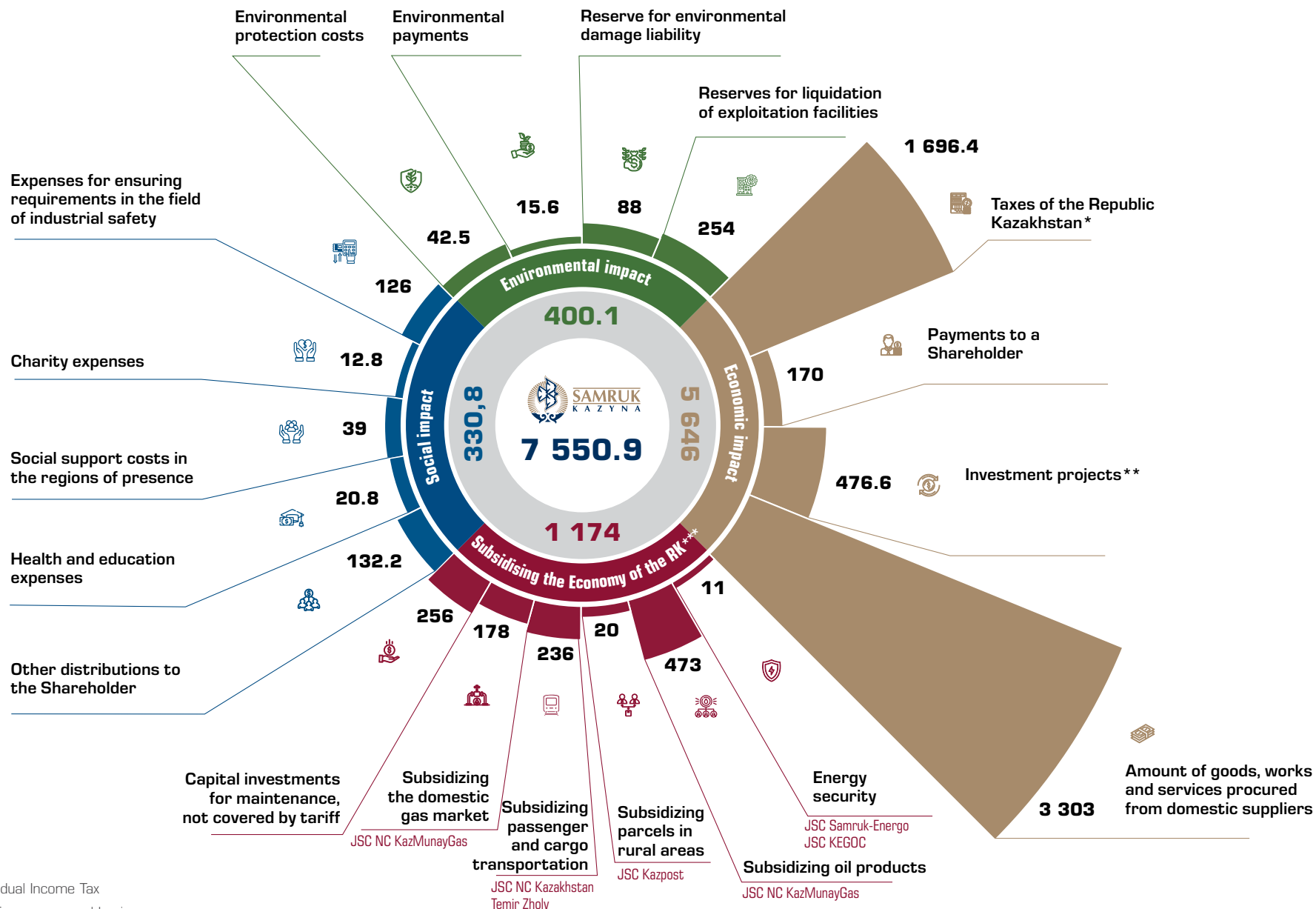
the meetings of the Board of Trustees online. Samruk-Kazyna Trust CF regularly reports to the Public Council of the Fund and the media on the work done. On a regular basis, explanatory work is carried out with stakeholders regarding the regulations, norms, rules for implementation of charitable activities. In 2022, about 700 calls were received, 80 meetings were held with the general public, NGO representatives, journalists, opinion leaders, and employees in 8 regions with a total of more than 600 people.

The 2022 was declared the "Year of Children" by the Head of State. In this regard, our efforts were primarily aimed at supporting children in the regions of our country. During the year, 43 social projects were implemented, about 500 thousand people received assistance, including from socially vulnerable segments of the population and children, of which 95 thousand people from rural areas and 55 thousand children. 624 people have been provided with job due to implementation of projects. Among the key initiatives are the organization of medical trains for residents of the regions, adaptive sports for special children, as well as the supply of hypothermic devices for resuscitation of infants in maternity hospitals. Within the framework of the directions of the Charity Program, projects were implemented in the following areas:

- in the direction of "assistance to people, communities in the social and medical sectors", 23 projects were implemented for a total amount of KZT5 788 million;
- in the direction of "development of media, cultural community, human potential development", 14 projects were implemented for a total amount of KZT1 376 million;
- in the direction of "implementation of the regional social investment program in the regions where the Fund Group operates", 6 projects were implemented for a total amount of KZT2 839 million;

IMPACT MATRIX BASED ON THE RESULTS OF 2022, KZT BILLION

GRI 203-1, GRI 203-2



* Excluding Individual Income Tax

** Excluding VAT, on an accrual basis

*** Cross-subsidization by the Fund of socially significant areas in order to curb the growth of prices and tariffs

OUR APPROACH TO SUSTAINABLE DEVELOPMENT

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We are constantly improving the corporate governance system in accordance with the best world practices, being a driver of changes in portfolio companies, setting high standards and requirements.



03

To achieve the Sustainable Development Goals, we consistently integrate ESG principles into the corporate culture and key processes of the Fund. We are constantly improving the corporate governance system in accordance with the best international practices, being a driver of changes in portfolio companies, setting high standards and requirements.

[GRI 2-9](#), [GRI 2-10](#), [GRI 405](#)

The Fund's Corporate Governance Code approved by the Government takes into account the latest global trends in corporate governance and the most relevant provisions of the OECD, in particular, in improving the effectiveness of Boards of Directors and their accountability to shareholders. The Code was developed with the direct participation of OECD experts, Fund management and a pool of independent directors of the group.

The Fund's Group of Companies strives to comply with the principles of the Corporate Governance Code as much as possible in order to strengthen the confidence of institutional investors. In 2022, an analysis of the main provisions of the Code for their compliance was carried out, in the reporting year, the Fund basically complied with all the principles set out in the Code.

By raising standards in the field of corporate governance, we focus on the requirements of the Premium segment¹¹ of leading stock exchanges, which in turn are based on the strictest requirements of the UK Code of Conduct, the OECD Guidelines for State-Owned Enterprises. As a result, compliance with the requirements of the Premium segment significantly increases the opportunities of companies in the capital markets.

As a responsible investor, the Fund promotes the development of good corporate governance practices in all portfolio companies. The Fund's representatives are members of the Board of Directors of portfolio companies, which enables the Fund to ensure the functioning of corporate governance at a high level, as well as compliance with the interests of the Fund when making decisions in portfolio companies. The Fund reviews the reports of portfolio companies on the evaluation of the effectiveness of the BoD, reports on the activities of portfolio companies, approves the Strategies of portfolio companies, taking into account the cascading of the strategic goals of the Fund.

We are aware that the risks associated with insufficient disclosure of information become investment risks that affect

the long-term sustainability and value of companies. In this regard, we are working to improve the quality and accessibility of disclosed information, including through regular reporting by IFSWF (International Forum of Sovereign Wealth Funds) on Compliance with the Santiago Principles.

The Fund Group implements the preparation of annual non-financial reports (sustainability reports) in accordance with advanced international standards (GRI, TCFD, ISSB, CDP). As a tool for tracking real business changes, the Fund Group has already implemented and will expand the practice of passing an independent assessment by reputable international rating agencies and obtaining ESG ratings.

In 2022, the Charters and Regulations on the Board of Directors have been updated in all portfolio companies in terms of delineating the competencies and powers of the Board of Directors and the Management Board, the procedure for holding meetings and the format of materials for meetings of the Board of Directors have been unified. In 2023, work will continue on integrating the key provisions of the UK Corporate Governance Code into the Fund's Corporate Governance Code..

¹¹ The Standard segment assumes compliance with the basic minimum requirements of the European Union for issuers, there is no mandatory requirement to comply with the requirements of the UK Corporate Governance Code.

CORPORATE GOVERNANCE

In our daily practice, we strive to adhere to high standards of corporate governance in the activities of the Fund Group and continuously work on improvements in this area, using the best international practice.

The management of sustainable development issues is integrated into the current corporate governance structure and is carried out at all organizational levels.

☉ [Annual Report 2022: Corporate Governance System](#)

The sole shareholder of the Fund is the Government of the Republic of Kazakhstan, whose powers include approval of the Fund's Development Plan, election and early termination of members of the Board of Directors and the Chief Executive Officer. [GRI 2-10](#)

The Board of Directors provides strategic guidance and control over the implementation of sustainable development, makes decisions on economic, environmental and social issues, based on the recommendations of the relevant Committees. [GRI 2-9](#)
The Board of Directors delegates the solution of the tasks of the company's current activities to the Management Board headed by its CEO. [GRI 2-13](#)

To improve the effectiveness of decisions taken, preliminary consideration and development of recommendations for the most complex and significant economic, environmental and social issues, the Board of Directors has formed five active committees, one of which is headed by an independent director. Sustainable development issues are considered in the following committees under the Board of Directors: [GRI 2-9](#), [GRI 2-12](#), [GRI 2-14](#)

- The Nomination and Remuneration Committee provides recommendations and forms proposals on attracting

qualified specialists to the Board of Directors, Management Board, to the position of a Corporate Secretary, approval of remuneration of independent directors, terms of remuneration and bonuses for Chairman and members of the Management Board, also Ombudsman and the Corporate Secretary.

- The Audit Committee of the Fund's Board of Directors monitors risks in the field of sustainable development, the quality of non-financial information and reporting, compliance with corporate governance principles and legislation, as well as controls the independence of external and internal audits.
- The Strategy Committee considers strategic planning issues, including the Fund's Development Plan for a 10-year period and the Fund's action plan for a 5-year period.
- The Transformation Program Oversight Committee considers the issues of the Fund transformation and assets restructuring and privatization.

Information about the full composition of the Board of Directors and the committees under the Board of Directors is disclosed in detail in the Fund's Annual Report for 2022,

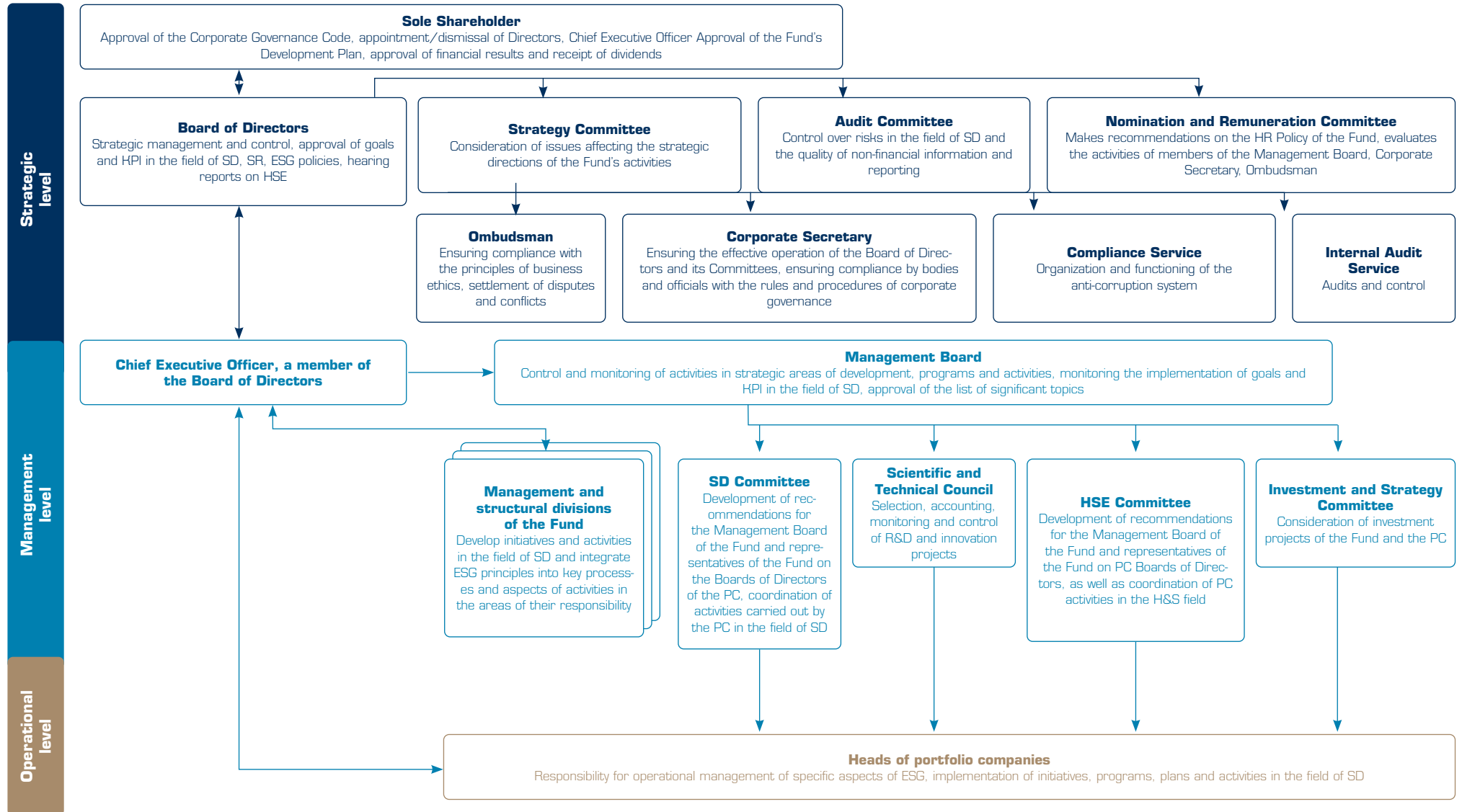
☉ [Annual Report 2022: the Board of Directors and its Committees](#), as well as on the corporate website. [GRI 2-9](#), [GRI 2-10](#)
☉ [sk.kz](#)

Information on the activities of the Board of Directors and its Committees is posted annually on the corporate website.

In 2022, 18 meetings of the Board of Directors were held, at which 121 issues were considered.



MANAGEMENT STRUCTURE OF ASPECTS OF SUSTAINABLE DEVELOPMENT



Within the framework of sustainable development, the following reports were approved: Report on compliance/non-compliance with the principles and provisions of the Corporate Governance Code; Sustainability Report for 2021; Report of the Managing Director for Economics and Finance; review of the Report on H&S and Prevention of the Spread of COVID-19 in the Fund's portfolio companies, Report on the results of diagnostics corporate governance.

The Fund's executives responsible for solving economic issues, as well as issues of sustainable development, are members of the Management Board. The Management Board of the Fund manages the daily activities of the Company, ensuring its compliance with the Development Plan, Action Plan and decisions taken by the Sole Shareholder and the Board of Directors. The Management Board reports quarterly to the Board of Directors on the results of the Fund's activities. [GRI2-12](#), [GRI2-13](#) According to internal regulatory documents, the CEO of the Fund cannot be the Chairman of a Committee of the Board of Directors of the Fund. [GRI2-11](#)

The main issues considered by the Management Board of the Fund in 2022:

- Approval of the annual financial statements of the Fund's portfolio companies for 2021;
- Election of the Boards of Directors and Supervisory Boards of the Fund's portfolio companies;
- Coordination and/or appointment of the first Heads of the Fund's portfolio companies;
- Replenishment of the authorized capital of the Fund's portfolio companies;
- Amendments to the Charters and other internal regulatory documents of the Fund's portfolio companies.

The following committees in the field of sustainable development carry out their activities under the Management Board:

- Committee on Health, Safety and Environment.
The Committee serves as a dialogue platform for discussing

problematic issues, exchanging experience, as well as submitting strategic initiatives and ideas in the field of occupational safety, industrial safety and environmental protection for consideration.

- Committee on Sustainable Development. The purpose of the creation of the Committee on Sustainable Development is to develop recommendations and coordinate the activities carried out by portfolio companies in the field of sustainable development.
- Scientific and Technical Council. The Council ensures collegial and transparent decision-making, selects, records, monitors and controls R&D and innovation projects.

In 2022, the Fund underwent structural changes aimed at implementing ESG principles. A separate structural unit has been created under the Management Board – the ESG Department – under the leadership of the Managing Director for Strategy and Asset Management, coordinating work in this direction. [GRI2-24](#)

SELECTION AND PERFORMANCE EVALUATION OF THE BOARD OF DIRECTORS

The criteria for the selection and election of members of the Board of Directors, including independent directors, and the Chairman of the Board of Directors are defined by the Law of the Republic of Kazakhstan "On Joint Stock Companies", the Company's Charter, Corporate Governance Code and the Regulations on the Board of Directors of the Company.

According to the provisions of the Fund's Corporate Governance Code, when selecting candidates for the Board of Directors, the following are taken into account:

- 1) work experience in senior positions;
- 2) work experience as a member of the Board of Directors;
- 3) work experience;



- 4) education, specialty, including the availability of international certificates;
- 5) availability of competencies in areas and industries (industries may vary depending on the asset portfolio);
- 6) business reputation;
- 7) the presence of a direct or potential conflict of interest in case of election to the Board of Directors of the Fund.

In 2022, the Board of Directors of the Fund consisted of 7 people, 3 of them were independent directors, the share of independent directors was 43% and corresponds to international best practices. During the reporting period, the composition of the Board of Directors was balanced in terms of knowledge, competencies, industry expertise and age diversity. [GRI 2-10](#)

The committees are composed of members of the Fund's Board of Directors and experts with the necessary professional knowledge to work in a particular committee. [GRI 2-10](#)

Members of the Board of Directors should continuously improve their knowledge of the competencies of the Board of Directors and the performance of their duties in the Board of Directors and committees, including such areas as legislation, corporate governance, risk management, finance and audit, sustainable development, knowledge of the industry and the specifics of the organization's activities. Since 2021, the Rules of Professional Development of members of the Board of Directors of the Fund have been in effect in the Fund. [GRI 2-17](#)

To ensure the availability of collective knowledge, since 2020, the Regulations on the Performance Evaluation of the Board of Directors, Board Committees, Chairman and Members of the Board of Directors of Samruk-Kazyna JSC have been in force, according to which the Board of Directors, Committees, Chairman and members of the Board of Directors of Samruk-Kazyna JSC are evaluated as part of

a structured process approved by the Board of Directors. Assessment methods are self-assessment or the involvement of an independent consultant to improve the quality of the assessment. At the same time, at least once every three years, the assessment is carried out with the involvement of an independent consultant. The results of the evaluation are taken into account when re-electing or early termination of the powers of members of the Board of Directors. [GRI 2-18](#)

An independent assessment of the Fund's corporate governance was carried out in 2021. The assessment covered five components of corporate governance, including the effectiveness of the Board of Directors and executive body, risk management, internal control and audit, sustainability and transparency. Based on the results of the evaluation, recommendations were made on further improving the efficiency of corporate governance, which we continued to work on in the reporting year. In 2022, a self-assessment was carried out on the above five components of corporate governance. [GRI 2-18](#)

REMUNERATION POLICY FOR MEMBERS OF THE BOARD OF DIRECTORS AND THE MANAGEMENT BOARD

In accordance with the legislation¹², the amount and conditions of remuneration payment to independent directors of the Fund are determined by the Sole Shareholder. [GRI 2-19](#) [GRI 2-20](#)

Members of the Fund's Board of Directors who are civil servants do not receive separate remuneration for membership in the Board of Directors and its committees. [GRI 2-19](#)

There is a fixed annual remuneration for independent directors, no other payments are provided. The amount and conditions of remuneration payment to independent directors of the Fund are determined by the Decree of the Government of the Republic of Kazakhstan dated October 17, 2008, No. 962 "On Measures for Implementing Decree of the President of the Republic of Kazakhstan dated October 13, 2008, No. 669" (Annex No. 3, which is marked "FOU"). [GRI 2-19](#) [GRI 2-21](#)

The conditions for the payment of remuneration to an Independent Director are: [GRI 2-18](#) [GRI 2-19](#)

- 1) conscientious performance of the powers of a member of the Board of Directors of the Fund using methods that best reflect the interests of the Fund;
- 2) guidance in decision-making by the legislation, the charter and internal documents of the Fund;
- 3) participation in meetings of the Board of Directors of the Fund, except for illness, vacation, business trip, with the provision of supporting documents.

If the Independent Director participates in less than half of the meetings of the Board of Directors of the Fund held in presence and in absentia, the annual remuneration is reduced by fifty percent, except for the cases provided for in sub-item 3.

Remuneration of members of the Management Board consists of a constant and variable component. The variable component is tied to the fulfillment of medium-term goals and objectives and is set in accordance with the corporate and functional HPI of the Fund approved by the Board of Directors. With regard to remuneration linked to the results of activities, clear target measurable HPIs have been defined. More details about the policy and the process of determining remuneration are disclosed in the Fund's Annual Report for 2022.

© [Annual Report 2022: Remuneration Policy](#)

¹² Law of the Republic of Kazakhstan «On the National Welfare Fund»

RISK MANAGEMENT AND INTERNAL CONTROL

The corporate risk management system is a key component of the corporate governance system, and is aimed at timely identification, assessment, management and monitoring of risks. CRMS is aimed at providing reasonable assurance to achieve strategic and operational goals, objectives in the field of reliable reporting and compliance with legislation.

The main internal regulatory document regulating risk management issues in the Fund is the Fund's Risk Management and Internal Control Policy. This Policy has been compiled taking into account the recommendations of COSO "Conceptual Funds of risk management of organizations: integration with strategy and performance indicators" and is designed to strengthen the responsibility of risk owners for risk management at all levels of the Fund, to increase the integration of risk management into all processes of the Fund. The Board of Directors approves the risk appetite for the upcoming period, the risk map and register, as well as quarterly approves the Fund's risk reports, which include strategic, financial, legal and operational risks.

In order to effectively manage risks, the Board of Directors has defined the principle of "three lines of defense". [GRI 2-23](#) The first line of defense is the direct owners of the risks. The second line of defense is the Risk Management and Internal Control Department and the Compliance Service, which perform control and monitoring functions. The third line of defense is the Internal Audit Service, which provides an objective and independent assessment of the effectiveness of the risk management and internal control system. [GRI 2-16](#) [GRI 2-24](#)

All key risks, including the risks of accidents, risks of significant investment projects, risks of social instability, financial risks, risks of litigation, reputational risks, risk of the impact of sanctions legislation, risks of the privatization program were in constant focus of attention and control of the Board of Directors in 2022. [GRI 2-12](#)

ORGANIZATIONAL STRUCTURE OF THE CORPORATE RISK MANAGEMENT SYSTEM [GRI 2-24](#)

The Board of Directors plays an important role in the formation of an effective risk management system. The Board of Directors is responsible for approving the Fund's general risk management and internal control policy, as well as the Fund's individual risk management policy and risk management structure; approving risk appetite, key risk indicators, risk register and risk map; quarterly approving risk management reports describing and analyzing the company's key risks, and risk management measures.

In order to carry out effectively the functions of risk management and internal control, an Audit Committee functions under the Board of Directors, which performs the following advisory functions on risk management and internal control: preliminary approval of risk issues submitted to the Board of Directors; consideration of critical risks, measures taken and plans of the Fund's Risk Management Group analysis of reports of external and internal auditors on the status of the Fund's internal control and risk management systems.

The Management Board is responsible for the organization and effective functioning of the CRMS to ensure compliance with and following to corporate policies. The functions of the Risk Management Board include: timely provision of quarterly risk reports to the Audit Committee and the Board of Directors; ensuring the implementation of the CRMS Policy and improvement of internal documents in the field of risk management and internal control of the Fund; approves the organizational structure of the Fund, providing an effective risk management system.

The Internal Audit Service carries out activities to provide independent and objective guarantees and consultations aimed at improving the organization's activities. Internal audit helps an organization achieve its goals by using a systematic and consistent approach to assessing and improving the effectiveness of risk management, control and corporate governance processes.

The Risk Management and Internal Control Department performs the following functions: ensuring the functioning of CRMS, development and updating of methodological documents on CRMS; analysis of internal/external factors that may have a significant impact on the risks of the Fund Group; identification of risks in the risk map and register; consolidation of risks for the Fund Group by analyzing information; is responsible for timely preparation of the risk register, risk map and risk appetite, as well as for the preparation of quarterly reports on the Fund's risks; interaction with IAS, portfolio companies, external consultants and other stakeholders on risk management issues within their competence.

In 2022, the Fund approved 24 risks in the risk register as the most significant for the Fund's activities, divided into the following groups: strategic risks, financial risks, operational risks and legal risks. The risk register contains ESG risks, such as environmental risk, accident risk, risk of social instability, personnel risks, risk of litigation, risk of violation of corporate governance principles, compliance risks. Also, in 2022, the Fund took into account climate risk factors within the framework of environmental risk.

INTERNAL CONTROL SYSTEM

The internal control system is an integral part of the Fund's CRMS and is aimed at building a management system that can quickly respond to process risks, monitor the main and auxiliary processes and daily operations, and is built in accordance with the COSO model "Internal Control – Integrated Model", and also consists of five interdependent components:

- control environment;
- risk assessment;
- control procedures;
- information and communication;
- monitoring.

In 2022, the work on building an effective internal control system continued by documenting control procedures in the Fund's internal regulatory documents and compliance with internal regulatory documents in the field of risk management and internal control.

The Internal Audit Service of the Fund is an important element of the risk management and control system. In 2022, the Internal Audit Service conducted audits in accordance with the approved Annual Audit Plan and provided recommendations for improving internal control and risk management systems in the field of business planning, procurement process, compliance with administrative expenses. Based on the results of the inspections, the Service issued recommendations, including proposals to improve the existing internal control and risk management systems, processes, principles and methods of doing business.

The Service conducts its activities in accordance with international professional standards of internal audit, including the Code of Ethics of the International Institute of Internal Auditors. The Service has implemented Programs for guarantee/assurance and improving the quality of internal audit in order to assess internal audit activities for compliance with the Definition of Internal Audit, the requirements of

the International Standards of Professional Practice of Internal Audit of the Institute of Internal Auditors and the Code of Ethics, as well as to assess the effectiveness and efficiency of internal audit and identify opportunities for improvement.

The Program for guarantee/assurance and improving the quality of internal audit provides for periodic internal evaluation and ongoing monitoring of activities, as well as external independent evaluation conducted at least once every 5 years, as well as regular collection of feedback from the audited entity based on the results of the audit. In 2023, it is planned to conduct an external independent evaluation of the Service's activities, the results of which will be presented to the Board of Directors of the Fund.

© [Annual Report 2022: Risk Management and Internal Control](#)

WORK OF THE COMPLIANCE SERVICE AND THE INSTITUTION OF THE OMBUDSMAN

The Compliance service is the driver of changes not only of the Fund, but also of the entire quasi-public sector towards greater transparency. The fight against corruption is conducted throughout the Fund's Group of Companies in several directions at once. We are actively promoting the institute of compliance in all portfolio companies, thereby bringing the fight against corruption to a qualitatively new level.

Since 2017, compliance services have been established in large portfolio companies of the Fund. At the moment, in all subsidiaries and affiliated companies that fall under

the requirements of the Law of the Republic of Kazakhstan "On Combating Corruption" have compliance services or divisions that are assigned to perform anti-corruption compliance functions. To ensure its effectiveness, the compliance function is endowed with sufficient powers and resources.

All compliance services report directly to the Board of Directors/ Supervisory boards, which ensures their independence from executive bodies. Conflicts of interest are eliminated by excluding the possibility of combining other positions in the company. [GRI 2-15](#)

We follow the best international practices in the field of corruption and regulatory risk management. Analyses and monitoring of these risks are carried out, the results of which are sent to interested government agencies and companies. In the reporting period, all significant business processes of the Fund were analyzed in order to identify corruption and other risks. [GRI 205-1](#)

As part of the Fund's reforms, the role of compliance in ensuring procurement transparency has been strengthened. According to the new Procurement Procedure adopted from

April 1, 2022, categories of single-source procurement that are subject to compliance verification are defined. There is also a ban on business relations with suppliers whose participants are registered in offshore jurisdictions. The new Procurement Procedure provides for the possibility of unilateral termination of transactions in case of violation by suppliers of anti-corruption obligations.

One of the most effective tools for preventing corruption was verification of the reliability of counterparties. Currently, work is underway to automate this process in the Fund's e-procurement system. It is planned to connect to state databases, which will allow analyzing existing counterparties, as well as verifying the reliability of third parties and their affiliation with employees of the Fund's Group of Companies. Connecting to the database will allow checking on sanctions and other "black lists", as well as monitoring the activity of third parties based on scenarios and historical data.

All employees and members of governing bodies undergo a comprehensive security check when entering into employment contracts, as well as familiarization with the Anti-Corruption Policy. [GRI 205-2](#) During the reporting period, 100% of senior managers and administrative and managerial personnel received anti-corruption training.

The official corporate website of the Fund on the home page and in the "Compliance" section contains information in the state, Russian and English languages about the requirements of the anti-corruption system, the main documents in the field of compliance, as well as contacts of the Hotline, functioning in the Company. Appeals, including anonymous ones, received on Hotlines and through other official channels, are considered according to established procedures. The operator of the Hotline is an independent company in relation to the Fund, which allows to ensure the proper level of confidentiality and anonymity of the applicant.

To raise awareness of the employees of the Fund's Group of Companies about the work of the Hotline, videos, posters are posted on a permanent basis in public places, screensavers with Hotline contacts are used. [GRI 2-25](#) Explanatory work and popularization of the "hotline" is carried out in order to increase the culture of reporting violations, also with involvement of the top management of companies, including the policies established by the Fund to protect the applicant and the inadmissibility of harassment. [GRI 2-24](#)

The dynamics of incoming messages to the hotline demonstrates the increasing confidence in the hotline on the part of employees and counterparties of the Fund's Group of Companies.

The processes of registering incoming requests and providing responses to the applicant are automated fully within the framework of a comprehensive compliance system. All requests from the operator of the hotline are submitted to the compliance officers of the Fund Group of Companies in real time.

In total, 905 requests were received by the Hotline during the reporting period. A quarter of the total number of applications received was confirmed. [GRI 2-25](#)

For the Group of companies of the Fund for the reporting period based on the results of compliance audits and investigations of Compliance Services of portfolio companies (including appeals to the "hotline") 171 employees were brought to disciplinary responsibility. In the reporting period, 2 people were brought to criminal responsibility in the Fund's Group for corruption offenses. [GRI 2-25](#), [GRI 205-3](#)

For 2023, the Fund plans the following activities aimed at further formation of an anti-corruption culture:

- certification audit for compliance with the requirements of the international standard ISO 37001 in the Fund with further phased certification of the Fund Group companies;
- development of information systems and data analysis tools to mitigate identified corruption risks;
- participation in the development of the institute of anti-corruption compliance in the quasi-public sector together with the public authorized bodies;
- development of "new" areas of compliance (including sanctions, listing, regulatory, antimonopoly, etc.) with further cascading into portfolio companies through unified methodological approaches.

Ombudsman

The Fund has an Ombudsman institute, which promotes the principles of corporate ethics, ensuring the objective settlement of corporate conflicts and ethical violations. [GRI 2-25](#) The activities of the Company's Ombudsman are regulated by the legislation of the Republic of Kazakhstan, the Charter, the Regulations on the Ombudsman of the Fund, the Code of Conduct of the Fund and other internal documents.

The main tasks of the Ombudsman are:

- assistance in resolving labor disputes, conflicts, problematic issues of a social and labor nature, as well as in compliance with the principles of business ethics by employees;
- assistance in improving the rating and image of the Fund through early warning and settlement of disputes and conflicts;
- providing informal communications between managers and employees, timely identification of problems and areas for improvement on this basis, making proposals to improve the policies and procedures of the Fund and portfolio companies.



OUR PEOPLE

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Our employees are the main value and the main resource. The level of their professionalism and safety directly affects the results of our operations and our value to investors.

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Our employees are the main value and the main resource. The level of their professionalism and security directly affects the results of our activities and our value to investors. We

attract professional candidates to the labor market in an open and transparent way, develop programs to develop the professionalism of our employees, provide access to training

for employees in accordance with the principle of meritocracy, as well as provide them with safe working conditions.

PERSONNEL STRUCTURE

In the field of human resource management, we follow the norms of Kazakh and international law. We have approved the HR policy aimed at attracting and motivating qualified personnel, developing corporate culture and introducing advanced personnel management technologies.

In order to build an effective human resource management system, we are constantly updating the Corporate Standard, which will define the principles, approaches and requirements for HR processes and promotes the implementation of the best HR practices in the Fund Group. [GRI2-24](#)

A number of rules, for example, the Rules for Remuneration and Social Support of Employees, regulates human resource management processes etc. [GRI3-3](#)

The staff number of employees of the Fund Group for 2022 is 259 055 people (258 044 in 2021). There were no significant fluctuations in the number of employees between the reporting periods. [GRI2-7](#)

Due to the specifics of our production activities, the share of men traditionally accounts for the majority – 72%, while women make up 28% (out of 259 055 people). [GRI2-7](#) The share of administrative and managerial personnel is 7% (the share of women of which is 58%), 93% – production personnel (the share of women of which is 25%). The share of senior and managerial employees is 5% (the share of women of which is 40%).

The share of women in the top management is: in the Management Board of the Fund's Group of Companies – 15%, supervisory and trustee boards, as well as in the Boards of Directors of the Fund's companies – 14%. [GRI405-1](#)

We are working to increase the proportion of women in the management bodies of portfolio companies: a plan has been developed to increase gradually the proportion of women in the Board of Directors and executive bodies of portfolio companies to 30% by 2030 (15% in 2022). By December 2023, the average proportion of women on

the management boards, boards of directors and supervisory boards across the Fund's Group of Companies should reach 20%, by 2030 – 30%. These plans are fully in line with the global trend for gender equality.

Over the past year, the Fund has undergone significant management changes, including a reduction in the number of top managers and the replacement of three out of five managing directors. These changes also affected the management of 8 out of 12 large companies.

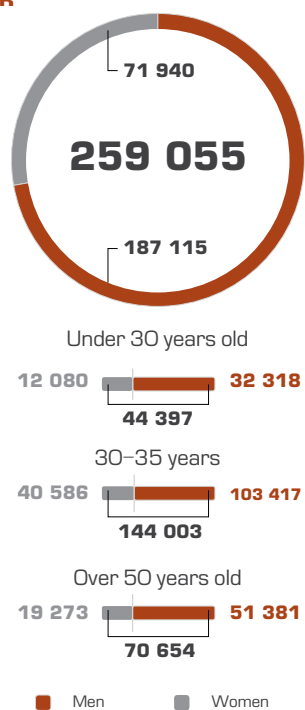
The staff turnover rate by the end of 2022 was 8% (12% in 2021), which is within the staff turnover rate in accordance with item 25 of the Comprehensive Action Plan for Ensuring Social Stability in the Fund Group (14%), approved by the Chief Executive Officer of the Fund for 2022 (No. 9-p). [GRI401-1](#)



EQUALITY FOR ALL

We ensure equal working conditions for all employees, eliminating any form of harassment or discrimination in the workplace, as well as ensuring fair and transparent recruitment processes and career advancement. To increase the transparency of the selection and recruitment procedures for the Fund and portfolio companies, a single online recruiting platform has been operating since 2019 Samruk Qyzmet (QSamruk.kz), uniting 493 companies of the Fund Group. Since 2022, all vacancies are published in open access in the tg- channel @samrukazynaofficial.

FIGURE №3. NUMBER OF FULL-TIME EMPLOYEES AT THE END OF THE YEAR BY GENDER



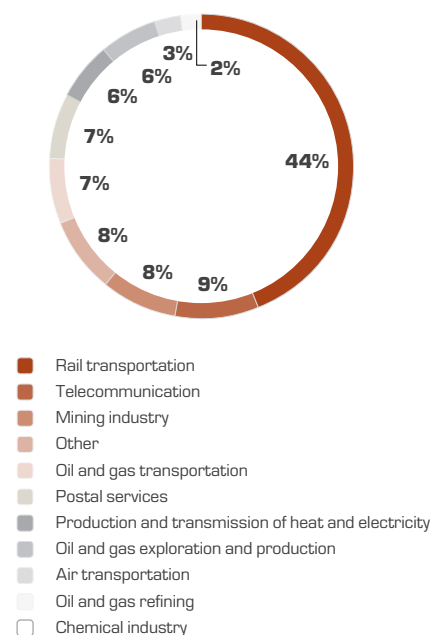
The number of applicants on the unified recruitment portal in 2022 increased by 60% (from 84 486 to 136 489 applicants) which indicates a high interest in working in the Fund's companies. For the entire period (since 2019), more than 27 600 vacancies have been published (for 2022 – 17 354). The number of vacancies closed by external candidates through qsamruk.kz in 2022 – 7 221 (1 794 in 2021).

We adhere to the policy of equality for all and support for people with disabilities, in 2022 the Fund is an employer for 2 860 people with disabilities, while the largest number of them live in the Mangystau region (482 people). There are no gender restrictions in the Fund, for example, there was a 16.7% increase in men who went on maternity and paternity leave in 2022 compared to 2021 (for more details, see Annex 9).

We have no differences in the base salary and in the remuneration system depending on gender differences [GRI405-2](#), and there is also no discrimination of employees on gender, age, national, religious or other grounds. [GRI2-24, GRI406-1](#)

The Fund promotes Kazakhstani personnel to senior positions, therefore 10 foreign employees among the administrative and managerial staff were replaced by Kazakhstani citizens. The number of foreigners on the Board of Directors and Supervisory Boards was also reduced from 23 to 14 (40%). [GRI202-2](#) The Fund actively attracts members of the Presidential Youth Talent Pool to leadership positions. Three of the five managing directors of the Fund are young graduates of the Presidential Youth Personnel Pool.

FIGURE №4. PERSONNEL STRUCTURE BY TYPE OF ACTIVITY



The requirements for the management staff have been strengthened. Now all candidates for the posts of first managers, managing directors and heads of divisions of the Fund's companies are checked by compliance officers to prevent affiliation and corruption. Polygraph tests, also known as lie detector tests, are used as a tool to check potential candidates for positions associated with high corruption risks, namely for senior positions in the field of procurement. [GRI205-1](#) During the reporting period, 133 candidates in 52 companies passed such a test, while 27 people failed the test and were not hired.

Why is this important to us?

Our attitude towards employees and their representatives is the basis of doing business. In order to create favorable conditions for effective work, attract and retain highly qualified personnel, social support is provided for all full-time employees of the Fund and portfolio companies, which includes various types of social benefits and compensation.



Our goals and objectives:

- Formation and development of an effective corporate culture based on strong leadership teams, implementation of the fundamental principles of meritocracy and investment in personnel development.
- Introduction of various mechanisms, including non-financial ones, including improvement of the conditions of collective agreements and social package, public recognition of merits

Material topics	Impact type	Direct impact	Indirect impact
Workplace safety and health	–	●●●	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

CARING FOR OUR PEOPLE

In order to create favorable conditions for effective work, attract and retain highly qualified personnel, social support is provided for all full-time employees of the Fund and portfolio companies¹³. We provide employees with a guaranteed social package, which includes various types of social benefits and compensations:

- financial assistance for recovery for work leave;
- payments in connection with pregnancy and childbirth;
- monthly payments to employees who are on parental leave until they reach the age of 1.5 years;
- assistance in solving housing issues;
- compensation upon termination of the employment contract in case of inability to transfer to another job, due to general disability, disability;
- one-time payment in connection with the death of an employee for funeral arrangements, a one-time payment to the family of an employee who died as a result of an accident at work. [GRI401-2](#)

We provide all the necessary conditions for maternity/paternity leave. In 2022, 9 274 people (9 513 in 2021) took maternity leave and parental leave (including 5.4% of men). The rate of women returning from maternity leave is 42% and 41% of men (in 2021 56% and 38%, respectively). [GRI401-3](#)

The Fund also provides social guarantees for voluntary medical insurance in case of illness, as well as for the promotion of a healthy lifestyle, an installment plan is provided for the purchase of season tickets for visiting a fitness club. [GRI401-2](#)

In addition, employees are provided with historically formed types of social support. [GRI401-2](#) These types of social assistance are fixed in collective agreements, or provided for by internal

regulatory documents of a separate enterprise. Such payments include:

- payments in connection with the achievement of the jubilee age;
- in connection with the conclusion of marriage;
- short-term leave upon marriage;
- in connection with the birth of a child;
- in connection with the death of relatives – with the preservation of wages;
- for treatment and payment of medical operations, if the cost of treatment exceeds the limit set by the insurance program;
- disabled employees;
- disabled children of the employee, and many others.

These benefits have not changed, despite the crisis period.

In accordance with national legislation, the pension savings of citizens are in a Single accumulative pension fund. Pension savings consist of: a minimum pension rate guaranteed by the state; individual pension savings (monthly contribution – 10% of salary) and additional regional allowances. [GRI201-3](#)

The ratio of the minimum average monthly salary of our employees (taking into account bonuses, surcharges and allowances) to the minimum wage established by national legislation for 2022, depending on the region of activity, is within:

- for production personnel (men) from 1.2:1 to 2.7:1;
- for production personnel (women) from 1.2:1 to 2.4:1;
- for administrative and managerial personnel (men) from 2.4:1 to 5.5:1;
- for administrative and managerial personnel (women) from 2.4:1 to 4.5:1.

¹³ The benefits package may vary depending on the organization.

Why is this important to us?

More and more attention in the world is paid to the development of human capital, one of the most valuable resources. Realizing the ambitions of our strategy depends on highly motivated employees and their development in new areas. Therefore, investments in our employees are the main priorities for maintaining and strengthening the competitive advantages of the Fund.



Our goals and objectives:

- Continuous professional development of employees, based on the best world practices
- Improving the leadership potential of our employees, supporting the development of modern business leaders

Material topics	Impact type	Direct impact
Training and education	+	●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

The highest value of this coefficient falls on the Mangystau and Atyrau regions.

In 2022, the salaries of 243 thousand employees of the Fund Group were increased by 5-48% with an emphasis on low-paid positions.

INVESTMENTS IN TALENT DEVELOPMENT

Development of human capital through the development of human resources, strengthening of the competencies of our employees in new areas and continuous improvement of their qualifications, based on the best international practices, is one of our strategic objectives.

Development of our employees is based on the 70/20/10 principle, in which each employee is responsible for his own training and development in accordance with an individual development plan. The Fund invests in self-development, training, coaching, mentoring, functional academies, HR projects and professional communities within the Fund group in order to create highly qualified human resources. The main priorities for maintaining and strengthening competitive advantages include the introduction of competence development programs, modular training programs, priority training of engineers and technical specialists and workers, the development of dual training for engineering and technical specialties, the use of digital technologies in training and the development of adaptation programs for all levels of personnel. Our approaches include developing an internal training system, rotating employees to acquire and develop skills, creating a talent pool, improving assessment methods, ensuring knowledge transfer between foreign and local employees, supporting employees in international training programs and implementing outplacement programs to help employees transition to new opportunities in case of reduction, restructuring, liquidation or retirement. [GRI404-2](#), [GRI3-3](#)

In 2022, 625 328 employees of the Fund group were trained. For these purposes, the training costs amounted to HZT104.3 billion, with an average cost of training – HZT166.7 thousand per employee (HZT227.9 thousand in 2021). The total number of training of

The minimum notification period in respect of significant changes in the organization's activities is no later than 15 calendar days, unless a longer notice period is provided for in labor or collective agreements. [GRI402-1](#)

employees amounted 11.8 million hours per year (production personnel – 6,1 million hours per year, managerial and administrative personnel – 5,7 million hours per year).

On average, 1 employee of the Fund Group completed 19 academic hours of training, including: [GRI404-1](#)



The main principles of talent management include development of the human resources potential of the Fund in accordance with the business strategy, transparency and fairness, the creation of a pool of successors that meet our real needs, discussion of career plans and career development of employees outside their division. The main task of the talent management system is to create a pool of employees with the potential to perform important roles for the company and provide the Fund with the necessary talents in the future.

We carry out regular assessment of personnel performance, which is regulated by the Rules of assessment of administrative and managerial employees of Samruk-Hazyna JSC. The purpose of the assessment is to improve the performance of employees by defining the requirements for performance results, skills, knowledge and competencies of employees to achieve the strategic goals of the Fund. [GRI 404-3](#)

Performance assessment is based on the following basic principles:

- providing fair and objective feedback built on trust;
- assisting in the identification of training and development needs;
- helping to improve individual performance.

We also pay attention to the system of recognizing the merits of employees and encouraging them to achieve business results, as well as improving the remuneration system. To do this, Fund analyzes the labor market, maintains the level of wages in accordance with financial and economic opportunities, maintains a differentiated approach to determining the level of wages and reduces the gaps between administrative and managerial and production personnel. The same system is implemented in portfolio companies.

CORPORATE CULTURE

We are working to create an effective corporate culture based on a strong leadership team, employee engagement and consistency. Our corporate values HIT (Humility, Integrity, Transparency) – are at the heart of our corporate culture and are the main principles of internal and external communications.

Our management strictly adheres to corporate ethical standards of behavior, maintains and develops corporate culture at a high level and acts in the interests of the Fund and the population as a whole. Compliance with and development of corporate values of behavior both inside and outside the Fund is the responsibility of each manager and employee.

Our service company, Private Institution “Samruk Business Academy”¹⁴, providing services in the field of training, evaluation and development of personnel, retraining and advanced training of specialists of the Fund Group of Companies, assists us in forming a corporate culture in accordance with our strategic development goals. The following milestone events were held in the reporting year:

- VII Annual Forum of CEOs “Leadership in the field of industrial safety. New challenges and approaches” JSC NC KazMunayGas (75 participants);
- The three-year modular training programme for 100 young people of Kazakhstan NC Kazakhstan Temir Zholy has been completed;

- leadership programs: 2 module “Mansap. Pool B” (14 participants) for management and personnel reserve of JSC NC KazMunayGas;
- Gender Equality program for the Fund (140 participants participated, 71 are completing the project);
- Youth Forum “Tools of public communication of agents of change” for KazTransOil JSC (50 participants);
- the 1st and 2nd modules of the “Middle Management” training program were conducted, designed for the training period from October 2022 to May 2023;
- the first and second stages of the program for the development of young leaders, the target audience of which are young specialists of the Fund and portfolio companies under 35 years of age.

Every year we organize the contest, which is aimed at promoting the idea of universal labor and popularization of industrial professions.

Further growth areas:

- Launch of new training programs (HR, PR, IR schools, etc.).
- International accreditation of EFMD Global/Global CCJ.
- Implementation of the SBA LMS system (automated system for the dissemination of knowledge and experience).
- Creation of a center for applied qualifications with expert and methodological support.
- Development of production training programs “School of Oil and Gas Industry and Petrochemistry”, “School of Transport and Communications”, “School of IT and Telecommunications”, “School of Energy”, “Health & Safety School”.

¹⁴ The SBA was renamed in 2022 from Private Institution “Samruk-Hazyna Corporate University”, established in 2004, on the basis of Unified Personnel Development Center

YOUTH POLICY

To date, the Fund's Group of Companies has more than 44.5 thousand young professionals under the age of 30, or 17% of the total number of employees. The share of senior and managerial employees under the age of 30 is 7%. With the aim of a systematic approach to working with young people, the introduction of new approaches with an emphasis on the intellectual and professional development of young professionals, the Fund implements an Action Plan for the development of youth policy. Supervisors have been identified in each portfolio company to work with young people. The Institute of Youth Councils has been introduced.

The program of the intensive challenge "Jas Samuryq" (individual fulfillment of tasks in three areas of development – physical, emotional and intellectual) was developed, following which a youth educational forum was held for 200 of the most active employees of portfolio companies (opinion leaders).

JSC NAC Hazatomprom implements the programs Jas Orken and Izbasar for development of young professionals. The purpose of the program is to nurture talented leaders with the prospect of gradual career growth at the company's enterprises.



Why is this important to us?

Social and labor relations are an important component in ensuring the improvement of the quality and productivity of labor. Each employee has the right to association, including the right to form trade unions to protect their interests and the interests of labor collectives. It is important for us to fully support this right and create for them necessary conditions.



Our goals and objectives:

- Implementation of the Comprehensive Plan for Ensuring Social Stability
- Promoting and strengthening the role of conciliation institutions, including the training of trade unions and the creation of their own pool of mediators.

Material topics	Impact type	Direct impact
Interaction with employees	+	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

SOCIAL AND LABOR RELATIONS

The indisputable right of employees is the right to freedom of association, the right to unite in trade unions to protect the interests of labor collectives. As a socially responsible company, we fully support this right and create a favorable environment for the development of this institutional structure. [GRI 407-1](#)

Trade unions are a good example of a platform for dialogue, which is confirmed by international experience. By the end of 2022, collective agreements have been signed in 38 of our portfolio companies (in 2021 – 37). [GRI 2-24](#), [GRI 407-1](#), [GRI 2-30](#)

The Center for Social Interaction and Communications (hereinafter referred to as CSIC) is a platform for regulating social and labor relations and developing social partnership in the Fund's Group of Companies. To coordinate the interaction of the Fund's divisions and portfolio companies in case of crisis situations and organizations of anti-crisis measures, the Operational Headquarters of the Fund has been operating since 2021. During the reporting period, 7 meetings of the Operational Headquarters were held.

We monitor the moral and psychological climate in labor collectives. Work is underway to improve working conditions, prevent labor disputes, etc. There is a Social Stability Monitoring Center at the CSIC, which collects and analyzes operational data on the prerequisites or facts of social tension in labor collectives via 4 communication channels (e-mail, phone, Whatsapp messenger, website) 24/7. In 2022, more than 23 thousand appeals were received through the hotline of its call center Nysana, including on issues of social and labor relations (relevant) – 1 037. 86 strikes have been registered, 78 of which are in the Mangystau region, including 30 strikes by contractors in the oil and gas sector.

An interactive Map of social stability has been introduced, through which the situation at the enterprises of the Fund's Group of Companies is monitored in real time (there are 12 portfolio companies in the perimeter, more than 230 thousand people).

Since 2013, the Fund's Group of Companies has been conducting a study of the level of social stability of Samruk Research Services, which allows diagnosing problem areas in the social and labor relations of production collectives throughout Kazakhstan and taking timely preventive measures. It covers almost all employees of companies.

The level of social stability in the Fund's Group of Companies by the end of 2022 is satisfactory – the overall SRS indicator was 70%, having decreased by 3% compared to 2021 (coverage of more than 97 thousand respondents). The study was conducted via SMS mailing (online survey) and telephone survey.

For more than five years, the comprehensive educational project Corporate School of Trade Union Activists of the Fund has been nurturing professional trade union workers of a new formation. The training program pays special attention to such methods as conflict management, mediation, psychology of effective communication, formation of a collective agreement. Much attention is paid to the step-by-step algorithm for creating a trade union and forming a collective agreement. At the Activist School, students are taught to prevent disputes from arising, not to deal with their consequences. The School's program includes training in skills that are in demand today, such as labor law, collective bargaining and trade union organization. [GRI 407-1](#)

In March 2022, we launched the project "Pool of mediators". 102 employees from various portfolio companies of the Fund Group were trained in the cities of Astana and Almaty. The purpose of this project

Why is this important to us?

Safety and security at work is a basic human right, and we have a responsibility to ensure the safety of our employees and everyone who works at our facilities. Particular attention is paid to maintaining an effective occupational safety management system in accordance with the international standard ISO 45001 «Occupational Health and Safety Management System».



Our goals and objectives:

- Achieving LTIFR 0.14 in 2023
- Reaching LTIFR 0.11 in 2027
- 100% safety culture training for production personnel in 2023

Material topics	Impact type	Direct impact	Indirect impact
Workplace safety and health	–	●●●	●●●

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

is to have a certified mediator in each company of the Fund Group for timely detection and resolution of conflicts. From 2018 to 2021, the Center for Social and Labor Relations trained more than 300 trade union employees of the Fund Group companies throughout Kazakhstan. The training of 80 more trade union leaders was completed on August 19, 2022. [GRI407-1, GRI2-24](#)

Another direction is the introduction of IR (industrial relations) methods in the Fund's Group of Companies, which will improve social and living conditions at work. In 2022, a Corporate standard was approved to ensure unified approaches and

OCCUPATIONAL SAFETY

Ensuring occupational safety and striving for “zero injuries” is an integral part of our strategy. Given the nature of our activities and work at production facilities within the Fund's Group, there is potential risk to individuals, leading to disability, asset loss, decreased production efficiency, financial losses, and potential harm to the Fund's reputation. In this regard, the year 2022 was designated as “Year of Occupational Health and Safety” within the Fund's group of companies.

To achieve our strategic goal, we pay special attention to maintaining an effective occupational safety management system in accordance with the international standard ISO 45001 “Occupational Health and Safety Management System”, which applies to all employees of the Fund Group. Within the framework of this system, we follow the requirements of the national legislation of the Republic of Kazakhstan in the field of industrial, fire safety and labor protection, as well as introduce the best industry-wide practices to ensure occupational safety. We carry out our activities in accordance with the Occupational Safety Policy, the Corporate

centralized regulation of IR development in the Fund's Group of Companies, training was also conducted in the field of sanitary and epidemiological monitoring of social and living conditions, development of internal communications, feedback culture and prevention of pressure in the workplace, as well as on the history and relationship of IR with the ESG agenda and Sustainable Development Goals.

Thanks to the measures taken, emerging labor disputes are resolved within the legal framework using mediation methods, involving local trade union organizations of the Fund's Group of Companies and through an appeal to the judicial authorities.

Standard for Occupational Safety Management, which apply to portfolio companies, their subsidiaries and affiliates, as well as service providers. [GRI403-1, GRI403-8, GRI3-3](#)

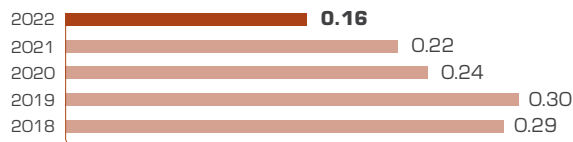
At the same time, companies themselves ensure the implementation and certification of health and safety management systems and ensure their compliance with the requirements of the above documents. The improvement of systems is carried out on a continuous basis through the development or updating of individual procedures in the relevant areas of industrial safety, development of an action plan to improve the efficiency of the industrial safety system, etc.

The top management of the Fund Group plays an important role in ensuring occupational safety. It is a driver of safe behavior and demonstrates commitment and involvement in industrial safety issues. In 2022, the Board of Directors began to pay even more attention to monitoring the health and safety of employees. Reports on industrial safety were considered at

meetings of the Board of Directors. The monitoring of cases of Covid-19 infection continued regardless of the stabilization of the situation in the country.

The Fund has been successfully operating a dialogue platform for discussing problematic issues, exchanging experience, as well as considering strategic initiatives and ideas in the field of industrial safety for three years – the HSE Committee under the Management Board of the Fund. This Committee consists of responsible representatives of the CEO-1 level of 13 of the largest portfolio companies. The main purpose of the Committee is to develop recommendations for the Fund's Management Board and the Fund's representatives on the Boards of Directors, to ensure coordination and control over the implementation of portfolio companies' activities to improve the efficiency of the corporate management system in the field of industrial safety. [GRI 403-4](#) [GRI 2-24](#).

FIGURE №5. DYNAMICS OF THE LOST TIME INJURY FREQUENCY RATE (LTIFR), UNITS.



In 2022, 5 meetings of the Committee on Labor Protection, Industrial Safety and Environmental Protection were held. The work was focused on the following areas:

- monitoring of progress and results of activities in the field of industrial safety;

- review of the results of accident investigations and measures taken;
- development of new and improvement of existing regulatory documents and processes (including a number of digitalization solutions) in the field of industrial safety.

Industrial safety services have been established in large portfolio companies. We are implementing direct administrative accountability of the industrial safety function in each portfolio company to the first head. Thus, in JSC NC QazaqGaz in 2022, the function of industrial safety was separated from the production unit and an independent service was formed, subordinate to the CEO of the Company. On average, there are 134 employees per 1 employee of industrial safety in the Fund group. [GRI 403-3](#)

FIGURE №6. DYNAMICS OF THE FATALITY ACCIDENT RATE, UNITS.



We use a risk-based approach in ensuring occupational safety. On a regular basis during the reporting year, audits of the state of workplaces were conducted at various levels of management. The number of internal audits conducted for compliance with the requirements in the field of industrial safety in 2022 reached 25 641 audits (19 073 audits in 2021). At the same time, 121 thousand of 126 thousand identified inconsistencies were eliminated. For the remaining violations, longer periods of elimination have been established. [GRI 403-2](#)

Working without accidents and incidents at work in a group of companies depends not only on the purposeful actions of employees, but also on the employees of contracting organizations. The requirements imposed on contractors for strict compliance with corporate regulations and rules on occupational safety and health is an integral part of an effective management system in the field of industrial safety of the Fund. The requirements for employees of contracting organizations, including in terms of their qualifications and competence, are the same as for our employees. These requirements are part of contracts with public organizations. The Fund and portfolio companies assess their compliance during on-site audits based on the actual assessment of contractors for compliance with industrial safety requirements.

Great support to workers on the ground is provided by 178 trade union organizations. In order to preserve the life and health of workers in the workplace, together with trade unions, measures are envisaged to improve working conditions, prevent occupational injuries and occupational diseases, and implement internal and public control. [GRI 403-7](#) [GRI 403-10](#)

We provide annually financing for measures to prevent accidents, improve sanitary and living conditions for employees, improve the health of employees, purchase personal protective equipment, dry cleaning and washing of workwear, conduct training and promotion of occupational safety issues. In 2022, HZT126 billion was spent for these purposes (HZT99.8 billion in 2021).

TABLE 7. INVESTMENTS IN ENSURING THE REQUIREMENTS IN THE FIELD OF INDUSTRIAL SAFETY BY DIRECTIONS, KZT BILLION

	2018	2019	2020	2021	2022
Total	57.0	65.3	122.4	99.8	126.0
Labor protection	17.0	17.7	19.9	22.6	24.4
Fire safety	7.6	8.2	8.6	10.2	15.2
Industrial safety	27.8	34.0	88.4	60.8	81.9
Training	2.0	2.4	1.9	2.4	1.7
Other	2.2	2.5	3.3	3.6	2.5

In order to motivate portfolio companies to improve the state of industrial safety, according to the results of 2022, the practice of awarding the annual nomination of the Chief Executive Officer of the Fund for achieving results in the field of industrial safety was introduced for the first time. Thus, according to the results of the evaluation, the nominee for the first place was determined by Kazakhtelecom JSC, which was awarded with a Certificate of Honor by the CEO of the Fund. [GRI403-7](#)

Key results of 2022

Together with our portfolio companies, we have carried out systematic work aimed at improving occupational safety management systems and reducing the level of injuries in the following areas:

- 1) increase leadership and commitment of managers. Kazakhtelecom JSC, HEGOC JSC, JSC NC QazaqGaz, Samruk-Kazyna Odeu LLP, by analogy with the Fund, held specialized Forums on industrial safety for the first time. At these events, the first heads, heads of subsidiaries and affiliated organizations and structural divisions assumed

obligations for industrial safety.

In addition, CEO-1 heads will now have to carry out on-site inspections of production sites at least once every 2 months. In total, the heads of companies at the CEO-1 level conducted 43 inspections in the reporting year.

- 2) increasing the level of safety culture, changing awareness and involvement of employees in industrial safety issues. In 2022, proactive injury prevention tools were actively introduced, such as registration of dangerous conditions, dangerous actions, potentially dangerous incidents (Near Miss), conducting Behavioral safety observations, implementing the right of every employee to suspend unsafe types of work. In 2022, 136 360 Behavioral Safety observations were conducted, 2 040 unsafe types of work were suspended (1 797 in 2021), which indicates a growing level of safe work culture. [GRI403-2](#)
- 3) exchange of experience, both within the Fund Group and with leading companies in the industries. The heads and employees of industrial safety services visited and got acquainted with the approaches to work in such large organizations as Tengizchevroil, (NCOC) North Caspian Operating Company, (KPO B.V.) Karachaganak Petroleum Operating B.V. The Kazpost JSC employees, as part of the exchange of experience in ensuring transport security, visited "Trade and Transport Company" LLP, employees of ALeS of Samruk-Energy JSC got acquainted with the procedure for ensuring electrical safety at the power complex of SHZ-U LLP and SHZ-U LLP visited GRES-1 with a return visit.
- 4) development of employee competencies. In 2022, 210 406 or 81% of employees were trained within the requirements of the legislation of the Republic of Kazakhstan in the field of labor protection, industrial and fire safety, 62 114 or

24% of employees were trained in courses that go beyond the legislation of the Republic of Kazakhstan.

Also, 244 employees were trained at the NEBOSH courses, 817 employees were trained at the IOSH courses, and 3 069 employees were trained in "defensive driving".

In addition, we have developed our own corporate training course "Occupational Safety Culture", which has been approved by the Institute for Safety and Health in the UK and plans to train 100% of production personnel on this course. [GRI403-5](#)

- 5) digitalization of processes. The SAP system has started reporting on incidents and leading indicators.
- 6) emergency prevention. The practice of conducting joint exercises to eliminate conditional accidents at hazardous production facilities has been introduced. Thus, on the basis of the Aktau IPS of Mangystau Oil Pipeline Management, a crisis management team exercise was held on the topic "Fire in the tank farm".
- 7) conducting cross-audits. In total, the Fund, together with company experts, conducted audits in 18 organizations of the Fund, during which more than 600 inconsistencies were identified, potentially being prerequisites for accidents. [GRI403-2](#)

The result of the activity was a decrease in the total number of the injured of industrial accidents by 16% compared to 2021 (from 133 to 111 people). All employees of the Fund's Group were included in the assessment of occupational injuries. [GRI403-9](#)

The LTIFR coefficient was 0.16¹⁵, showing a decrease of 27% compared to 2021. [GRI403-9](#)

The rate of severe injuries associated with the Fund's production activities began to be calculated from 2022 and amounted to 0.15.

Unfortunately, there were 12 fatal accidents in 2022 (14 cases in 2021): in JSC NC Kazakhstan Temir Zholy – 5, Samruk-Energy JSC – 4, JSC NC HazMunayGas - 1, HEGOC JSC – 1, JSC NAC Hazatomprom - 1. [GRI403-9](#)

TABLE 8. NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT IN 2022, UNITS.

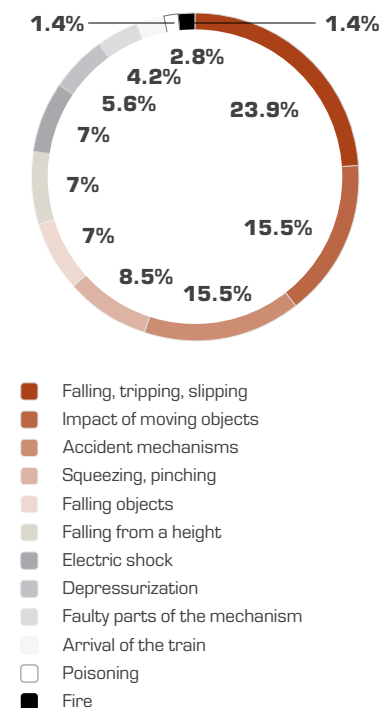
Portfolio company	Cause of death	Number of cases
JSC NC Kazakhstan Temir Zholy	Squeezed between cars	2
	Electric shock	1
	Falling from a height	1
	Collapse of the structure	1
Samruk-Energy JSC	Electric shock	1
	Falling from a height	1
	Hit-and-run by rolling stock	1
	Squeezed between the body and suspension of the car	1
JSC NC HazMunayGas	Pipeline depressurization	1
SC NAC Hazatomprom	Traffic accident	1
HEGOC JSC	Falling from a height	1

An important aspect is the analysis and investigation of incidents occurring in the workplace, and taking measures to prevent their recurrence in the future. The analysis is carried out on each case, newsletters are sent out with a brief description of the circumstances, reasons and corrective measures taken in order to prevent their repetition in other companies. [GRI403-7](#)

55% of all traumatic cases of severe degree fall into three categories of accidents: falling; tripping and slipping; exposure to moving, flying, rotating objects and accidents.

Most of the accidents with a severe degree occurred with the people aged 36 to 50 years. Almost a third of the injured had work experience from 11 to 20 years. This indicates that over time, employees with long experience have a sense of self-confidence and lack of concentration when doing work. In this regard, our activities for 2023 will be aimed, among other things, at solving this problem. [GRI403-9](#)

FIGURE №7. ACCIDENTS BY TYPE OF INCIDENT IN 2022, %



¹⁵ LTIFR (Lost time injury frequency rate) – the number of employees of the company injured in accidents with loss of working capacity (including those who died) multiplied by 1 million man-hours and divided by the total number of man-hours worked for 12 reporting months [GRI403-9](#)

OCCUPATIONAL HEALTH

We strive to help each employee form their own conscious attitude to the topic of well-being and instill the skills necessary for a healthy and happy life at work and outside it. The Fund carries out systematic work to improve physical well-being, the formation of healthy habits to improve the quality of life, improve health and increase productivity.

The management of issues in the field of occupational health and hygiene in the Fund group is carried out in accordance with the requirements of the Kazakh legislation: The Labor Code, the Health Code, Sanitary Rules and Instructions of the Republic of Kazakhstan, International requirements in the field of occupational health and hygiene. At least once every five years, certification of production facilities for working conditions is carried out with the involvement of an independent specialized organization, according to the results of which a set of

organizational and technical measures is carried out to improve working conditions and safety. [GRI 3-3, GRI 403-3](#)

By the end of 2022, the number of non-work-related fatalities due to poor health decreased by 49%, in total 27 workplace fatalities were registered, 90% of which were caused by circulatory diseases, including cardiovascular diseases.

One of the possible reasons for the high percentage of diseases of the cardiovascular system among workers are complications after the COVID-19 pandemic or "postcovid syndrome".

In 2022, an increase in the number of cases of deterioration of health in the workplace was recorded to 6 384 (3 877 in 2021). One of the reasons for the increase in cases of deterioration of health is the COVID-19 pandemic. In 2022,

201 463 employees (of 207 407 to be examined) underwent periodic medical examination.

In order to reduce cases of deterioration of health, as well as to improve physical well-being, the formation of useful habits to improve the quality of life of employees in portfolio companies, the following work is carried out:

- 1) an annual medical examination, pre-shift and post-shift monitoring of the health status of employees is carried out; based on the results of the medical examination, recommendations are issued for the prevention of socially significant diseases, as well as for further monitoring, treatment and rehabilitation;
- 2) an annual action plan is developed to improve the health of employees and improve working conditions, agreed with the territorial subdivision of the department of the state



body in the field of sanitary and epidemiological welfare of the population;

- 3) sports contests, sports events are held at enterprises and central offices of the PC, aimed at improving the health of employees;
- 4) medical workers carry out sanitary and educational work in the form of lectures and talks on the prevention of diseases of the circulatory system, tobacco smoking, alcoholism, irrational nutrition at production facilities;
- 5) employees are sent for sanatorium-resort treatment, financial assistance is provided for vacation in order to improve their health;
- 6) in JSC NC Kazakhstan Temir Zholy, on the recommendation of the Fund, a new indicator of industrial safety has been established, consisting of 4 indicators, including the Coefficient of the frequency of deterioration of the health with a fatal outcome with cascading to the network and regional levels of management.

[GRI403-6](#), [GRI403-7](#)

Further growth areas

Our goal for 2023 is to achieve an LTIFR of 0.14, which is the corporate KPI of the Fund. Additionally, the KPI of portfolio companies includes the registration of behavioral safety observations, occupational safety and health cards, audits of contractors and others, which should positively affect the minimization of injury cases.

We intend to continue our work to improve the level of safety culture of employees, develop leadership of top management,

ensure the reliability of equipment and the use of effective methods to prevent emergencies.

For these purposes, an Action Plan for Industrial Safety for 2023 has been developed and approved by the CEO of the Fund, consisting of 38 specific measures with set deadlines, including:

- 100% training of all production personnel on safety culture;
- implementation of motivation systems and definition of clear criteria of responsibility for violations of security requirements;
- development of courses and training of employees on methods of safe implementation of the most dangerous types of work;
- development and control of the implementation of technical re-equipment plans;
- implementation of the “Lockout/tagout” (LOTO) blocking and labeling procedure;
- continuation of work on automation of reporting and application of digital solutions.

In particular, portfolio companies are working on the implementation and financing of the following instruments:

- automatic notification of the approach of railway rolling stock to the place of track work;
- remote video monitoring system when moving cars forward – “technical vision”;
- employee positioning system;
- equipping large-sized equipment with a light indicator of hazardous areas;
- tracking the health status of employees using wristbands and other solutions.

- creation of a permanent headquarters for systematization of work and rapid response to possible emergencies;
- conducting command and staff exercises to eliminate accidents, emergencies with the involvement of the Fund and government agencies;
- analysis and, if necessary, installation of additional devices that automatically monitor the excess of the maximum permissible concentration of hazardous substances in the air of the working area;
- continuation of work on the management of contractors.

In 2022, the number of identified inconsistencies during audits in the field of industrial safety in contractors amounted to 15 863, 14 707 of which were eliminated. Thus, it was decided to continue to work actively with contractors outside the Fund's group of companies from 2023 on the formation of a culture of responsible behavior in the field of industrial safety. One of the first stages of the work is the introduction of reporting on the state of industrial safety in contracting organizations in companies. Starting next year, the responsibility has been fixed to hold meetings at least once a quarter with the management of regional divisions of companies with contractors carrying out work at facilities, which will increase the level of formation of a safety culture among contractors.

The Fund will continue systematic work in improving the system of industrial safety and support each of the group of companies who show leadership and consciously comply with occupational safety requirements, encourages their colleagues to do so.

[GRI403-6](#)

ENVIRONMENT

”

We recognize our responsibility for complying with environmental regulations in the regions where we operate and for protecting the environment, so we strive to improve our performance every day and are ready to respond to future challenges and opportunities

05



Why is this important to us?

We are committed to improving our environmental performance to minimize the negative impacts of our operations and stand ready to respond to future challenges and opportunities to ensure the well-being of current and future generations.



Our goals and objectives:

- Share of RES and HPPs in electricity generation 26% by 2032 (from the level of 2021)
- Formation of a portfolio of offset projects of 5.8 million tons of CO₂-eq by 2032 (from the level of 2021)
- Achievement of zero regular flaring at oil and gas producing assets
- Development at the level of the Fund of unified approaches to managing risks of impact on biodiversity and information disclosure
- Development of Water Resources Management Programs

Material topics	Impact type	Direct impact	Indirect Impact
Energy	-	●●●	
Water and Effluence	-	●●●	
Biodiversity	-	●	●●
Emissions	-	●●●	
Local Communities	+-	●●	

Impact type: + positive – negative

Materiality level:

- strong
- average
- low

We acknowledge our responsibility for complying with environmental standards in the regions of our presence and for environmental conservation. Therefore, we strive to improve our performance every day and are prepared to respond to future challenges and opportunities. [GRI 413-1](#)

We engage in systematic efforts to interact with the population on environmental protection matters. We share the core principles of the precautionary approach (Principle 15 of the UN Rio Declaration on Environment and Development, 1992). Before commencing new projects and facilities, we conduct comprehensive Environmental Impact Assessment (EIA) to inform the public about the planned activities and their potential impact. This allows us to identify public opinions and to take them into account during the assessment process. We ensure that all stakeholders have access to draft EIA projects, including the acceptance and registration of comments and suggestions. Information is made available on local government websites and in the media to inform the public about planned measures. [GRI 3-3](#)

GREENHOUSE GAS EMISSIONS

According to the latest available data, the contribution of the Fund's portfolio companies to direct greenhouse gas emissions nationwide is estimated at 14.7%, with CO₂ (carbon dioxide) emissions accounting for 15.6% of the country's CO₂ emissions.

In 2022, the Fund Group's carbon footprint (direct and indirect greenhouse gas emissions) was 60.9 million tonnes CO₂-eq.¹⁶ However, the Fund's carbon footprint data does not include installations not covered by the quota system, and indirect emissions data may not be complete due to a lack of reporting requirements for indirect emissions data.¹⁷

Direct emissions were 50.7 million tonnes CO₂-eq. [GRI 305-1](#) Indirect emissions were 10.2 million tonnes CO₂-eq. [GRI 305-2](#) Direct emissions were 10.9 million tonnes CO₂-eq below the 2021 level, and indirect emissions were 0.3 million tonnes CO₂-eq below the 2021 figure. [GRI 305-4](#) The greenhouse gas intensity indicator was 108.9 tons of CO₂-eq. per million tenge of revenue, which is 27.5% lower than in 2021. These changes are related to revision of methodology for calculation of methane emissions in the reporting year.¹⁸

Direct CO₂ (carbon dioxide) emissions decreased by 1.1% from the 2021 level to 44.9 million tonnes CO₂ (45.4 in 2021), which is a result of a number of initiatives to reduce greenhouse gas emissions. [GRI 305-1](#), [GRI 305-5](#)

The Kazakhstan Emissions Trading System covers 14 subsidiaries and affiliates of JSC NC KazMunayGas group (installation operators), which are included in the National Plan of Allocation of Greenhouse Gas Emissions Quotas. The operators of installations develop annual greenhouse gas inventory reports, which are subject to verification by an accredited independent organization. Quota installations have obligations to reduce greenhouse gas emissions under the national greenhouse gas emission trading system. Quota installations account for 34 million tonnes of CO₂.

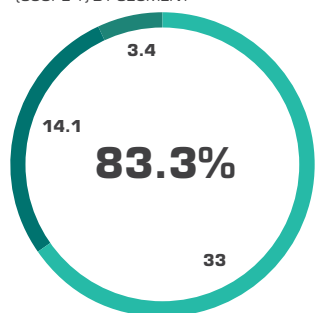
¹⁶ According to the Concept of low-carbon development of the Fund, the carbon footprint in 2021 was 75 million tons of CO₂-eq, which is associated with a more comprehensive coverage of the Concept of all sources of greenhouse gas emissions, as well as the use of a different methodology for calculating and accounting for methane emissions.

¹⁷ Data presented for 2020, the Strategy for achieving carbon neutrality of the Republic of Kazakhstan by 2060

¹⁸ Significant changes in the volume of greenhouse gas emissions are associated with a revision of the methodology and scope of calculation, in accordance with the Low-Carbon Development Concept of the Fund. According to the Concept of low-carbon development of the Fund, the carbon footprint in 2021 was 75 million tons of CO₂-eq.

FIGURE № 8 GREENHOUSE GAS EMISSIONS (CARBON FOOTPRINT AND BREAKDOWN OF DIRECT AND INDIRECT EMISSIONS)

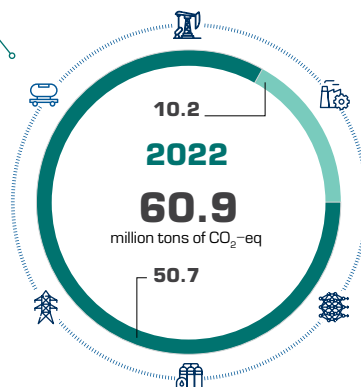
DIRECT GREENHOUSE GAS EMISSIONS
(SCOPE 1) BY SEGMENT



- Electric power sector 33 million tons of CO₂-eq (40.3 million tons of CO₂-eq in 2021)
- Oil and gas sector 14.1 million tons of CO₂-eq (18 million tons of CO₂-eq in 2021)
- Transport and logistics sector 3.4 million tons of CO₂-eq (3.1 million tons of CO₂-eq in 2021)

- 65%** of direct emissions are from the electric power sector
- 83%** of direct emissions are from stationary sources of fossil fuel combustion, including flaring
- 8%** of direct emissions come from emissions from industrial processes

CARBON FOOTPRINT OF THE FUND
MILLION TONS OF CO₂-EQ.



- Direct greenhouse gas emissions
- Indirect greenhouse gas emissions

INDIRECT GREENHOUSE GAS EMISSIONS
(SCOPE 2) BY SEGMENT



- Oil and gas sector 3.3 million tons of CO₂-eq (3.4 million tons of CO₂-eq in 2021)
- Transport and logistics sector 3.2 million tons of CO₂-eq (3.2 million tons of CO₂-eq in 2021)
- Electricity sector 2.6 million tons of CO₂-eq (2.9 million tons of CO₂-eq in 2021)
- Mining and metallurgical sector 0.86 million tons of CO₂-eq (0.87 million tons of CO₂-eq in 2021)
- Telecommunications sector

100% of indirect emissions are emissions from purchased electricity (market method) million tons of CO₂-eq

The largest contribution to indirect emissions is made by oil and gas, transport and logistics and electric power sectors

In accordance with the structure of the Fund activities, international requirements and guidelines for the disclosure of information on greenhouse gas emissions, the emissions are assessed in the following aspects:

- direct greenhouse gas emissions associated with the combustion of hydrocarbon fuels and substances, unavoidable volatile emissions (leaks), the operation of any production facilities and ongoing production processes — Scope 1 emissions (also for reporting purposes in accordance with the guidelines);

- indirect energy emissions related to the consumption of electricity, heat, hot water and steam supplied from outside — Scope 2 emissions;
- Scope 3 emissions – all other greenhouse gas emissions arising in the company's value chain, namely emissions from the use of sold products (category 11 – Use of Sold Products). Portfolio Companies of the Fund, such as JSC NC KazMunayGas and JSC NAC Hazatomprom, are already calculating greenhouse gas emissions under Scope 3. JSC NC KazMunayGas discloses information on category No.11

“Use of Sold Products”. A phased development of Scope 3 reporting is also planned in other subsidiaries of the Fund. [GRI 305-3](#)

Greenhouse gas emissions are calculated according to Order No. 280-n dated November 05, 2010 “On Approval of Some Greenhouse Gas Emissions Calculation Methodologies”, Order No. 9 of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated January 17, 2023 “On Approval of Greenhouse Gas Emissions and Absorption

Calculation Methodologies”, Order No.221 of the Minister of Energy of the Republic of Kazakhstan dated March 19, 2015 “On Approval of the Greenhouse Gas Inventory Monitoring and Control Rules”, Order No. 502 of the Acting Minister of Energy of the Republic of Kazakhstan dated July 28, 2015 “On Approval of Greenhouse Gas Inventory Report Forms”, Order No. 371 of the Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan “On Approval of Greenhouse Gas Emissions and Absorption Calculation Methodologies” dated September 13, 2021, “Guidelines for IPCC National Greenhouse Gas Inventories”. [GRI305-1](#) [GRI305-2](#)

The main greenhouse gases issuers of the Fund are electricity and heat generation sector (54.2%) and hydrocarbon exploration, extraction, transportation, refining sector (28.6%). The scope of information disclosure on greenhouse gas emissions includes Portfolio Companies under the operational control of the Fund, and which are subject to national regulation in the field of greenhouse gas emissions of the Republic of Kazakhstan. The inventory boundaries did not include foreign assets, as well as Portfolio Companies under the financial control of the Fund. [GRI305-1](#) [GRI305-2](#)

ATMOSPHERIC AIR QUALITY

As of the end of 2022, the total amount of pollutants in the Fund group amounted to 608.7 thousand tons, 1.1% decrease (615.3 thousand tons) in relation to 2021. [GRI305-7](#)

The electricity and heat production sector accounts for 59% of pollutant emissions (or 358.1 thousand tons), which is 0.08% higher than the level of 2021 (357.7 thousand tons in 2021). The specific emissions of pollutants in this sector are decreasing annually: by the end of 2022, 2% decrease was achieved as compared to the indicator of 2021 due to growth of the share of renewable energy generation and hydroelectric power plants, gas HPP-1 (per unit of electricity generated).

The main share of the consumed electricity of electricity and heat generation sector is produced using fossil fuels. As a result of fuel combustion, greenhouse gases enter the air, affecting climate change. In 2022, the volume of direct CO₂ (carbon dioxide) emissions by the sector amounted to 32 million tons of CO₂-eq, which is 3% lower than in 2021. The volume of specific emissions also decreased by 0.02 million tons of CO₂/million kWh as compared to 2021 and amounted to 0.8 million tons of CO₂/million kWh.

The production activities of hydrocarbon exploration, extraction, transportation, refining sector is also related to the use of fossil fuels. In 2022, the volume of direct CO₂ (carbon dioxide) emissions of the sector amounted to 9.8 million tons of CO₂-eq. and increased by 3.1% as compared to the indicator of 2021. The specific volume of greenhouse gas emissions by hydrocarbon exploration, extraction, transportation, refining sector amounted to 0.0003 million tons of CO₂ per 1,000 tons of oil equivalent of CHC.

In 2018, JSC NC HazMunayGas announced its participation in the CDP initiative, an international community of investors to

In the oil and gas production and refining sector, at the end of 2022, the total amount of pollutants amounted to 120.6 thousand tons, having increased by 9.4% (110.2 thousand tons) since 2021. The share of this sector from the Fund is 20% in 2022. Increase in pollutant emissions in the oil and gas production and processing sector in 2022 is due to increased energy consumption in view of the entry into the nominal mode of Kalamkas GTPP after major repairs, as well as increase in oil refining by 20% for Petrokazakhstanoil Products LLP.

The gas transportation sector accounts for 20% of the Fund pollutant emissions (in 2021-23%). The volume of pollutants

disclose information about direct and indirect greenhouse gas emissions and risks associated with climate change, including the assessment of the entire carbon footprint of commercial products from the well to its final use. In July 2022, the Climate Questionnaire of JSC NC HazMunayGas for 2021 was published on the CDP site, which includes data on the volumes of direct and indirect greenhouse gas emissions for all the company assets, including subsidiaries in Romania and Georgia. The CDP international climate rating is also in NAC Kazatomprom JSC's plans for 2023.

The share of greenhouse gas emissions of the other subsidiaries is insignificant. The figures for all portfolio companies can be found in Annex 9.

We do not have significant emissions of ozone-depleting substances that affect climate change in our operations; therefore, this indicator is not consolidated at the Fund level. Periodic controls and monitoring are carried out. Climate change issues require risk identification and mitigation measures. [GRI305-6](#)

amounted to 123 thousand tons, having decreased by 11.4% (139 thousand tons) since 2021.

The rail transport sector accounts for 0.8% of the Fund pollutant emissions. By the end of 2022, emissions decreased by 18.7% from 6.4 thousand tons to 5.1 thousand tons as compared to 2021. The annual reduction of emissions is achieved through the introduction of new diesel locomotives, the purchase of new passenger cars with combined heating, the transfer of boiler rooms from solid to gaseous fuel and the connection of heating of industrial buildings to electric heat supply.

TABLE № 9. TOTAL EXPENSES AND INVESTMENTS IN ENVIRONMENTAL PROTECTION BY TYPE OF ACTIVITIES, KZT MILLION

Type of activities	2021	2022
Technologies implementation	4 579.8	1 150.7
Energy efficiency	184.4	920.7
Research and development	727.6	890.7
Emissions payments	13 716.6	13 747
Other	36 100.1	39 575

The mining and processing sector accounts for less than 1% of the Fund pollutant emissions. By the end of 2022, the total amount of pollutants in the sector amounted to 1.4 thousand

tons, 5% decrease as compared to the indicator of 2021 (1,5 thousand tons) due to the equipping of emission sources with additional installations for cleaning gaseous substances and improving the efficiency of existing gas cleaning equipment, and a reduction in production volumes.

The share of pollutants in the remaining Portfolio Companies of the Fund is less than 1%. [GRI.305-7](#)

To reduce the impact on the environment, funds are allocated annually for its protection. In 2022, total expenses and investments in environmental protection amounted to KZT56 284 million, which is 1.8% increase in expenditures for 2021.

Further growth areas

We plan to continue implementing measures aimed at reducing emissions of pollutants: modernization of technological equipment, introduction of energy-saving technologies, optimization of heat generation and consumption, as well as the development of our own low-carbon generation sources, as well as the use of the best available techniques (clean coal technologies, as well as emission capture technologies).



ENERGY EFFICIENCY MANAGEMENT

One of the key directions in achieving our goals in the field of low-carbon development is the most rational use of fuel and energy resources. In this regard, we pay great attention to improving energy efficiency and energy and resource conservation in all Portfolio Companies. The Fund has adopted an Energy and Resource Conservation Program until 2027, which defines the goals and objectives of the Fund group in the field of energy and resource conservation and energy efficiency improvement, as well as sets priorities and principles for the implementation of energy conservation and energy efficiency measures. [GRI 3-3](#)

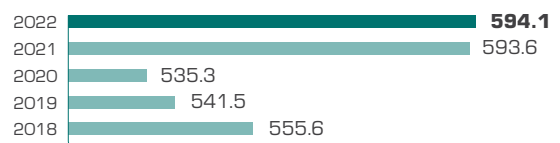
The total energy consumption within the Fund in the reporting year amounted to 594.1¹⁹ million GJ, as compared with 2021 there is a slight increase of 0.08%. Over the period 2018–2022, there was increase in the level of consumption of energy resources by 6.9%, due to growth of electricity production at coal-fired power plants of Samruk-Energy JSC, the launch of the Karabatan gas turbine power plant of Karabatan Utility Solutions LLP, increased consumption of gas for own needs and process losses, resulting in increased consumption of coal and natural gas. [GRI 302-1](#)

In the structure of energy consumption from non-renewable sources according to the Fund in 2022, coal occupies about 55%, gas – 18% (including natural gas – 15%, other types – 3%), liquid fuel – 8% (including diesel fuel – 5%, other types – 3%), refinery gas and electricity from external sources – 7% each. [GRI 302-1](#)

The largest consumption of energy resources falls on the electricity and heat production sector – 57% (340.2 million GJ in 2022), due to the specifics of the company activities. The basis of consumption is coal from the Bogatyr mine, the consumption of which for the production of electric and thermal energy at the Fund coal-fired power plants exceeds

18 million tons of coal per year. The energy intensity of the electricity and heat production sector in the reporting year was 9.5 GJ/thousand kWh. [GRI 302-3](#)

FIGURE №9. TOTAL ENERGY CONSUMPTION, MILLION GJ



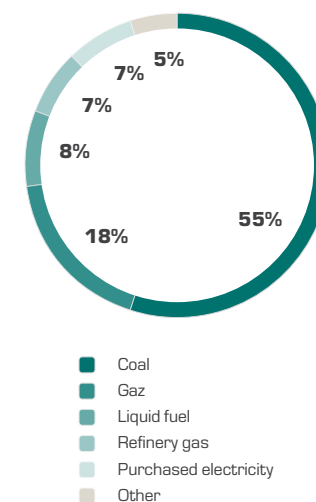
The oil and gas refining sector accounts for 12% (68.6 million GJ in 2022) of the total consumption of the Fund energy resources. The energy intensity of the sector is 3.8 GJ/tonne of refined oil (gas). The oil and gas exploration and production sector consumes about 10% (58.2 million GJ in 2022), the oil and gas transportation sector consume 8% (49.5 million GJ in 2022) of the total consumption of the Fund energy resources. In the oil and gas exploration and production sector, the energy intensity was 2.8 GJ/tonne of produced CPC, in the oil and gas transportation sector – 0.7 GJ/tonne of transported oil (gas). [GRI 302-3](#)

The share of the railway transportation sector is 7% (40.9 million GJ in 2022) of the total consumption of the Fund energy resources. On the balance sheet of JSC NC Kazakhstan Temir Zholy there are more than 16 thousand km of railway tracks and about 1.7 thousand locomotives. Electric power from external sources (29% – 11.8 million GJ in 2022) and diesel fuel (64% – 26.4 million GJ in 2022) are consumed for train traction, which in total is about 93% of the total consumption of the sector. The rest of the sectors account for 7% of total energy consumption.

Energy consumption from renewable sources in 2022 amounted to 96 thousand GJ, of which 43 thousand GJ is purchased one, 53 thousand GJ is own production. [GRI 302-1](#)

As part of the ongoing work on energy and resource conservation and energy efficiency improvement in 2022, the total amount of energy saving amounted to 16.5 million GJ. The sector of electricity and heat production has carried out 58 measures aimed at reducing the consumption of fuel and energy resources, which has saved more than 14.2 million GJ of fuel. By the end of 2022, the consumption of electric energy by the sector decreased by 2% as compared to last year, and the consumption of thermal energy also significantly decreased as compared to last year (by 7%). [GRI 302-4](#)

FIGURE №10. ENERGY CONSUMPTION FROM NON-RENEWABLE SOURCES IN 2022, %



¹⁹ This indicator does not include technological losses of gas.

In sectors of refining, exploration and production and transportation of oil and gas, more than 49 measures have been carried out this year under the Low-carbon Development Plan, the estimated annual savings of fuel and energy resources amounted to 2.1 million GJ.

Further growth areas

Our main objectives in the field of energy conservation until 2027 are:

- reducing the energy intensity of the products of five large companies of the Fund by 10% by 2027 (from the base year 2021), which will ensure the solution of the problem of reducing the energy intensity of the gross domestic product of the Republic of Kazakhstan;
- continuous improvement of the energy efficiency of production processes based on effective process management and the use of innovative technologies and equipment;
- creation of optimal organizational and economic conditions for achieving the Program targets;
- efficient use and reduction of consumption of fuel, energy and water resources;
- implementation of the system of energy efficiency indicators of the energy management system.

In the electricity and heat generation sector, the construction of new coal-fired generation facilities and the modernization of existing stations assumes that the main and auxiliary equipment of the new stations will be installed given the use of the latest energy-efficient technologies in order to reduce the specific costs of conventional fuel, which will subsequently affect the reduction of greenhouse gas emissions.

As part of the implementation of the Energy Transition Program of Samruk-Energy JSC for 2022–2060, the sector is working to increase the share of renewable energy sources in the generation structure. The goal of the Program is to reduce net carbon footprint of Samruk-Energy JSC by 2060.

In order to achieve the target indicator on reducing the carbon footprint and meeting the growing demand for electricity, it will be necessary to implement a number of new wind and hydroelectric power plants with a total capacity of about 6,000 MW. By 2060, Samruk-Energy JSC plans to build about 200 MW of solar generation, as well as the construction of a pilot project of a geothermal power plant with a capacity of 20 MW. Samruk-Energy JSC also plans to study the prospects for the development of hydrogen energy to reduce the carbon footprint as a universal secondary energy carrier.

In sectors of refining, exploration and production and transportation of oil and gas, a Low-carbon Development Program was developed for the period 2022–2031, within the framework of which the following energy saving goals were set, in particular:

- harmonization of the automated energy management system with the production process;
- implementation of an energy efficiency improvement policy with motivation tools for employees of JSC NC KazMunayGas to make rationalization proposals;
- optimization of the regulatory and technical base in the field of energy consumption and resource conservation.

As part of the Low-Carbon Development Program for the period 2022–2031, JSC NC KazMunayGas also plans to develop the use of renewable energy sources.



CONSERVATION OF BIODIVERSITY

One of the most important challenges to modern humanity is the steady decline of biological diversity on the planet. Among scientists, it is customary to talk about the Sixth extinction of species caused solely by the results of human activity. The 15th meeting of the Conference of Parties to the UN Biological Diversity Convention (COP15) held in Canada in 2022, which resulted in the signing of the Kunming-Montreal Framework Program in the field of biodiversity, is considered to be a key event that determined the relevance of biological diversity issues for the world community in the coming years.

The investment market has also demonstrated significant increase in attention to these issues. Thus, the work of the Taskforce on Nature-related Financial Disclosures (TNFD), which unites financial institutions, corporations and market service providers managing a total of USD20 trillion, was intensified. The world's leading rating agencies have also begun to adapt their products to the issues of biodiversity conservation. For example, the rating agency, MSCI, has developed solutions for geoinformation analysis of biodiversity risks.

Having a large volume of production assets and a wide geographical presence in regions of Kazakhstan, the Fund considered it necessary to keep up with global trends and put the conservation of biological diversity among the important priorities. Despite the absence of a unified strategy in the field of biodiversity conservation for the Group of Companies in 2022, this issue is under the close attention of the Fund's management as part of the disclosure processes in the sustainability reporting.

At the same time, we have been paying attention to the issues of biological diversity since 2017. In 2022, some Portfolio Companies of the Fund Group, such as Kazakhtelecom JSC, JSC NAC Hazatomprom, developed and approved guidance documents on managing impacts on biodiversity.

In this report, we begin the practice of disclosing a consolidated position on the impact on biodiversity. In the future, we intend to pay as much attention as possible to the assessment of risks and opportunities associated with the conservation of biodiversity. [GRI 3-3](#)

POTENTIAL IMPACT IN THE AREAS OF OPERATION AND BY TYPE OF ACTIVITY [GRI 304-1, 304-2](#)

The companies of the Fund Group have different scales, areas of activity and geographical presence. In view of this circumstance, the possible ways of the impact of the Fund Group's activities on biodiversity may vary greatly.

Significant linear infrastructure

The Fund Group is cumulatively present in all regions of the Republic of Kazakhstan. First of all, this applies to companies with extensive linear infrastructure. In particular, the main oil and gas pipelines of KazTransOil JSC and QazaqGaz JSC, the main overhead power transmission lines of KEGOC JSC, overhead power transmission lines of

electric power distribution companies of Samruk-Energy JSC, railway tracks of JSC NC Kazakhstan Temir Zholy, cable telecommunication networks of Kazakhtelecom JSC are laid along many, and in some cases, in all regions of Kazakhstan. Such infrastructure affects, as a rule, forest-steppe, near-water, steppe, semi-desert and desert biotopes, which are found mainly on shallow, hilly and flat terrain.

The infrastructure of some of these Portfolio Companies and/or their subsidiaries runs near or through significant areas for the conservation of biodiversity: key biodiversity territories, key ornithological territories or specially protected natural territories.

The main aspects of the negative impact of Portfolio Companies with significant linear infrastructure on biodiversity are:

- obstruction of railway tracks, artificial fences, embankment dams, expressways to the migration routes of ungulate mammals;
- death of animals on railway tracks and highways;
- death of birds from electric shock on medium-power overhead power lines and substation equipment under operating voltage;
- death of birds from collisions with overhead power lines, as well as during maintenance work on these lines.

Portfolio Companies of the Fund recognize the listed risks and implement measures aimed at minimizing them.

For example, in order to minimize death of birds from electric shock on overhead lines, Portfolio Companies are working on the installation of bird protection devices, as well as planned retrofitting of 6-10 kV overhead lines with pin insulators on overhead lines made with self-supporting insulated wire (SIW-3).

Also in 2022, the Scientific and Technical Council of the Fund approved the research project of JSC NAC Hazatomprom – Comprehensive Studies on the Bird Protection from the Power Lines Effect at Enterprises of JSC NAC Hazatomprom. This project was the first scientific project in the Fund group of companies, which is aimed at reducing death of birds on overhead lines.

Oil and gas production fields

Oil and gas producing enterprises, as well as enterprises that render them services are included in the separate category of the Fund Group. Oil and gas producing companies included in the Fund group are stationary and located mainly in western regions of Kazakhstan, in desert and semi-desert biotopes. Some deposits are located in the Caspian Sea and represent a special group of risks to biodiversity.

Thus, the water area of the eastern part of the Northern Caspian Sea with its wetlands and deltas of the Volga rivers (within the Republic of Kazakhstan), the Urals and the Emba, as well as the adjacent coast and the water area of the sea itself, are the most important lands on the Eurasian continent and are included in the state protected area in the northern part of the Caspian Sea. These lands ensure the existence of millions

of waterfowl and near-water birds during nesting, molting, seasonal migrations and wintering. One of the largest in Eurasia, the Siberian-Black Sea-Mediterranean Flyway, runs through the Northern Caspian.

The main aspects of the negative impact of oil and gas companies on biodiversity are:

- a concern factor for caspian seals;
- mechanical contamination of birds and seals with oil and petroleum products;
- harm to ichthyofauna and seals as a result of accidental/ unauthorized releases of toxic substances into the Caspian Sea;
- toxic effect of petroleum hydrocarbons on open evaporation fields;
- death of near-water birds sitting on evaporation fields;
- death of birds from electric shock on overhead power lines and substation equipment under operating voltage;
- a concern factor in the construction of new wells and related infrastructure;
- degradation of plant communities as a result of the expansion of the fishing road network.

In addition to measures aimed at minimizing risks to biodiversity, the Fund Group also implements compensatory measures in order to compensate for the damage caused. So, the service company, Zhenis Operating LLP, together with Atyrau Sturgeon Hatchery RSE in 2022 carried out work on the cultivation of juvenile sturgeon fish with a weight of 1.5 grams in the amount of 28 123 pcs. for HZT1 406.2 thousand with their subsequent release into the Ural River.



Mining companies

The Fund Group includes enterprises of the mining sector. These include the mining enterprises of JSC NAC Kazatomprom and JSC NMC Tau-Hen Samruk.

JSC NAC Kazatomprom, which is a shareholder in several uranium mining enterprises in Kyzylorda, Turkestan, Zhambyl and Akmola regions, as well as an energy transmission company with a significant length of overhead lines, in 2022 continued to implement the roadmap for the implementation of the Environmental and Social Action Plan (ESAP), which provides for periodic research work on assessing the impact on biodiversity.

The technology of mining operations (both in open and closed mining operations, as well as in underground borehole leaching) assumes the presence of a risk of negative impact on the existing ecosystem. Among the main aspects of the negative impact are the following:

- the anxiety factor from blasting and drilling operations, light noise, etc.;
- direct damage to existing plant communities;
- unauthorized and emergency discharges, spills of leaching and productive solutions;
- death of animals on commercial roads;
- death of birds from electric shock on medium-power overhead power lines and substation equipment under operating voltage;
- a concern factor in the construction of new wells and related infrastructure;
- degradation of plant communities as a result of the expansion of the fishing road network.

Electricity generation

Samruk-Energy JSC owns a group of energy companies, most of which are energy-generating companies. Some power plants of Portfolio Companies are located in the immediate vicinity of significant areas for the conservation of biodiversity.

Hydroelectric power plants, an electric grid company, and wind farms can have the greatest potential impact on biodiversity issues. This is largely due to the climatic and physical features of the location of power plants, as well as their functional role. For example, hydroelectric power plants are usually located in the upper reaches of mountain rivers or on dams of reservoirs, where, as a rule, a very rich variety of biological species, both aquatic plants and animals, and terrestrial. In addition, the regulation of the water level in the dam involves periodic revision of the level in the river downstream, if the capacity of the counterregulator is insufficient to maintain a stable level in the river downstream. The location of wind power stations in places with a large wind load in some cases coincide with bird migrations.

The main aspects of the negative impact of hydroelectric power plants and wind power stations on biodiversity are:

- death of ichthyofauna (eggs), aquatic invertebrates, aquatic plants, some waterfowl and near-water birds with significant changes in the water level in rivers and/or other bodies of water;
- death of birds from collisions with wind turbines;
- death of birds from electric shock on medium-power overhead power lines and substation equipment under operating voltage;
- death of birds from collisions with overhead power lines, as well as during maintenance work on overhaul lines.

Other activities

The Fund group of companies also includes other companies in the transport, construction and service sectors, whose impact on biodiversity has not been assessed now.

Further growth areas

- Comprehensive scientific research on the study of biodiversity in large Portfolio Companies (JSC NC KazMunayGas, Samruk Energy JSC, JSC NMC Tau-Hen Samruk)
- Development of unified approaches to risk management of impacts on biodiversity and disclosure of information at the Fund level;
- Public assurance procedure;
- Financing of environmental protection measures (sponsorship of certain types);
- Active involvement of NGOs in improving biodiversity management procedures.

LIST OF AFFECTED AREAS SIGNIFICANT FOR BIODIVERSITY CONSERVATION

TABLE 10. IMPORTANT BIRD AREAS (IBA) AFFECTED OR LOCATED NEAR THE TERRITORIES OF PORTFOLIO COMPANIES OF THE FUND²⁰

№	IBA	Name of the legal entity	№	IBA	Name of the legal entity
1	KZO06	Intergas Central Asia JSC (JSC NC QazaqGaz)			1. Karatau LLP (JSC NAC Hazatomprom)
2	KZO08	KazTransOil JSC (JSC NC KazMunayGas)			2. LLP JV Budenovskoye (JSC NAC Hazatomprom)
3	KZO09	KazTransOil JSC (JSC NC KazMunayGas)			3. Uranenergo LLP (JSC NAC Hazatomprom)
4	KZO10	Intergas Central Asia JSC (JSC NC QazaqGaz)	17	HZO69	4. Rusburmash-Kazakhstan LLP (JSC NAC Hazatomprom)
5	KZO11	1. KazTransOil JSC (JSC NC KazMunayGas) 2. Isatai Operating Company LLP (JSC NC KazMunayGas)			1. Hazatomprom-SaUran LLP (JSC NAC Hazatomprom)
6	KZO12	Aktau Sea Northern Terminal LLP (JSC NC Kazakhstan Temir Zholy)	18	HZO70	2. LLP JV Akbastau (JSC NAC Hazatomprom)
7	KZO13	KazTransOil JSC (JSC NC KazMunayGas)			3. Uranenergo LLP (JSC NAC Hazatomprom)
8	KZO16	KazTransOil JSC (JSC NC KazMunayGas)	19	HZO71	4. ShalkiyaZinc LTD JSC (JSC NMC Tau-Ken Samruk)
9	KZO17	KazTransOil JSC (JSC NC KazMunayGas)			5. Intergas Central Asia JSC (JSC NC QazaqGaz)
10	KZO18	Intergas Central Asia JSC (JSC NC QazaqGaz)	20	HZO72	1. LLP JV KATHO LLP (JSC NAC Hazatomprom)
11	KZO49	First Wind Power Station (Samruk-Energy JSC)			2. ShalkiyaZinc LTD JSC (JSC NMC Tau-Ken Samruk)
12	KZO56	Ereymentay Wind Power LLP (Samruk-Energy JSC)	21	HZO73	Intergas Central Asia JSC (JSC NC QazaqGaz)
13	KZO63	Intergas Central Asia JSC (JSC NC QazaqGaz)			1. Shardara HPP JSC (Samruk-Energy JSC)
14	KZO65	Intergas Central Asia JSC (JSC NC QazaqGaz)	22	HZO76	2. Intergas Central Asia JSC (JSC NC QazaqGaz)
15	KZO66	Intergas Central Asia JSC (JSC NC QazaqGaz)	23	HZO84	EWP LLP, FWPS LLP (Samruk-Energy JSC)
16	KZO68	1. Karatau LLP (JSC NAC Hazatomprom) 2. Uranenergo LLP (JSC NAC Hazatomprom)	24	HZ103	U.D. Kantayev Moinak Hydroelectric Power Plant (Samruk-Energy JSC)
			25	HZ105	Bogatyr Komir LLP (Samruk-Energy JSC)
			26	HZ108	1. Shulba HPP JSC (Samruk-Energy JSC) 2. Kazzinc LLP (JSC NMC Tau-Ken Samruk)

²⁰ <http://datazone.birdlife.org/site/mapsearch>.

TABLE 11. KEY BIODIVERSITY AREAS (KBA) AFFECTED OR LOCATED NEAR THE TERRITORIES OF PORTFOLIO COMPANIES OF THE FUND²¹

№	KBA	Name of the legal entity
1	19 944	Shardara HPP JSC (Samruk-Energy JSC)
2	19 955	1. LLP JV KATHO LLP (JSC NAC Hazatomprom) 2. ShalkiyaZinc LTD JSC (JSC NMC Tau-Ken Samruk)
3	20 601	U.D. Kantayev Moinak Hydroelectric Power Plant (Samruk-Energy JSC)
4	20 927	1. Ozenmunaigas JSC (JSC NC HazMunayGas) 2. Aktau Sea Northern Terminal LLP (JSC NC Kazakhstan Temir Zholy)
5	21 811	Ozenmunaigas JSC (JSC NC HazMunayGas)
6	21 947	ShalkiyaZinc LTD JSC (JSC NMC Tau-Ken Samruk)
7	21 969	Samruk-Green Energy LLP (Samruk-Energy JSC)
8	21 980	Embamunaigas JSC (JSC NC HazMunayGas)
9	21 986	EWP LLP, FWPS LLP (Samruk-Energy JSC)
10	22 007	HMG-Harachaganak LLP (JSC NC HazMunayGas)
11	22 284	1. Hazatomprom-SaUran LLP (JSC NAC Hazatomprom) 2. ShalkiyaZinc LTD JSC (JSC NMC Tau-Ken Samruk)
12	46 725	U.D. Kantayev Moinak Hydroelectric Power Plant (Samruk-Energy JSC)

²¹ <https://www.keybiodiversityareas.org/sites/search>.

²² According to the annual reports of Portfolio Companies.

²³ According to the annual reports of Portfolio Companies.

²⁴ According to the annual reports of Portfolio Companies.

²⁵ According to the survey of Biodiversity Research & Conservation Center (BRCC) Public Fund.

TABLE 12. AFFECTED OR NEARBY SPTS TO TERRITORIES OF PORTFOLIO COMPANIES OF THE FUND

№	Name of the legal entity	SPT
1	JSC NC HazMunayGas ²²	1. State Protected Area in the northern part of the Caspian Sea; 2. Ustyurt State Nature Reserve; 3. Kenderli-Hayasan Protected area of republican significance; 4. 8 nature reserves; 5. 1 natural park of regional significance.
2	Intergas Central Asia JSC (JSC NC QazaqGaz) ²³	Syrdarya-Turkestan State Regional Natural Park
3	Bukhara-Ural main gas pipeline (JSC NC QazaqGaz) ²⁴	Mikhailovsky State Nature Reserve
4	Kazakhstan-China main gas pipeline (JSC NC QazaqGaz)	South Kazakhstan Protected Area
5	EWP LLP, FWPS LLP, U.D. Kantayev Moinak Hydroelectric Power Plant (Samruk-Energy JSC) ²⁵	1. Buiratau State National Nature Park 2. Charyn State National Natural Park



BRCC

Biodiversity Research & Conservation

We are grateful to the Public Foundation “Biodiversity Research and Conservation Center” for providing information and photo material for this report.

WATER MANAGEMENT

According to the UN, for more than 40% of the world population, the problem of water shortage is urgent and, according to forecasts, will worsen. Currently, more than 1.7 billion people live in river basins where water consumption exceeds the capacity to replenish water supplies.

According to the forecast of the World Resources Institute, Kazakhstan belongs to the countries with an average or high level of water scarcity (20-40%), and by 2040 it will become one of the countries with an extremely high or high level of water scarcity. [GRI 303-2, GRI 3-3](#)

Since 2017, JSC NC KazMunayGas has implemented a Corporate Water Resources Management Standard, which defines 8 key “water” principles and establishes requirements for the activities of member organizations of the JSC NC KazMunayGas group in the field of water conservation and water consumption. The performance of the JSC NC KazMunayGas Group of companies in terms of the use of water resources are consolidated in the corporate center, where the total impact of the Company on water resources is analyzed. In addition, JSC NC KazMunayGas has been disclosing information about the water footprint as part of the Carbon Disclosure Project Water Safety Questionnaire since 2019.

In 2021, JSC NAC Kazatomprom approved the corporate standard “Guidelines for Monitoring of the Impact of Underground Borehole Leaching of Uranium on Subsoil Water and Groundwater”, and uranium mining enterprises have implemented and are monitoring groundwater. The goal of the standard is to establish uniform requirements for monitoring the state of natural waters in the area of the location of uranium deposits of JSC NAC Kazatomprom during the extraction of uranium by the method of underground borehole leaching and upon completion of this process by uranium mining enterprises.

To control the impact on water bodies, we monitor underground and surface water bodies on a quarterly basis. Observation monitoring wells are used for groundwater. We regularly reduce the volume of water taken and increase the recycling of water for surface water bodies. The results of monitoring the impact on sensitive water bodies are brought to the attention of stakeholders quarterly. Issues of water resources regulation in Portfolio Companies are coordinated by environmental departments. [GRI 303-3](#)

WATER WITHDRAWAL

In 2022, the water withdrawal of Portfolio Companies of the Fund amounted to 304 143 MI (thousand m³), which is 38.4% more than the annual water intake of Astana. [GRI 303-3](#)

Our activities have the most significant impact on the water bodies of the western region of Kazakhstan (the Ural, Higach, Kokzhide sands, Pyatimar reservoir); the Sharyn River and the Bestyubin reservoir (Moinak Hydroelectric Power Plant), the Syrdarya River and the Shardara reservoir, the K. Satpayev Canal, the Shiderty Canal (Big Almaty Lake and the basin of the Bolshaya Almatinka River (Cascade of hydroelectric power plants), the Kapshagai reservoir (Kapshagai hydroelectric power plant), the Shu-Sary basin, which represent a special ecological, economic, historical, cultural and recreational value. [GRI 303-1](#)

In 2022, the Fund companies took 205 073 MI (thousand m³) of fresh water, which is 67.4% of the total water withdrawal. The water withdrawal of salt water is 99 070 MI (thousand m³), 32.3% of the total water withdrawal of the Fund.

In 2022, 83 707 MI (thousand m³) were taken for the purposes of oil and gas production and refining, which is 0.8% less than the level of 2021 (thousand m³).

The total volume of water withdrawal in the uranium mining and processing sector amounted to 9 188.9 MI (thousand m³), which does not exceed 3% in the total volume of water withdrawal of Portfolio Companies of the Fund.

The main volume of water withdrawal is provided by underground water bodies (93.3%).

In 2022, the heat and power generation sector withdrew 211 247 MI (thousand m³), which is 133 MI less than the volume of water withdrawal in 2021.

WATER CONSUMPTION

The Fund is a large-scale consumer of water resources. The total volume of water consumption in 2022 amounted to 304 143 MI (thousand m³). [GRI 303-5](#)

The most significant sectors – consumers of water resources in the technological processes of the Fund are: electricity production (58.8% of the total water consumption of the Fund; Samruk-Energy JSC), oil and gas production and processing (17.1%; JSC NC KazMunayGas), thermal energy production (18.6%; Samruk-Energy JSC), uranium mining and processing (does not exceed 2.8%; JSC NAC Kazatomprom). For the purposes of this report, the water consumption of other sectors of the Fund Group is insignificant (2.7%), as well as the consumption of water resources for household purposes. [GRI 303-5](#)

In 2022, 211 247 MI (thousand m³) of water was consumed for the production of heat and electricity, which is 69.5% of the total water consumption of the Fund. The water consumption of the heat and electricity production sector decreased by 133 MI (thousand m³) as compared to 2021.

In 2022, water consumption by Portfolio Companies in the oil and gas production and refining sector amounted to 83 707 MI (thousand m³), which is 27.5% of the total water consumption of the Fund.

In 2022, the uranium mining and processing sector consumed 9 188.9 MI (thousand m³), which is 9.2% less than in 2021. The decrease in water consumption is related to the increase in uranium production in 2022.

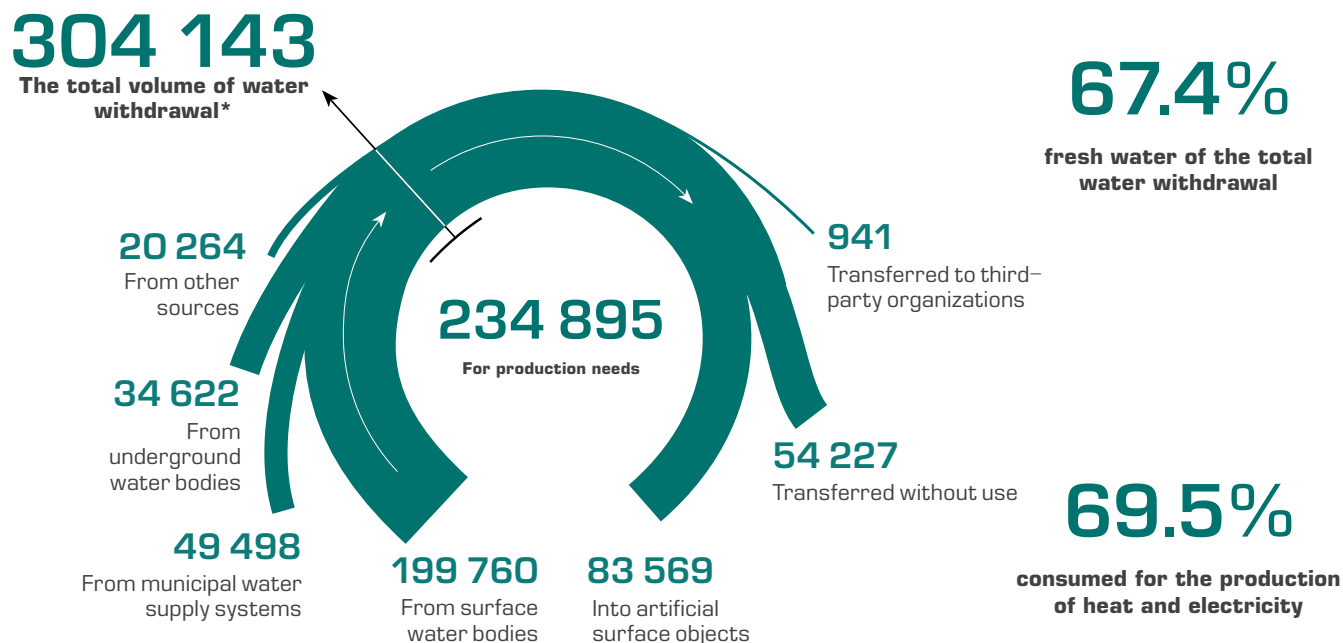
WATER DISCHARGE

In 2022, 87 926 MI (thousand m³) were allocated, which is 1.1% less than in 2021. Of this volume, 83 569 MI (thousand m³) was discharge into artificial surface objects (filtration fields, storage pond, evaporation pond, etc.), 941 MI (thousand m³) was transferred to third-party organizations. Water is discharged into evaporation ponds; the Fund does not discharge contaminated wastewater into water bodies. Standards of the quality of the diverted water, established by environmental legislation, are achieved using mechanical and biological methods of wastewater treatment. [GRI.303-4](#)

The most significant sources of industrial wastewater generation in the heat and electricity generation sector are the processes of removal and transportation of ash and slag waste to the ash dump through hydraulic ash handling systems, where wastewater is used as an additional transport agent. In 2022, the volume of wastewater discharged amounted to 73 818 MI (thousand m³), which is 774 MI (thousand m³) and 1% less than in 2021.

The sector of oil and gas production and processing allocated 10 692.3 MI (thousand m³) of wastewater. A significant amount of treated wastewater is reused only in the oil and gas refining sector, where 5 522.5 MI was reused in 2022 (6.6% of

FIGURA № 11. WATER BALANCE OF THE FUND, THOUSAND M³



* Excluding hydroelectric withdrawal

the total water consumption of Portfolio Companies in the oil and gas production and refining sector; thousand m³) of water, which is more by 502.2 MI (thousand m³) than in 2021.

The uranium mining and processing sector allocated 3 415.6 MI (thousand m³) in 2022, which is 29.2% less than in 2021.

In 2022, the total volume of produced water amounted to 136 519.2 MI (thousand m³), 99.2% of which was reinjected for maintaining reservoir pressure. Additionally, small amounts

of water are used to feed fire extinguishing systems, steam generation and household and drinking needs.

The Fund does not return water to natural water bodies. We are focused on the efficient use of water resources, and, as a result, on reducing water withdrawal. For the transparency of this indicator and the possibility of tracking it in the future, we understand that the water withdrawal indicator is equal to water consumption.

Further growth areas

Water resources management issues are one of the key climate risks for us. In this regard, we have developed an Energy and Resource Conservation Program for 2022–2027, the purpose of which is, among other things, the rational use of water resources. The analysis of Portfolio Companies' data showed a low level of quality of the data obtained by calculation, and not by direct measurements. Therefore, our short-term task is to organize effective technical accounting of energy and water consumption, including automation of data collection and control over water use.

In 2023, it is planned to develop Water Resources Management Programs in JSC NC KazMunayGas and JSC NAC Kazatomprom, the goal of which is to conduct a detailed analysis and identify measures and target indicators to reduce water withdrawal, increase circulating water supply.

In order to find additional opportunities to reduce the loss of water resources, it is also planned to involve personnel in the rational consumption of energy and water resources. [GRI 3-3, GRI 303-1](#)

One of the main environmental measures is the implementation of the TAZALYQ project, within the framework of which the modernization and reconstruction of the mechanical and biological treatment facilities of Atyrau Refinery, as well as the reconstruction of evaporation fields and the channel of normatively treated effluents are carried out.

The desalination plant was commissioned at Karazhanbasmunai JSC in Mangystau region. The plant is designed for processing and utilization of reservoir water and supply of process water in order to increase oil recovery of the Karazhanbas field by steam injection into the reservoir.

Karabatan Utility Solutions LLP produces chemically purified water on the principle of zero liquid discharges for production facilities located in the territory of the National Industrial Petrochemical Technopark in Atyrau Region special economic zone (SEZ). The company provides water treatment and purification of all types of wastewater from technological lines to provide production water, fire water, demineralized water, desalinated water for the technological needs of the Infrastructure of the Integrated Gas Chemical Complex (HPI LLP) and KUS LLP, as well as for the future needs of KLPE LLP, Butadiene LLP.

This process makes it possible to eliminate the discharge of liquid waste into the environment, create a closed water cycle, thereby significantly reducing the need for source river water as a raw material for obtaining desalinated water for the needs of enterprises, and increase the efficiency of the feedstock.



COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

We are working to identify inconsistencies with the environmental legislation of the Republic of Kazakhstan at production facilities, identify problematic issues and manage risks to take measures to prevent any inconsistencies with legal requirements.

In 2022, the amount of the Fund expenses on environmental protection amounted to HZT 56.3 billion, of which 24% were payments of taxes for emissions, 76% were expenses for environmental protection measures, insurance, compensatory measures in the field of environmental protection, investments to prevent environmental impacts, etc. Investments in the processing of oil waste, since the period of 2015, have increased by 3 times and account for more than a third of all environmental protection expenses in the oil production and refining sector.

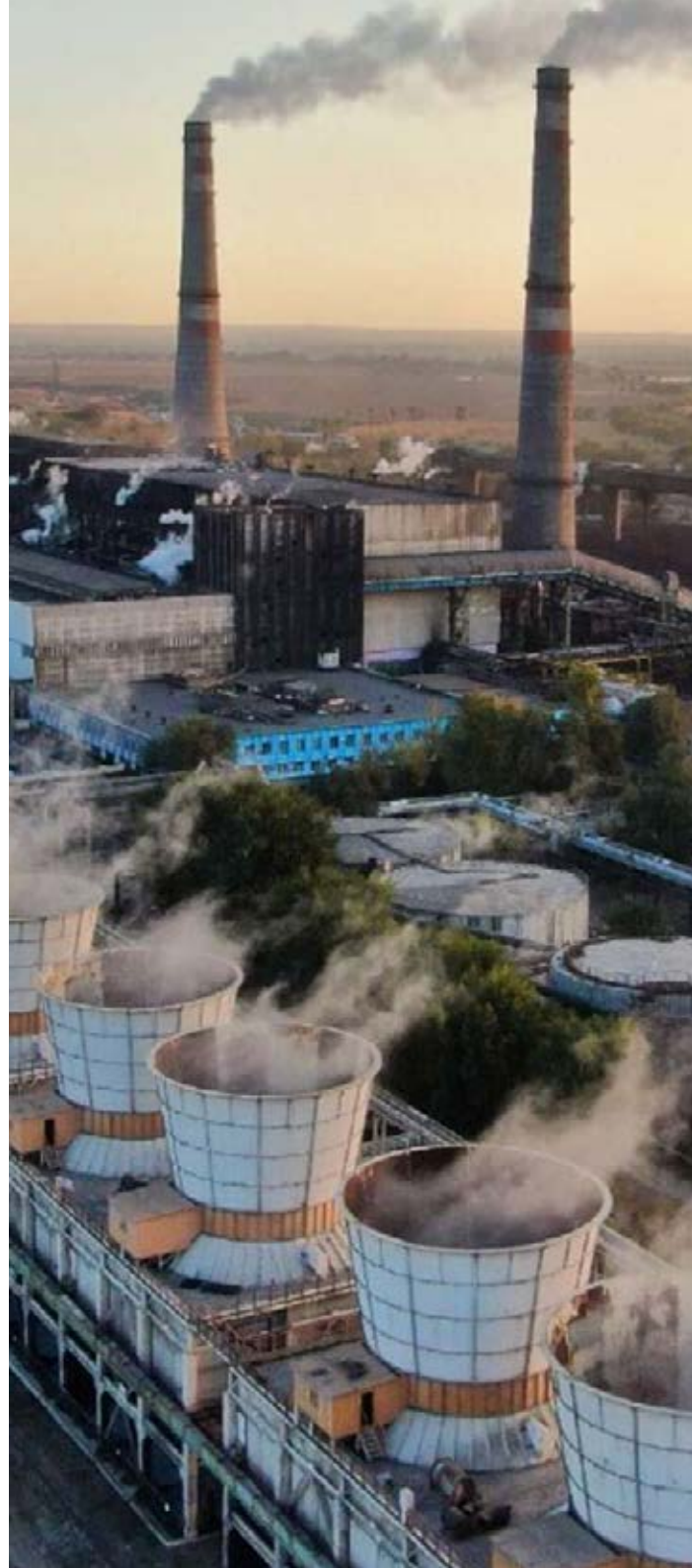
The amount of fines paid for violation of environmental legislation amounted to HZT 1 937.2 million. The largest amount of fines in the reporting year falls on the uranium mining and processing sector – HZT1 653.1 million, imposed on LLP JV Inkai due to exceeding the permitted wastewater rate.

The subsidiaries of the oil and gas production and refining sector paid HZT273 million in 2022, including HZT88.4 million for fines imposed in previous years. The subsidiaries carried out work on appealing a number of the orders presented: complaints were partially satisfied, part of the amount of fines was reduced. In the sector, work was also carried out to

identify non-compliance with the environmental legislation of the Republic of Kazakhstan at production facilities, to identify problematic issues and risk management for measures to prevent non-compliance with legal requirements.

In 2022, the main directions of the Fund in the field of compliance with environmental requirements were:

- obtaining or maintaining the validity of all permits required for each project;
- compliance with legal requirements to reduce the risk of potential environmental incidents and sanctions by the competent authorities;
- compliance with the requirements of the Environmental Code of the Republic of Kazakhstan regarding the establishment of automated systems for monitoring emissions of pollutants at 12 facilities that fall under the requirements of item 11 of Chapter 2 “Rules for Maintaining the Automated System for Monitoring Emissions into the Environment during Industrial Environmental Control”. Six facilities owned by Samruk-Energy JSC and six facilities owned by JSC NC KazMunayGas;
- active participation in the work of technical working groups on the development of reference books on Oil and Gas Production, Disposal, Neutralization, and Removal of Waste, including by Thermal Method BATs. Discussions are also being held on the developed manuals on the best available techniques “Oil and Gas Refining” and “Fuel Combustion at Large Plants for Energy Production”.





ANNEXES

”

We provide comparable and useful ESG decision-making information for investors and all stakeholders

06

REPORT PREPARATION METHODOLOGY

Our approach to presenting material impacts and sustainability indicators is to publish relevant information in an integrated and comprehensive manner so that it is easily accessible to our stakeholders. Due to the entry into force of the updated GRI 2021 standards, in particular, the update of the GRI 1: Fundamentals 2021 and GRI 3: Material Topics 2021 standards, it became necessary to revise the adopted approach in determining the material topics for disclosure in the Report. According to GRI 3: Material Topics 2021, the list of material topics was approved by the Management Board of the Fund.

APPROACH TO DEFINING MATERIAL TOPICS

Step 1. Understanding the sustainability context, including the impact on human rights within the framework of the Fund activities and business relations, considering the mission of the Fund, its strategic priorities, the industry specifics of Portfolio Companies of the Fund Group, their significant role in the national economy, impact on the environment and people.

Step 2. Identification of the actual and potential impacts (negative and positive impacts, short-term and long-term impacts, intentional and unintended impacts, as well as reversible and irreversible impacts) of the Fund on the economy, environment and people, and identification of topics that can be included in the report in terms of the sustainability context. The actual negative impact was assessed by the severity of the impact, and the potential negative impact was assessed by severity and probability. The significance of the actual positive impact was determined by the scale of the impact, and

the significance of the potential positive impact was determined by the scale and probability. When selecting the most significant ESG issues, new methodological approaches were used, including selection based on “double materiality”, that is, the selection of topics that are most significant for the financial results of the company and the value of its business, as well as for society (from the point of view of stakeholders).

At this stage, a wide list of sources was analyzed and topics relevant to the Fund in the field of sustainable development were identified. The approach was based on:

- analysis of national trends and regulatory environment in the field of sustainable development (Environmental Code, draft Carbon Neutrality Strategy);
- analysis of global trends in the field of sustainable development, including the UN SDGs, international reporting standards in the field of sustainable development, including the requirements of the Directive on Non-financial Reporting Directive 2014/95/EU, Corporate Sustainability Reporting Directive (CSRD) No. 2022/2464, survey and evaluation forms of rating agencies, reports and studies of leading consulting and analytical companies, memoranda of international forums, etc. We also took into account the industry specifics of the sectors in which we operate and turned to the existing industry reporting standards in the field of sustainable development GRI 2021;
- accounting for significant risks to the Fund activities;
- analysis of the main interests/topics raised by stakeholders in the field of sustainable development;
- reviewing topics that were deemed significant in the last reporting period and analyzing feedback to our previous report;

- analysis of internal documents (long-term Development Plan, Corporate Governance Code, corporate policies and procedures, key risks), as well as audit reports.

Interaction with stakeholders is of fundamental importance to us. This contributes to our understanding of what is so important to them and their expectations from the Fund Group.

To identify topics of interest to our stakeholders, we took into account topics that were discussed at the site of the Public Council, profile Associations, requests from internal and external stakeholders received through the Company's official channels for feedback.

At this step, we have determined the priority of topics based on results of the survey (questionnaire). During the survey, we asked key managers of the Fund and Portfolio Companies to evaluate topics in terms of their impact and influence, as well as to identify topics that they would like to include in the report.

The result of this stage was a preliminary list of significant topics that were further evaluated and ranked.

Step 3. Assessment of its actual and potential impact on the economy, the environment and people. Analysis of the preliminary list of topics, given risks and opportunities for the Fund.

Each topic was evaluated in terms of actual and potential positive or negative impact, the severity of this impact (scale and scope) on a 3-point scale, the significance of this impact – on a scale from 1 to 5.

Step 4. Prioritization of the most significant topics for inclusion in the reporting.

We evaluated the identified significant topics from the point of view of compliance with the Principle of Completeness to ensure that the report will give a reasonable and balanced view of our impact and allow stakeholders to evaluate the results of our activities.

As a result of these procedures, 13 significant topics were identified, 87 thematic indicators for disclosure.

Prior to the report publication, the Fund Management Board reviews and approves its content (a list of material topics).

Our goal is to prioritize in accordance with the impact on the economy, the environment and people, for further planning of further actions.

Increasing the level of interaction with stakeholders has increased the number of social aspects disclosed in this report. Ultimately, this significantly affected the materiality matrix and shifted the focus of this report to the social impact of our activities. [GRI 3-1](#)

MATERIAL TOPICS COVERED IN OUR REPORT

Topics that are identified as material and their priority are reflected in the diagram and in the materiality matrix are presented in Annex 2. The report reveals topics that have high or medium priority.

TABLE 13. MATERIAL TOPICS OF THE FUND FOR 2022 [GRI 413-2](#), [GRI 3-2](#)

Material topics	Materiality assessment			UN SDGs
	Impact type	Significance of Direct Impact	Significance of indirect impact	
Environmental topics				
Energy	-	● ● ●		7
Water and Effluence	-	●	● ●	13
Biodiversity	-			13
Emissions	-	● ● ●		13
Social topics				
Interaction with employees	+	● ● ●		8 16
Occupational Health and Safety	-	● ● ●	● ● ●	3 8
Training and Education	+	● ●		4
Human rights and non- discrimination	+	●		4 5 10
Local Communities	+-	● ●		11 17
Economic topics				
Economic Performance	+	● ● ●		7 9 11 17
Indirect Economic Impacts	+	● ● ●	● ● ●	7 9 11 16 17
Anti-corruption	+	● ●		16
Procurement Practices	+	● ● ●	● ● ●	16

Impact type: + positive – negative

Materiality level:

- ● ● strong
- ● average
- low

CHANGES IN THE MATERIALITY OF TOPICS

We have made a number of changes to material topics in comparison with the 2021 Sustainability Report.

2021	2022
Environmental topics	
Energy conservation	Energy
Waste minimization	Water and Effluents
Low-carbon development	Biodiversity
Direct and indirect CO ₂ emissions	Emissions
Social topics	
Impact on employment	Employment
Occupational Health and Safety (including COVID-19)	Occupational Health and Safety
Staff training and Development	Training and Education
Remuneration and evaluation of personnel	Human rights and non-discrimination
Charity	Local Communities
Corporate culture	
Diversity and Inclusivity	
Economic topics	
Corporate Governance System	Economic Performance
Gender balance in governing bodies, including the Board of Directors	Indirect Economic Impacts
Anti-corruption	Anti-corruption
Socially responsible procurement	Procurement Practices
Transparency and disclosure	
Integrity and compliance	



INDEPENDENT ASSURANCE GRI 2-5



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Independent limited assurance report of an independent practitioner on the selected information disclosed in the sustainability report of Sovereign Wealth Fund Samruk-Kazyna JSC for 2022

To the shareholders of Sovereign Wealth Fund Samruk-Kazyna JSC

Introduction

We were engaged by the Board of Directors of Sovereign Wealth Fund Samruk-Kazyna JSC (the "Company") to provide limited assurance on the Selected information, as identified below, disclosed in the Sustainability Report for the year ended 31 December 2022 of the Company (the "Report").

Subject matter

We assessed the qualitative and quantitative information specified in the Appendix A to this report, that is identified or disclosed in the Annex 3, "GRI content index" of the Report (the "Selected Information").

Applicable Criteria

We assessed the information mentioned in Subject Matter using reporting requirements in the Sustainability Reporting Standards published by the Global Reporting Initiative (the "Applicable criteria").

Management's responsibilities

Management is responsible for the preparation and presentation of the Selected information in accordance with the Applicable criteria and for establishing and maintaining appropriate internal control systems from which the Report is derived.

Management is responsible for preventing and detecting fraud and for identifying and ensuring that Company complies with laws and regulations applicable to its activities.

Management is also responsible for ensuring that staff involved with the preparation and presentation of the Report are properly trained, information systems are properly updated and that any changes in reporting encompass all significant business units.

Our responsibilities

Our responsibility is to carry out a limited assurance engagement in respect of the preparation of the Selected information in accordance with the Applicable criteria and to express a conclusion based on the work performed.

Sovereign Wealth Fund "Samruk-Kazyna" JSC

Independent limited assurance report of an independent practitioner on a sustainability report of Samruk-Kazyna JSC for 2022

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We conducted our engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (revised) *Assurance Engagements other than Audits or Reviews of Historical Financial Information* (ISAE 3000 (revised)), and, in respect of greenhouse gas emissions, in accordance with ISAE 3410 *Assurance Engagements on Greenhouse Gas Statements* (ISAE 3410), issued by the International Auditing and Assurance Standards Board. ISAE 3000 (revised) and ISAE 3410 require that we plan and perform the engagement to obtain limited assurance about whether the Selected information is free from material misstatement.

Our firm applies International Standard on Quality Management (ISQM) 1, *Quality Management for Firms That Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Procedures performed

A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Selected information, and applying analytical and other procedures, as appropriate. These procedures included:

- Inquiries of Management to gain an understanding of the Company's processes for determining the material issues for the Company's key stakeholder groups.
- Interviews with Senior management and relevant staff at the corporate center level and at the subsidiaries level concerning sustainability strategy and policies for material issues, and the implementation of these across the business.
- Interviews with relevant staff at the corporate center level and at the subsidiaries level responsible for providing the information in the Report.
- Comparing the Selected information to corresponding information in the relevant underlying sources to assess the accuracy of the information and determine whether all the relevant information contained in such underlying sources has been included in the Report.
- Reading the information presented in the Report to determine whether it is in line with our overall knowledge of, and experience with, the sustainability performance of Company.
- Obtaining consolidated data for each Selected information, at the aggregated corporate level and at the level of subsidiaries, as per the reporting boundary developed by management and agreeing the data with the information detailed in the Subject Matter.
- Performing the following in relation to the Selected information on selected basis:
 - Obtaining supporting evidence, source data, underlying records, or reports for selected data points to reconcile subsidiary level information.
 - Performing recalculation (where applicable) of the Selected information data on subsidiary level obtained from the system outputs, reports and other relevant records;

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement, and consequently the level of assurance obtained in a limited assurance engagement is

substantially lower than the assurance that would have been obtained has a reasonable assurance engagement been performed.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusions.

Inherent limitations

Due to the inherent limitations of any internal control structure, it is possible that errors or irregularities in the information presented in the Report may occur and not be detected. Our engagement is not designed to detect all weaknesses in the internal controls over the preparation of the Report, as the engagement has not been performed continuously throughout the period and the procedures performed were undertaken on a test basis.

Conclusion

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report.

Based on the procedures performed and the evidence obtained, as described above, nothing has come to our attention that causes us to believe that the Selected information, as identified above, of the Report is not presented, in all material respects, in accordance with the Applicable criteria.

Restriction of use of our report

Our report should not be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than the Shareholders of the Company, for any purpose or in any other context. Any party other than the Shareholders of the Company who obtains access to our report or a copy thereof and chooses to rely on our report (or any part thereof) will do so at its own risk. To the fullest extent permitted by law, we accept or assume no responsibility and deny any liability to any party other than the Shareholders of the Company for our work, for this independent limited assurance report, or for the conclusions we have reached.

Our report is released to the Shareholders of the Company on the basis that it shall not be copied, referred to or disclosed, in whole or in part, without our prior written consent.



22 September 2023



Appendix A

GRI Standard	Name of indicator	Section and pages in the Report
2-1	Information about the organization	About the report, page 3; Annex 6. Contact information; page 114
2-2	Enterprises included in the organization's sustainability reporting	About the report, page 3; Annex 2. Reporting boundaries; pages 96-98
2-3	Reporting period, frequency and contact person	About the report, page 3; Annex 3. GRI Content Index, page 99; Annex 6. Contact information, 114
2-4	Information revision	Annex 3. GRI Content Index, page 99
2-5	External assurance	About the report, page 3; Independent assurance, page 85
2-6	Activities, value chain and other business relationships	Address of a Member of the Board of Directors, page 4-5; Value creation, page 9; About the Fund, page 12; Annex 3. GRI Content Index, page 99
2-7	Workers	Our People (Personnel Structure), page 53; Annex 3. GRI Content Index, page 99; Annex 9. ESG Data, 122-125
2-8	Part-time employees	Annex 3. GRI Content Index, page 99; Annex 9. ESG Data, page 125
2-9	Structure and composition of the management	Our approach to Sustainable Development; pages 44-46
2-10	Nomination and selection to the supreme governing body	Our approach to Sustainable Development; pages 44, 45, 48
2-11	Chairman of the Supreme Governing body	Our approach to Sustainable Development (Corporate Governance); pages 47
2-12	Role of the supreme governing body in control over the impact management	Our approach to sustainable development (Corporate Governance, Risk Management and Internal Control); pages 45, 47, 49
2-13	Delegation of responsibility for impact management	Our approach to Sustainable Development (Corporate Governance); pages 45, 47
2-14	Role of the supreme governing body in sustainable development reporting	About the report, page 3; Our approach to sustainable development (Corporate governance), page 45
2-15	Conflicts of interest	Our approach to Sustainable Development (Corporate Governance); page 50
2-16	Transmitting information about the most important issues	Our approach to sustainable development (Corporate Governance), page 49; Annex 3. GRI Content Index, page 100
2-17	Collective knowledge of the supreme governing body	Our approach to Sustainable Development (Corporate governance), page 48
2-18	Performance evaluation of the supreme governing body	Our approach to sustainable development (Corporate governance), page 48

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2-19	Remuneration Policy	Our approach to sustainable development (Corporate governance), page 48
2-20	Determining the amount of remuneration	Our approach to sustainable development (Corporate governance), page 48
2-21	Annual total remuneration ratio	Our approach to sustainable development (Corporate governance), page 48
2-22	Sustainable Development Statement	Address of a Member of the Board of Directors, page 5; Interview of the Chief Executive Officer, page 6
2-23	Policy commitments	About the Fund (Value of human rights and ethical conduct, intolerance towards corruption), page 14; Our approach to sustainable development (Risk management and internal control), page 49
2-24	Implementation of policy commitments	Our approach to sustainable development (Corporate governance, Risk management and internal control, Work of the Compliance Service and the Ombudsman Institution), pages 47, 49, 51; Our people (Personnel structure, Equality for all, Social and labor relations, Occupational safety), pages 53-54, 59-61; Annex 1, Commitment to the UN sustainable development goals, page 91-95
2-25	Processes on eliminating negative impacts	Our approach to the sustainable development (Work of the Compliance Service and the Ombudsman Institution); page 51
2-26	Mechanisms for seeking advice and expressing concerns	About the Fund (Conflict of Interest Prevention); page 16
2-27	Compliance with laws and regulations	Environment (Compliance with environmental requirements), page 81
2-28	Member associations	About the Fund (Partnerships and membership in Associations); page 17
2-29	The approach to interaction with stakeholders	About the Fund (Openness, Transparency, and Accountability), page 15; Annex 4, Our approach to stakeholder engagement, pages 105-109
2-30	Collective agreements	Our people (Social and labor relations); page 59
3-1	Process of identifying essential topics	Report preparation methodology (Approach to defining material topics); page 83-84
3-2	List of significant topics	Report preparation methodology (Approach to defining material topics); page 84
3-3	Management of material topics	The strategy is translated into investments, page 25
201-1	Direct economic value created and distributed	The strategy is translated into investments; page 25
201-2	Financial implications and other risks and opportunities related to climate change	Our response to global challenges (Climate risks and opportunities); pages 20-23

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201-3	Defined benefit obligations and other pension plans	Our People (Caring for our people); page 55
201-4	Financial assistance received from the State	The strategy is translated into investments; page 25
3-3	Management of material topics	The strategy is translated into investments; page (New product conversions and job creation), page 28
203-1	Development and impact of infrastructure investments and services rendered	The strategy is translated into investments (New product conversions and job creation, Ensuring the sustainable development of the regions), pages 28, 30, 34-36, 42
203-2	Significant indirect economic impacts	The strategy is translated into investments (New product conversions and job creation, Ensuring the sustainable development of the regions), pages 28, 30, 34, 42
3-3	Management of material topics	The strategy is translated into investments (Ensuring the sustainable development of the regions), page 37
204-1	Ratio of procurement from local suppliers	The strategy is translated into investments (Ensuring the sustainable development of the regions), page 40; Annex 9, ESG Data, page 126
3-3	Management of material topics	About the Fund (Intolerance towards corruption), page 14
205-1	Assessment of operations for corruption-related risks	Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman), page 50; Our People (Equality for all); page 54
205-2	Informing and training on anti-corruption policies and procedures	About the Fund (Intolerance towards corruption), page 15; Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman), page 51
205-3	Confirmed cases of corruption and measures carried out	Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman); page 51
3-3	Management of material topics	Environment (Energy efficiency management), page 71
302-1	Energy consumption within the organization	Environment (Energy efficiency management), page 71; Annex 9, ESG Data; pages 130-132
302-2	Energy consumption outside the organization	Annex 3, GRI Content Index, page 102
302-3	Energy intensity	Environment (Energy efficiency management), page 71 Annex 9, ESG Data, page 131-132
302-4	Reducing energy consumption	Environment (Energy efficiency management), pages 71-72; Annex 9, ESG Data; page 130

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302-5	Reducing energy requirements for products and services	Annex 3. GRI Content Index, page 102
3-3	Management of material topics	Environment (Water management), page 78
303-1	Using water as a shared resource	Environment (Water management); pages 78, 80
303-2	Management of impacts related to water discharge (drainage)	Environment (Water management); page 78
303-3	Total amount of water taken	Environment (Water management), pages 78-80; Annex 9. ESG Data, page 132
303-4	Water discharge (drainage)	Environment (Water Resources Management), page 79; Annex 9. ESG Data; page 133
303-5	Water consumption	Environment (Water management), page 78; Annex 9. ESG Data, pages 132-133
3-3	Management of material topics	Environment (Conservation of biodiversity), page 73
304-1	Work sites owned, leased, administered or adjacent protected areas or areas with a high level of biodiversity outside protected areas	Environment (Conservation of biodiversity); page 73
304-2	Description of significant impacts of activities, products and services on biodiversity	Environment (Conservation of biodiversity); page 73
304-3	Preserved or restored habitats	Annex 3. GRI Content Index, page 102
304-4	The total number of species listed in the IUCN Red List and in the national list of Nature conservation with habitats in areas exposed to the effects of industrial activity and the risk of extinction.	Annex 5. Species identified in the areas of operation and their conservation status, pages 110-113
3-3	Management of material topics	Environment (Greenhouse gas emissions), page 67
305-1	Direct greenhouse gas emissions (Scope 1)	Environment (Greenhouse gas emissions), pages 67-69; Annex 9. ESG Data; pages 129-130
305-2	Indirect energy emissions of greenhouse gases (Scope 2)	Environment (Greenhouse gas emissions), pages 67-69; Annex 9. ESG Data; page 130
305-3	Other indirect greenhouse gas emissions (Scope 3)	Environment (Greenhouse gas emissions); page 68; Annex 3. GRI Content Index, page 103
305-4	Intensity of greenhouse gas emissions	Environment (Greenhouse gas emissions), page 67; Annex 9. ESG Data, pages 130

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305-5	Reducing greenhouse gas emissions	Environment (Greenhouse gas emissions); pages 67
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403-3	Health protection services	Our people (Occupational Safety, Occupational health); pages 61, 64
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3-3	Management of material topics	Our people (Personnel structure), page 53
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413-2	Operations with significant actual and potential negative impact on local communities	Report preparation methodology (Material topics covered in our report), page 84; Annex 3. GRI Content Index, page 104; Annex 4. Our approach to stakeholder engagement, pages 105-109
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ANNEX 1. COMMITMENT TO THE UN SUSTAINABLE DEVELOPMENT GOALS GRI 2-24

Priorities for the UN SDGs	Strategic objective of the Fund/Goal	Progress in 2022	Events for 2022	2022 Sustainability Report sections
 <p>Reducing the level of injuries and improving occupational safety. Increase funding for healthcare and vocational training. Health coverage.</p>	<p>Strategic objective No. 16 H&S Best Practices</p> <ul style="list-style-type: none"> Achieving LTIFR 0.14 in 2023 Achieving LTIFR 0.11 in 2027 100% training of production personnel on safety culture in 2023 	<p>The Fund has joined the Vision Zero concept. Management has committed to reducing all incidents, including those with severe consequences, in order to reduce fatalities to zero.</p> <p>The number of injured persons in industrial accidents has been reduced by 16%</p> <p>The injury rate with loss of working time LTIFR decreased by 27% (LTIFR 0.16)</p> <p>The FAR (Fatal Accident Rate) fatality rate decreased by 11%</p> <p>Number of fatalities not related to work due to poor health, has decreased by 49%;</p> <p>97% of employees have undergone periodic medical examination;</p> <p>28,628 employees have been trained in first aid skills.</p>	<p>The Policy and Corporate Standard on Occupational Safety have been approved</p> <p>Cross-audits were conducted in the Fund Organizations</p> <p>The Fund, the Ministry of Labor and Social Protection and the International Social Security Association (ISSA) signed the memorandum of understanding;</p> <p>A corporate training course "Safe Work Culture" has been developed;</p> <p>Implementation of automation of medical pre-shift and post-shift examinations.</p>	<p>Occupational safety</p> <p>Occupational health</p>
 <p>Equal access to quality preschool education.</p> <p>Free primary and secondary education. Eliminate all types of inequality in education.</p> <p>Full-time employment, training and education for young people.</p> <p>Creation and improvement of educational institutions that take into account the interests of children, special needs of people with disabilities.</p>	<p>Strategic objective No. 15 Social responsibility</p> <p>Goal No. 17 Human capital development</p>	<p>The charitable budget of Samruk-Hazyna Trust CF for 2022 amounted to KZT9.9 billion</p> <p>43 social projects were implemented, about 500 thousand people received assistance, including 55 thousand children</p> <p>2 students of L.N. Gumilyev Eurasian National University as well as 6 students from other universities have completed an internship at the Fund</p> <p>Based on Portfolio Companies, 741 people studying at universities in Kazakhstan and abroad have completed practical training in the areas of petrochemistry, energy and nuclear industry</p> <p>97 people have completed a summer internship at the Fund enterprises</p> <p>Start of the Comfortable School national project for the construction of 401 schools by 2025</p> <p>102 employees (certified mediators) have been trained under the Pool of Mediators project</p> <p>The Center for Social and Labor Relations trained 80 trade union leaders</p> <p>65 graduate students from socially vulnerable families of Zhanaozen city received grants for training under the Ziyatker Urpak project</p>	<p>8 young specialists were selected under the Izbasar program to undergo paid internships at the enterprises of JSC NAC Hazatomprom</p> <p>177 children from the areas of operation are provided with scholarships and grants to study in institutions of technical and vocational, post-secondary education and boarding schools of the Republic of Kazakhstan</p> <p>50 grants were provided under the IQanat Educational Fund for 10th grade students to study at the IQanat High School of Burabay boarding school</p> <p>100 mothers with many children, single and women in difficult situations have been trained in popular professions and have been employed.</p> <p>Aitumar, the republican essay contest, was organized among children in order to develop and popularize children's literature</p> <p>The Soyle project has been implemented to promote and assist in expanding the scope of the state language</p> <p>The Salamatty Bolashak project was implemented in cooperation with the World of Equal Opportunities Fund to organize free adaptive sports sections for 1 100 children with disabilities</p>	<p>Ensuring the sustainable development of the regions</p> <p>Investments in talent development</p> <p>Youth policy</p> <p>Annex 4. Our approach to stakeholder engagement</p>

Priorities for the UN SDGs	Strategic objective of the Fund/Goal	Progress in 2022	Events for 2022	2022 Sustainability Report sections
 <p>Eliminate all forms of discrimination against all women everywhere, as well as ensure the full and effective participation of women and equal opportunities for them to lead at all levels of decision-making in political, economic and public life.</p>	<p>Strategic objective No. 13 Corporate governance</p> <ul style="list-style-type: none"> To achieve by 2030 a 30% share of women in the composition of the Board of Directors of organizations and executive bodies of the Fund and organizations <p>Enter 70% percentile by the ESG rating level by 2032</p>	<p>Weighted average indicator of the share of women in the composition of the Board of Directors/Supervisory Board of Portfolio Companies of the Fund amounts to 15%;</p> <p>There are no differences in the base salary and in the remuneration system in the Fund, depending on gender differences;</p> <p>JSC NAC Hazatomprom (ESG rating S&P Global Ratings 51);</p> <p>JSC NC HazMunayGas (ESG Sustainalytics rating 28.5);</p> <p>JSC NC Kazakhstan Temir Zholy (Moody's ESG rating 57)</p>	<p>The launch of the Gender Equality program for the Fund (140 participants), which will continue in 2023–2027, aimed at increasing the share of women on the Boards of Directors, Supervisory Boards and executive bodies</p>	<ul style="list-style-type: none"> Corporate governance Personnel structure Equality for all
 <p>Develop a reliable, sustainable and strong infrastructure</p> <p>Promote inclusive and sustainable industrialization</p> <p>Universal access to modern energy supply</p> <p>Increase the share of energy from renewable sources</p> <p>Develop research, technologies, investments in the field of clean energy</p> <p>Increase the efficiency of resource use in consumption and production</p>	<p>Strategic objective No. 18 Resource saving</p> <ul style="list-style-type: none"> Reducing energy intensity of production activity –10% by 2027 (from the level of 2021) Increasing the share of low-carbon generation in electricity purchases to 45% by 2032 (from the level of 2021) <p>The share of RES and HPPs in electricity production is 26% by 2032 (from the level of 2021)</p>	<p>The share of RES and HPP in electricity production is 6%;</p> <p>Qazaq Green Power PLC is registered in the jurisdiction of the AIFC to manage "green" assets (RES, HPP).</p>	<p>The Resource and Energy Saving Program has been approved;</p> <p>The Fund began to implement elements of Smart Grid technology, using the example of KEGOC JSC;</p> <p>Construction of a maneuverable CCGT in Turkestan has begun (for more details, see page 42);</p> <p>Portfolio Companies of Samruk-Energy JSC and JSC NC HazMunayGas plan to introduce additional RES (including hydroelectric power plants) with a total installed capacity of about 2.3 GW by 2027;</p> <p>It is planned to put into operation a wind power plant with a capacity of 1 GW from 2026 (in 2025 – 100, in 2026 +100 MW, in 2027 – +300 MW).</p>	<ul style="list-style-type: none"> Decarbonization New product conversions and job creation Energy efficiency management

Priorities for the UN SDGs	Strategic objective of the Fund/Goal	Progress in 2022	Events for 2022	2022 Sustainability Report sections
 <p>Employment and decent work with equal pay Full employment and decent work with equal pay Protect labor rights and ensure safe working conditions Work, training and education for young people Sustainable economic growth Diversification and modernization and innovation for economic productivity</p>	<p>Strategic objective No. 15 Social responsibility</p> <ul style="list-style-type: none"> In 2023–2027, the introduction of corporate values and the implementation of measures to develop corporate culture; In 2023–2027, the official salary of workers in low-paid professions and positions will increase; Percentage of implementation of the corporate culture roadmap of the Fund; Staff turnover; Satisfaction level of employees with working conditions; Staff involvement level; 	<p>The Fund is an employer for a quarter of a million people with more than 259 thousand employees</p> <p>Three of the five Managing Directors of the Fund are young graduates of the Presidential Youth Talent Pool</p> <p>In 2022, KZT340 billion was allocated to increase salaries from 5 to 48% for low-paid positions and production personnel</p>	<p>Attracting members of the Presidential Youth Talent Pool to leadership positions</p>	<ul style="list-style-type: none"> Value of human rights and ethical conduct Equality for all Caring for our people Social and Labor Relations Occupational safety Occupational health
 <p>Development of R&D and innovation, high-tech industries</p>	<p>Strategic objective No. 6 Development of R&D and innovation, high-tech industries</p> <ul style="list-style-type: none"> formation of a network of domestic and foreign scientific and technological partners, Building scientific and research potential; increased funding for applied research, up to KZT8 billion by the end of 2026. 	<p>The Fund has a Scientific and Technical Council; Samgau Center for Scientific and Technological Initiatives (CSTI) was created;</p> <p>70 projects totaling KZT8.5 billion were approved for implementation at the meetings of the Scientific and Technical Council of the Fund</p>	<p>The Fund plans to invest more than KZT13 trillion in various sectors, including the development of transport and logistics infrastructure (modernization of oil and gas, energy, railway and telecommunications systems of Kazakhstan), energy and social sphere.</p>	<ul style="list-style-type: none"> New product conversions and job creation
 <p>Creation of equal working conditions for all employees, elimination of any forms of harassment or discrimination in the workplace</p>	<p>Strategic objective No. 17 Human capital development</p> <ul style="list-style-type: none"> Creation of fair and transparent recruitment and promotion of Kazakhstani personnel to senior positions Increasing the share of positions closed by internal promotions in the Fund Appointments from the successor pool to key positions of the Fund Reducing turnover among the successor pool of the Fund 	<p>The number of applicants on the unified online recruiting portal, QSamruk.kz, increased by 60% in 2022%;</p> <p>The number of vacancies closed by external candidates through qsamruk.kz in 2022 is 7 249 (1 795 vacancies were closed in 2021);</p> <p>The number of expats on the Board of Directors and Supervisory Boards has been reduced from 23 to 14 (40%)</p>	<p>Development of Samruk Qyzmet as its own platform for the search and selection of personnel to ensure transparent recruitment;</p> <p>In 2022, all appointments are published in the public domain in the tg-channel @samrukazynaofficial.</p>	<ul style="list-style-type: none"> Our people

Priorities for the UN SDGs	Strategic objective of the Fund/Goal	Progress in 2022	Events for 2022	2022 Sustainability Report sections
 <p>Ensuring openness, security, viability and environmental sustainability of cities and settlements.</p>	<p>Strategic objective No. 8 Major infrastructure projects</p> <ul style="list-style-type: none"> Implementation of socially significant projects in the regions of its presence 	<p>The Fund activities are of high social and strategic importance for the regions of its presence;</p> <p>In 2022, the first integrated gas chemical complex was opened, the operator of which is Kazakhstan Petrochemical Industries Inc. LLP.</p>	<p>Construction of a gas processing plant based on the raw materials of the Hashagan field;</p> <p>Gasification of Sarsha area and Warm Beach resort area;</p> <p>Reconstruction of the gas transmission system of Mangystau region;</p> <p>Construction of looping on the Makat – North Caucasus main gas pipeline</p> <p>Gasification of Almaty, modernization, reconstruction of gas distribution networks of Almaty; gasification of 3 settlements (Zhitikara, Tobol village, Bolshaya Churakovka village) of Hostanay region;</p>	<p>☉ Strategy is translated into investments</p>
 <p>Integrating climate change responses into policy and planning Increase of resistance and ability to adapt to dangerous climatic phenomena</p>	<p>Strategic objective No. 19 Decarbonization</p> <p>Goal No.20 Green financing</p> <ul style="list-style-type: none"> Reducing the carbon footprint by 10% by 2032 from the base year of 2021 and achieving carbon neutrality by 2060 Formation of a portfolio of offset projects of 5.8 million tons of CO₂-eq by 2032 (about the level of 2021) The degree of implementation of the Plan for the transition to a low-carbon business model of the Fund, % Getting CDP Ratings 	<p>Samruk-Energy JSC made its debut offering of green bonds by public subscription on the stock exchange of the Astana International Financial Center – Astana International Exchange in the amount of KZT18.4 billion with a coupon rate of 11.4% per annum and a circulation period of 6.5 years</p> <p>JSC NC HazMunayGas has acquired international renewable energy certificates%</p> <p>FWPS LLP registered 136 thousand tons of CO₂-eq as offset</p>	<p>The Low-carbon Development Concept of the Fund was approved, including the Plan for the Transition to the Low-carbon Business Model;</p> <p>The Plan for transition to the low-carbon business model has been approved, which contains 53 activities in four directions</p> <p>9 Portfolio Companies have approved their own Low-Carbon Development Programs</p> <p>Offset projects of Energiya Semirechiya LLP for 180 thousand tons of CO₂-eq and Samruk-Green Energy LLP for 17 thousand tons of CO₂-eq are at the registration stage</p>	<p>☉ Our response to global challenges</p> <p>☉ New product conversions and job creation</p> <p>☉ Risk management and internal control</p> <p>☉ Greenhouse gas emissions</p>

Priorities for the UN SDGs	Strategic objective of the Fund/Goal	Progress in 2022	Events for 2022	2022 Sustainability Report sections
 <p>Promoting a peaceful and open society for sustainable development</p>	<p>Strategic objective No. 14 Openness, transparency and compliance</p> <p>Strategic objective No. 15 Social responsibility</p> <ul style="list-style-type: none"> • Certification of anti-corruption compliance systems for compliance with the requirements of international standards ISO 37001:2016 "Anti-bribery Management Systems" and ISO 37301:2021 "Compliance Management System" • Social Responsiveness Scale (SRS) • Degree of compliance involvement in the Fund's business processes • The level of awareness of the Fund employees about the requirements in the field of anti-corruption 	<p>The Fund Group of Companies has 77 independent compliance services and 44 subdivisions entrusted with the execution of anti-corruption compliance functions;</p> <p>133 candidates in 52 companies have passed a polygraph test.</p>	<p>A new direction "Industrial Relations Development" has been introduced to ensure the established guarantees in the field of labor relations for employees of contracting organizations</p> <p>The Corporate Standard for the Development of Industrial Relations has been approved</p> <p>Quarterly research by Samruk Research Services for monitoring and forecasting in the field of social and labor relations</p> <p>A pool of mediators is being created to resolve conflict situations in labor collectives, labor disputes, etc.</p>	<p>④ <u>Intolerance towards corruption</u></p> <p>④ <u>Work of the Compliance Service and the institution of the Ombudsman</u></p> <p>④ <u>Social and labor relations</u></p> <p>④ <u>Annex 4. Our approach to stakeholder engagement</u></p>
 <p>Stimulate and encourage effective partnerships.</p>	<p>Strategic objective No. 10 Global partnership and coordination of investment activities</p>	<p>An agreement was signed on the project of building a wind farm in the south-east of Kazakhstan with the French company Total Eren</p>	<p>The Fund organized the first Health&Safety Forum in order to exchange experience and best practices, analyze existing problems, as well as create a new large expert platform in the field of occupational safety and health.</p> <p>Memorandums of cooperation were signed with AFM in order to increase the transparency of the Fund Group activities, a memorandum was signed with the Akimat of Atyrau region on mutual cooperation in the field of regulation of social and labor relations</p>	<p>④ <u>Strategy is translated into investments</u></p> <p>④ <u>Annex 4. Our approach to stakeholder engagement</u></p>

ANNEX 2. REPORTING BOUNDARIES [GRI 3-3](#)

Due to the diversity of our operations, the range of activities and the scale of the Fund, defining simple and transparent boundaries for sustainability reporting is a challenging task. We strive to be consistent and transparent about differences in boundaries.

The boundaries of the Report cover Portfolio Companies of the Fund, fifty percent or more of voting shares (interests) in which are directly or indirectly owned by the Fund on the right of property or trust management, the boundaries also include companies in which the Fund owns less than 50% of the shares, but nevertheless are under our control unless otherwise specified. The boundaries of our sustainability reporting depend on the topic under consideration.

Financial results of operations include consolidated data of the Fund and the companies controlled by it. The list of companies is specified in Note 34 to the Consolidated Financial Statements of the Fund for the year ended December 31, 2022.

Production indicators are given for Portfolio Companies of the Fund and subsidiaries controlled by them, unless otherwise specified. Explanations for each specific indicator are given in the footnotes in the text of the Report.

Environmental and social indicators do not include Kazakhstan Petrochemical Industries Inc. LLP, since commissioning works were carried out at the facility in 2022. [GRI 2-2](#)

ESG-category	Name	Report Boundaries	Assumptions, calculations, data collection	Methodology
GRI 201	Economic performance	In accordance with the Consolidated Financial Statements		The main performance indicators used by the Group to manage the capital of its subsidiaries are the following ratios: Debt to Income before Interest, Taxation, Depreciation and Amortization (D/EBITDA) from discontinued and continuing operations; and debt to Equity (D/E). The debt is equal to the obligations on loans, debt securities, guarantees and financial leases of the respective subsidiaries, reduced by the value of cash and cash equivalents. The capital is equal to the entire capital of the subsidiary related to the share of the Shareholder of the parent company.
GRI 203	Indirect economic impacts		Portfolio Companies have prepared the analysis and calculations of bringing cross-subsidized and socially-oriented tariffs and prices for goods and services to the market necessary ones. The indicators are calculated by the Economics and Planning Department and the Strategy and Financial and Economic Management Department of the Fund.	
GRI 204	Procurement practice		For all Portfolio Companies under the management of the Fund, and procuring goods and services.	

ESG-category	Name	Report Boundaries	Assumptions, calculations, data collection	Methodology
GRI 302	Energy	JSC NC HazMunayGas, JSC NAC Hazatomprom, Samruk-Energy JSC, Air Astana JSC, JSC NC Kazakhstan Temir Zholy, Kazakhtelecom JSC, HEGOC JSC, JSC NC QazaqGaz, Samruk-Hazyna Ondeu LLP	<p>In accordance with the Consolidated Financial Statements, except for companies that do not carry out activities related to fuel and energy consumption or fuel and energy consumption is insignificant in total consumption (less than 1%).</p> <p>Information on the total amount of energy savings as a result of initiatives aimed at reducing energy consumption also does not include data from Air Astana JSC, HEGOC JSC and Samruk-Hazyna Ondeu LLP due to the insignificance of these data, which is related to the specifics of the companies' activities.</p>	<p>The total energy consumption in the report is the sum of non-renewable and renewable fuel consumed, purchased electricity and thermal energy consumed, the amount does not include electricity and thermal energy sold.</p> <p>Portfolio Companies of the Fund currently do not collect information on energy consumption outside their organizations.</p>
GRI 303	Water and Effluents	JSC NC HazMunayGas, JSC NAC Hazatomprom, Samruk-Energy JSC	<p>The coverage includes Portfolio Companies of the Fund engaged in activities related to the use of water resources in production processes and having the most significant impact on the environment.</p> <p>The following sectors are identified as significant from the point of view of the use of water resources: electricity generation (58.8% of the total water consumption of the Fund), oil and gas production and processing (17.1%; due to the alienation of JSC NC QazaqGaz in November 2021, information on the sector for 2021-2022 is provided without taking into account this asset), production thermal energy (18.6%; including WHC, the largest consumer of water resources in the sector), uranium mining and processing (less than 2.8%; water discharge by type of receiver was not accounted for by JSC NAC Hazatomprom, information will be disclosed in the next reporting period). Quantitative indicators represent actual data for M12 2022. (collected both by measuring devices and by calculation).</p> <p>For the purposes of this Report, the consumption of water resources for household purposes is insignificant.</p>	<p>The Fund adheres to the norms of the Environmental Code, the Water Code, the Tax Code of the Republic of Kazakhstan, sanitary rules of the Republic of Kazakhstan, general corporate policies, water principles of JSC NC HazMunayGas, management at the level of committees of the Board of Directors (in some Portfolio Companies).</p> <p>A comparative analysis of water withdrawal was carried out on the basis of data provided for 2021, the Statistical Collection of the Department of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan for Astana.</p>
GRI 304	Biodiversity	JSC NC HazMunayGas, JSC NAC Hazatomprom, Samruk-Energy JSC, JSC NC Kazakhstan Temir Zholy, Kazakhtelecom JSC, HEGOC JSC, JSC NC QazaqGaz, JSC NMC Tau-Hen Samruk	<p>The scope includes Portfolio Companies whose activities have an impact or could potentially have an impact on biodiversity.</p>	<p>The data for the section were obtained with the participation of Biodiversity Research & Conservation Center (BRCC) Public Fund.</p>
GRI 305-1, 305-2, 305-3, 305-4, 305-5	Greenhouse gas emissions		<p>In accordance with the Consolidated Financial Statements, except for foreign assets, as well as Portfolio Companies that do not carry out activities related to greenhouse gas emissions or whose greenhouse gas emissions are insignificant.</p> <p>Scope 1 includes installations that emit more than 20 thousand tons of CO₂.</p> <p>Quantitative indicators represent actual data for M12 2022.</p>	<p>Greenhouse gas emissions are calculated according to Order No. 280-n dated November 05, 2010 "On Approval of Some Greenhouse Gas Emissions Calculation Methodologies", Order No. 9 of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated January 17, 2023 "On Approval of Greenhouse Gas Emissions and Absorption Calculation Methodologies", Order No.221 of the Minister of Energy of the Republic of Kazakhstan dated March 19, 2015 "On Approval of the Greenhouse Gas Inventory Monitoring and Control Rules", Order No. 502 of the Acting Minister of Energy of the Republic of Kazakhstan dated July 28, 2015 "On Approval of Greenhouse Gas Inventory Report Forms", Order No. 371 of the Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan "On Approval of Greenhouse Gas Emissions and Absorption Calculation Methodologies" dated September 13, 2021, "Guidelines for IPCC National Greenhouse Gas Inventories".</p>

ESG-category	Name	Report Boundaries	Assumptions, calculations, data collection	Methodology
GRI 305-6	Ozone-depleting substances	-	-	In our activities, the Fund does not carry out significant emissions of ozone-depleting substances that affect climate change, and therefore this indicator is not consolidated at the Fund level.
GRI 305-7	Emissions of pollutants		In accordance with the Consolidated Financial Statements, except for companies that do not carry out activities related to emissions of pollutants or emissions of pollutants are insignificant in total emissions (less than 1%).	The data on emissions of pollutants in Kazakhstan for 2022, used to calculate the share of the Fund emissions in the country-wide, are preliminary and amount to 2.3 million tons.
GRI 401, 402, GRI 404, 405	Employment, labor relations practices, training and education, diversity and equal opportunities	In accordance with the Consolidated Financial Statements (except for KPI), additionally included companies that are not controlled by the Fund, but in which the Fund is the founder: Samruk-Kazyna Trust CF, private institution Samruk Business Academy, the Center for Social Interaction and Communications.	This approach is consistent with industry practice, because it is data that the Fund can directly manage and influence.	
GRI 403	Safety and health at work	JSC NC HazMunayGas, JSC NAC Kazatomprom, Samruk-Energy JSC, Air Astana JSC, JSC NC Kazakhstan Temir Zholy, Kazakhtelecom JSC, HEGOC JSC, JSC NC QazaqGaz, Samruk-Kazyna Ondeu LLP, JSC NMC Tau-ken Samruk, Kazpost JSC, QAZAQ AIR JSC, Samruk-Kazyna Construction JSC	13 Portfolio Companies engaged in production activities and included to the perimeter of the Committee on Labor Protection, Industrial Safety and Environmental Protection	
GRI 406, 407, 408, 409, 205	Human rights, forced and child labor, non-discrimination, anti-corruption	Our policies and requirements apply both inside and outside the Fund, apply to contractors and all stakeholders who are directly or indirectly related to the Fund.	Quantitative indicators are given for the Fund Group of companies, unless otherwise specified.	Information from a single platform for receiving and processing all citizens' appeals E-Otinish. Information from feedback systems Hotline (for reports of corruption and other violations) and Nysana (for employee appeals); Information of the Security Service of the Fund.
GRI 413	Local communities	In accordance with the Consolidated Financial Statements		

ANNEX 3. GRI CONTENT INDEX

GRI standard/ other source	Disclosure	Omission	Location
2-1	Organizational details		About the report , Value creation , Annex 6. Contact information
2-2	Entities included in the organization's sustainability reporting		About the report , Annex 2. Reporting boundaries
2-3	Reporting period, frequency and contact point	Consolidated Financial Statements of the Fund Group issued for the year ended 31 December 2022	About the report , Annex 6. Contact information
2-4	Restatements of information	Not applicable, the Fund has not revised the information	
2-5	External assurance		About the report , Independent assurance
2-6	Activities, value chain and other business relationships	The value chain is not described.	About the Fund , Value creation
2-7	Employees	Not specified: methodology and assumptions when collecting information.	Our people (Personnel structure) , Annex 9. ESG Data
2-8	Workers who are not employees	There are no most common types of workers and their contractual relationships, there is no type of work that they perform. Not specified: methodology and assumptions when collecting information.	Annex 9. ESG Data
2-9	Governance structure and composition		Our approach to sustainable development , Annual Report 2022: The Board of Directors and its Committees
2-10	Nomination and selection of the highest governance body		Our approach to sustainable development (Corporate governance) , Annual Report 2022: The Board of Directors and its Committees
2-11	Chair of the highest governance body		Our approach to sustainable development (Corporate governance) , Annual Report 2022: The Board of Directors and its Committees
2-12	Role of the highest governance body in overseeing the management of impacts		Our approach to sustainable development (Corporate governance, Risk management and internal control) , Annual Report 2022: The Board of Directors and its Committees
2-13	Delegation of responsibility for managing impacts		Our approach to sustainable development (Corporate governance) , Annual Report 2022: Corporate governance system
2-14	Role of the highest governance body in sustainability reporting		About the report , Our approach to sustainable development (Corporate governance)

GRI standard/ other source	Disclosure	Omission	Location
2-15	Conflicts of interest		Our approach to the sustainable development (Work of the Compliance Service and the Ombudsman Institution) Annual Report 2022: The Board of Directors and its Committees
2-16	Communication of critical concerns	There were no critical comments that were brought to the attention of the highest governing body during the reporting period	Our approach to Sustainable Development (Corporate Governance)
2-17	Collective knowledge of the highest governance body		Our approach to Sustainable Development (Corporate Governance)
2-18	Evaluation of the performance of the highest governance body		Our approach to Sustainable Development (Corporate governance) Annual Report 2022: The Board of Directors and its Committees
2-19	Remuneration policies		Our approach to Sustainable Development (Corporate governance) Annual Report 2022: Remuneration policies
2-20	Process to determine remuneration		Our approach to Sustainable Development (Corporate governance) Annual Report 2022: Remuneration policies
2-21	Annual total compensation ratio	Legal prohibitions. Decree of the Government of the Republic of Kazakhstan dated October 17, 2008, No. 962 "On Measures for Implementing Decree of the President of the Republic of Kazakhstan dated October 13, 2008, No. 669" (Annex No. 3, which is marked "FOU").	Our approach to sustainable development (Corporate governance) Annual Report 2022: Remuneration policies
2-22	Statement on sustainable development strategy		Address of a Member of the Board of Directors Interview of the Chief Executive Officer
2-23	Policy commitments		About the Fund (Value of human rights and ethical conduct, Intolerance towards corruption, Openness, transparency and accountability) Strategy is translated into investments (New product conversions and job creation). Our approach to sustainable development (Risk management and internal control)
2-24	Embedding policy commitments		Corporate Governance (Corporate governance, Risk management and internal control, Work of the Compliance Service and the Ombudsman Institution) Our people (Personnel structure, Equality for all, Social and labor relations, Occupational safety) Annex 1. Commitment to the UN sustainable development goals
2-25	Processes to remediate negative impacts		Our approach to the sustainable development (Work of the Compliance Service and the Ombudsman Institution)
2-26	Mechanisms for seeking advice and raising concerns		About the Fund

GRI standard/ other source	Disclosure	Omission	Location
2-27	Compliance with laws and regulations		Ⓞ Annual Report 2022: Appendix 1. Consolidated financial statements Ⓞ Environment (Compliance with environmental requirements)
2-28	Membership associations		Ⓞ About the Fund (Partnerships and membership in Associations)
2-29	Approach to stakeholder engagement		Ⓞ About the Fund (Openness, transparency and accountability) Ⓞ Annex 4. Our approach to stakeholder engagement
2-30	Collective bargaining agreements		Ⓞ Our people (Social and labor relations)
3-1	Process to determine material topics		Ⓞ Report preparation methodology (Approach to defining material topics)
3-2	List of material topics		Ⓞ Report preparation methodology (Material topics covered in our report)
3-3	Management of material topics		Ⓞ The strategy is translated into investments
201-1	Direct economic value generated and distributed		Ⓞ The strategy is translated into investments Ⓞ Annual Report 2022: Consolidated financial results
201-2	Financial implications and other risks and opportunities due to climate change		Ⓞ Our response to global challenges (Climate risks and opportunities)
201-3	Defined benefit plan obligations and other retirement plans		Ⓞ Our People (Caring for our people)
201-4	Financial assistance received from government		Ⓞ The strategy is translated into investments
3-3	Management of material topics		Ⓞ The strategy is translated into investments
203-1	Infrastructure investments and services supported		Ⓞ The strategy is translated into investments (New product conversions and job creation. Ensuring the sustainable development of the regions)
203-2	Significant indirect economic impacts		Ⓞ The strategy is translated into investments (New product conversions and job creation. Ensuring the sustainable development of the regions)
3-3	Management of material topics		Ⓞ The strategy is translated into investments (Ensuring the sustainable development of the regions)
204-1	Proportion of spending on local suppliers		Ⓞ The strategy is translated into investments (Ensuring the sustainable development of the regions) Ⓞ Annex 9. ESG Data
3-3	Management of material topics		Ⓞ About the Fund (Intolerance towards corruption)

GRI standard/ other source	Disclosure	Omission	Location
205-1	Operations assessed for risks related to corruption		Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman) Our People (Equality for all)
205-2	Communication and training about anti-corruption policies and procedures		Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman)
205-3	Confirmed incidents of corruption and actions taken		Our approach to sustainable development (Work of the Compliance Service and the Institution of the Ombudsman)
3-3	Management of material topics		Environment (Energy efficiency management)
302-1	Energy consumption within the organization		Environment (Energy efficiency management) , Annex 9. ESG Data
302-2	Energy consumption outside the organization	Unavailability of information: data collection is not conducted.	
302-3	Energy intensity		Environment (Energy efficiency management) , Annex 9. ESG Data
302-4	Reduction of energy consumption		Environment (Energy efficiency management) , Annex 9. ESG Data
302-5	Reductions in energy requirements of products and services	Unavailability of information: data collection is not conducted.	
3-3	Management of material topics		Environment (Water management)
303-1	Interactions with water as a shared resource		Environment (Water management)
303-2	Management of water discharge-related impacts		Environment (Water management)
303-3	Water withdrawal		Environment (Water management) , Annex 9. ESG Data
303-4	Water discharge		Environment (Water Resources Management) , Annex 9. ESG Data
303-5	Water consumption		Environment (Water management) , Annex 9. ESG Data
3-3	Management of material topics		Environment (Conservation of biodiversity)
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		Environment (Conservation of biodiversity)
304-2	Significant impacts of activities, products and services on biodiversity		Environment (Conservation of biodiversity)
304-3	Habitats protected or restored	Unavailability of information: data collection is not conducted.	
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations		Annex 5. Species identified in the areas of operation and their conservation status

GRI standard/ other source	Disclosure	Omission	Location
3-3	Management of material topics		☉ Environment (Greenhouse gas emissions)
305-1	Direct (Scope 1) GHG emissions		☉ Environment (Greenhouse gas emissions) ☉ Annex 9. ESG Data
305-2	Energy indirect (Scope 2) GHG emissions		☉ Environment (Greenhouse gas emissions) ☉ Annex 9. ESG Data
305-3	Other indirect (Scope 3) GHG emissions	Portfolio Companies of the Fund, such as JSC NC HazMunayGas and JSC NC QazaqGaz, are already calculating greenhouse gas emissions under Scope 3; calculations by other Portfolio Companies are not carried out. In this regard, Scope 3 is not included in the reporting perimeter.	☉ Environment (Greenhouse gas emissions)
305-4	GHG emissions intensity		☉ Environment (Greenhouse gas emissions) ☉ Annex 9. ESG Data
305-5	Reduction of GHG emissions		☉ Environment (Greenhouse gas emissions)
305-6	Emissions of ozone-depleting substances (ODS)	In our activities, we do not carry out significant emissions of ODSs that affect climate change, and therefore this indicator is not consolidated at the Fund level.	☉ Environment (Greenhouse gas emissions)
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions		☉ Environment (Atmospheric air quality) ☉ Annex 9. ESG Data
3-3	Management of material topics		☉ Our people (Personnel structure)
401-1	New employee hires and employee turnover		☉ Our people (Personnel structure) ☉ Annex 9. ESG Data
401-2	Benefits provided to full-time employees that are not provided to temporary employees or part-time employees		☉ Our people (Caring for our people)
401-3	Parental leave		☉ Our people (Caring for our people) ☉ Annex 9. ESG Data
3-3	Management of material topics		☉ Our people (Personnel structure)
402-1	Minimum notice periods regarding operational changes		☉ Our People (Caring for our people) ☉ Annex 9. ESG Data
3-3	Management of material topics		☉ Our people (Occupational Safety, Occupational health)
403-1	Occupational health and safety management system		☉ Our People (Occupational Safety)
403-2	Hazard identification, risk assessment and accident investigation		☉ Our people (Occupational safety)
403-3	Occupational health services		☉ Our people (Occupational Safety, Occupational health)
403-4	Worker participation, consultations and communications on occupational health and safety		☉ Our people (Occupational safety)

GRI standard/ other source	Disclosure	Omission	Location
403-5	Worker training on occupational health and safety		☉ Our people (Occupational safety)
403-6	Promotion of worker health		☉ Our people (Occupational health)
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships		☉ Our people (Occupational safety, Occupational health)
403-8	Workers covered by an occupational health and safety management system		☉ Our people (Occupational safety)
403-9	Work-related injuries		☉ Our people (Occupational safety) ☉ Annex 9. ESG Data
403-10	Work-related ill health		☉ Our people (Occupational safety)
3-3	Management of material topics		☉ Our people (Investments in talent development)
404-1	Average hours of training per year per employee		☉ Our people (Investments in talent development) ☉ Annex 9. ESG Data
404-2	Programs for upgrading employee skills and transition assistance programs		☉ Our people (Investments in talent development)
404-3	Percentage of employees receiving regular performance and career development reviews		☉ Our people (Investments in talent development)
3-3	Management of material topics		☉ Our people (Personnel structure)
406-1	Incidents of discrimination and corrective actions taken		☉ Our People (Equality for all) , ☉ About the Fund (Openness, transparency and accountability)
3-3	Management of material topics		☉ Our people (Personnel structure)
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		☉ Our people (Social and labor relations)
3-3	Management of material topics		☉ Our people (Personnel structure)
408-1	Operations and suppliers at significant risk for incidents of child labor		☉ About the Fund (Value of human rights and ethical behavior)
3-3	Management of material topics		☉ Our people (Personnel structure)
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor		☉ About the Fund (Value of human rights and ethical behavior)
3-3	Management of material topics		☉ Our people (Personnel structure)
413-1	Operations with local community engagement, impact assessments, and development programs		☉ The strategy is translated into investments (Ensuring the sustainable development of the regions) ☉ About the Fund (Openness, transparency and accountability) ☉ Annex 4. Our approach to stakeholder engagement
413-2	Operations with significant actual and potential negative impact on local communities	No significant actual and potential negative impacts on local communities have been identified.	☉ Report preparation methodology (Material topics covered in our report) ☉ Annex 4. Our approach to stakeholder engagement

ANNEX 4. OUR APPROACH TO STAKEHOLDER ENGAGEMENT GRI 2-29, GRI 413-1

Key stakeholder groups	Expectations of stakeholders	Channels of interaction	Frequency	Main interaction activities in the reporting year/Key events of 2022
Sole Shareholder	<ul style="list-style-type: none"> • Implementation of strategic goals; • Improving efficiency and achieving HPIs; • Impact on community employment; • Support for the regions of presence. 	<ul style="list-style-type: none"> • Publication of reports on current activities; • holding of the annual general meeting of shareholders. 	Regularly	<ul style="list-style-type: none"> • The Government has approved the second package of priority projects of the Fund. • A management report on the work of the Fund in the Majilis has been provided.
Public authorities	<ul style="list-style-type: none"> • Compliance with regulatory requirements and improvement of the regulatory framework; • contribution to the development of regions of the Fund presence; • assistance in ensuring employment of the population and support for entrepreneurship. 	<ul style="list-style-type: none"> • Participation in working groups, conferences; • creation of partnerships, participation in joint projects; • holding meetings, conferences, forums, seminars, presentations; • business correspondence and e-mailing; • posting information on the company's corporate website; • publication in the media and the Internet; • Publication of reports on current activities; • reporting to public authorities. 	As required	<ul style="list-style-type: none"> • A joint press briefing of the Fund and the Anti-Corruption Agency of the Republic of Kazakhstan was held. • An agreement on cooperation with the Akimat of Aktobe region in the regulation of social and labor relations was signed. • Command and staff exercises were held at the Aktau head oil pumping station (HOPS) of the Mangistau Oil Pipeline Department of HazTransOil JSC with the participation of the Ministry of Energy and the Ministry of Emergency Situations of the Republic of Kazakhstan, as well as medical and emergency rescue services.
Workers	<ul style="list-style-type: none"> • Safe working conditions; • competitive salary; • professional growth; • high-quality social package; 	<ul style="list-style-type: none"> • Conclusion of collective agreements; • publishing a corporate magazine and maintaining internal corporate social networks; • holding meetings with management; • consideration of appeals received via hotlines. 	Regularly	<ul style="list-style-type: none"> • Uzdik Maman, contest of professional skills, was held. • The Zhas Samruk program for young professionals has been launched. • Meetings of the CEOs with the labor collectives of Portfolio Companies of the Fund in the region were held. • The Gender Equality program has been launched. • KZT340 billion was allocated to increase salaries from 5 to 48% for low-paid positions and production personnel. • The Fund and French Assystem signed the Memorandum of Understanding on training personnel in the field of nuclear energy. • A networking club has been created for the press secretaries of the PR-FAMILY Fund. • A series of team-building events "Networking and Corporate Culture" was held. • The Cooperation Agreement was signed between JSC NC QazaqGaz and Technip Energies, MEDEF International and France Hydrogen on strengthening the competencies of employees in the gas industry based on the QazaqGaz STC scientific and technical center. • The agreement was signed between JSC NC QazaqGaz and Baker Hughes on the training of specialists based on the Shymkent Training Plant. • The long-term partnership was extended with Boeing on training of personnel reserve
PC	<ul style="list-style-type: none"> • Defining strategic goals; • Defining ESG goals; • Improving the corporate governance system. 	<ul style="list-style-type: none"> • Holding meetings, conferences, presentations; • Business correspondence and e-mailing; • Interviews, consultations, focus groups, forums, presentations; • Posting information on the corporate website of the Fund; 	Regularly	<ul style="list-style-type: none"> • The Manual on Engagement with Portfolio Companies has been updated. • The largest energy facilities in Kazakhstan, which are part of the Fund Group of companies, were inspected. • Command and staff exercises were held at "Aktau" main oil pumping station of the Mangistau Oil Pipeline Department of HazTransOil JSC.

Key stakeholder groups	Expectations of stakeholders	Channels of interaction	Frequency	Main interaction activities in the reporting year/Key events of 2022
Public (non-governmental) organizations, associations	<ul style="list-style-type: none"> • Support of social sphere; • Accountability to the public; • Tariffs for socially significant goods and services; • Regional development. 	<ul style="list-style-type: none"> • Posting information on the corporate website of the Fund; • publication in the media and the Internet; • Using online feedback mechanisms; • Publishing the reports on current activities. 	As required	<ul style="list-style-type: none"> • Broadcasting of meetings of the Public Council with the invitation of experts (including online) • Membership in the HAZENERGY Association. • Membership in the International Association of Oil Transporters. • The international initiative of the World Bank to stop regular burning of APG by 2030 was supported. • Membership in the UN Global Compact. • Participation in industry forums and conferences. • Membership in working groups on social and environmental issues.
Investment community and credit rating agencies	<ul style="list-style-type: none"> • Disclosure of financial and non-financial information; • Investment projects; • Privatization and IPO; • Climate and green finance; • Financing of priority investment projects of the Fund in Kazakhstan. 	<ul style="list-style-type: none"> • Publication of reports on current activities; • Investment meetings. 	Regularly	<ul style="list-style-type: none"> • The loan agreement was concluded between Almaty Electric Power Plants JSC (AIES) and the European Bank for Reconstruction and Development (EBRD) on financing the project "Modernization of Almaty HPP-2 with minimization of environmental impact". The transaction amount is HZT130 billion. • Attendance at the Kazakhstan Global Investment Forum "New Economic Diplomacy and Ways of investing in Kazakhstan", organized on the site of the London Stock Exchange. • Attendance at the Kazakhstan-Qatar Investment Forum organized by the Fund and Kazakh Invest. • The agreement on intent was signed with the Qatar Sovereign Wealth Fund to jointly invest USD200 million. • JSC NC Kazakhstan Temir Zholy signed the agreement with Societe Generale Bank on a long-term contract with the Alstom car building company for the production of 245 electric locomotives at the Kazakhstan plant.

Key stakeholder groups	Expectations of stakeholders	Channels of interaction	Frequency	Main interaction activities in the reporting year/Key events of 2022
Stock company	<ul style="list-style-type: none"> • Support of social sphere; • Accountability to the public; • Tariffs for socially significant goods and services; • Regional development. 	<ul style="list-style-type: none"> • Meetings with stakeholders; • Public meetings and seminars. 	Regularly	<ul style="list-style-type: none"> • Assistance was provided to residents of Hostanai region affected by fires: JSC NC Kazakhstan Temir Zholy presented fire trains, Kazpost JSC delivered humanitarian aid, Kazakhtelecom JSC completely exempted residents of Auliekol district from subscription fees, Samruk-Kazyna Trust CF allocated extraordinary grants for funding for NGOs of Hostanai region social projects to help the victims, within the framework of the current charity project "Zhenis", volunteers provided assistance to WWII veterans and home front workers in Hostanai region, the medical train "Salamatty Kazakhstan", launched by Samruk-Kazyna Trust CF, provided medical assistance. • Specialists of GRES-1 and GRES-2 took part in emergency response in Ekibastuz. • 13 public meetings of the Public Council were held. • 8 charitable projects of Mangystau region in the amount of HZT1.8 billion were approved. • The project has been launched to modernize the Dostyk-Moiynty railway section with a length of 836 km. • The informal meeting was held with talented Kazakhstanis who live and work in the USA; • The project of Samruk-Kazyna Trust CF, Medical Trains, has been launched to provide free medical examination to residents of remote stations and nearby settlements of the country who do not have access to high-quality medical services. • The Financial Literacy Forum was held on the AIX platform as part of the International Investor Week. • Webinars were held for the public – information blocks from experts online, with the opportunity to ask questions (a large block on IPO was implemented). • During the reporting period, 3 072 publications were published in the media as part of the IPO project. 153 videos have been prepared. • A large-scale information and explanatory campaign on privatization and IPO programs was held in all regions of the republic with the participation of representatives of the Fund, JSC NC HazMunayGas, Kazpost JSC, Kazakhstan Stock Exchanges AIX and HASE and broker-dealer organizations. • More than 200 meetings with the population were held within the framework of the IPO covering all regions, almost all cities of Kazakhstan (153,151 people). • 2 extended press conferences of CEOs were organized at the SCS; • 19 press briefings were held at the Fund press center. • As part of the IPO media project, the audience engagement amounted to 18,652,113 users. • The open meeting of the Public Council of the Fund was held to present the Low-carbon Development Concept of the Fund.

Key stakeholder groups	Expectations of stakeholders	Channels of interaction	Frequency	Main interaction activities in the reporting year/Key events of 2022
Media	<ul style="list-style-type: none"> • Publishing news; • Providing answers to journalists' requests; • Briefings/press conferences. 	<ul style="list-style-type: none"> • Publishing press releases; • Publication of reports on current activities; • Maintaining social networks; • Posting information on the corporate website of the Fund; • Issuing a printed corporate publication. 	Regularly	<ul style="list-style-type: none"> • 3 training seminars for the media were held • New headings #bizdintulgalar, #medical train #skazanosdelano in the Telegram channel of the Fund have been launched. • The PR Strategy 2022 has been developed. • Holding informal meetings with the heads of mass media and media. • The meeting of the CEO with the editors-in-chief and a brain-ring with journalists from leading publications was organized. • Point-to-point interaction with the media: written and oral responses to journalists' requests with a response period of no more than 7 days; • Responses to 43 media inquiries were prepared. • Newsletters in the media. • 183 press releases are posted on the website and a newsletter is sent to the media with coverage of meetings, speeches and other events. • 1 870 materials were placed in social networks of the Fund. • 6 round tables were held, recordings of special editions of TV programs were organized, 481 materials were released in the media on the topic of nuclear energy. Including the results of the trip to Akkuyu (55 materials) on the topic of nuclear energy.
Contractors and suppliers	<ul style="list-style-type: none"> • Procurement transparency; • Minimizing barriers. 	<ul style="list-style-type: none"> • Publication of reports on current activities; • Maintaining social networks; • Posting information on the corporate website of the Fund; • Issuing a printed corporate publication. 	As required	<ul style="list-style-type: none"> • KZT3.3 trillion was paid to domestic businesses, according to the results of procurement, 92% was the share of local content in procurement. • 4,391 long-term contracts have been concluded with domestic suppliers.
Business community	<ul style="list-style-type: none"> • Improving the procurement system in terms of supporting long-term contracts; • fair pricing; • price compliance with quality and priority of quality over cost. 	<ul style="list-style-type: none"> • Meetings with business representatives; • Posting information on the corporate website of the Fund; • business correspondence and e-mailing. 	As required	<ul style="list-style-type: none"> • The meeting was held in Aktobe region with business representatives, ERG Hazchrome company (Aktobe Ferroalloy Plant), education and medicine workers. • The online meeting of the Fund management with businessmen on procurement issues was held. More than 200 business representatives, top managers of the Fund and CEOs of Portfolio Companies attended the event.

Key stakeholder groups	Expectations of stakeholders	Channels of interaction	Frequency	Main interaction activities in the reporting year/Key events of 2022
Partners	<ul style="list-style-type: none"> • Transparent procurement activities; • long-term sustainability. 	<ul style="list-style-type: none"> • Holding meetings, conferences, presentations; • business correspondence and e-mailing. 	As required	<ul style="list-style-type: none"> • The memorandum of understanding was signed with China Machinery Engineering Corporation (CMEC) on cooperation in the further implementation of the Ekibastuz GRES-2 expansion and reconstruction project. • The Term Sheet was signed between the Fund, JSC NC HazMunayGas and Total Eren for the implementation of the renewable energy project; • The memorandum of understanding was signed between JSC NAC Hazatomprom and Orano Mining on the issue of uranium ore extraction • The Cooperation Agreement was signed between JSC NC HazMunayGas and Air Liquide in the field of petrochemistry. • The Agreement of Intent in the field of energy was concluded between the Fund and GE in the framework of cooperation and exchange of experience in the operation of modern • GE gas turbines; • The cooperation agreement was signed between JSC NC Kazakhstan Temir Zholy and Wabtec Corporation in the field of servicing Kazakhstani locomotives and their conversion to gas. • The Cooperation Agreement was signed between JSC NC QazaqGaz and Technip Energies, MEDEF International and France Hydrogen on gas processing and carbon footprint reduction. • JSC NC QazaqGaz together with Honeywell will implement digitalization in the gas industry of Kazakhstan, together with Solar Turbines – to modernize the gas transportation infrastructure of the Republic of Kazakhstan. • The Memorandum of Cooperation was signed between the Fund and PowerChina Resources Ltd, providing for the implementation of the second phase of the project in the Shelek corridor with an increase in the capacity of the wind farm to 300 MW; • Long-term partnership with Boeing in the field of commercial aviation, including the development of airlines and airports; • The agreement was signed between Air Astana JSC and Air Lease Corporation on the supply of 3 new wide-body Boeing 787-9 Dreamliner aircraft for operational leasing. • With the support of EXIM Bank, the possibility of acquiring 20 aircraft of the 737 MAX jet family for QAZAQ AIR JSC is being considered. • The Memorandum of Understanding was signed between JSC NMC Tau-Ken Samruk and Qatar Mining on the issue of promising projects in the mining sector in Kazakhstan. • As part of the participation in the Kazakh-French Investment round table in Hungary, the Paks nuclear power plant and construction sites of future new power units were visited. • The Agreement of Intent in the field of energy was signed by the CEO of the Fund, Almassadam Satkaliyev, and the President of GE in Russia and the CIS, Bela Ferenczi, within the framework of the investment round table with American business, during the visit of the President of Kazakhstan to the United States. • Meetings were held with representatives of Iran, Singapore, and Germany to discuss the expansion and prospects of cooperation. • The special agreement was signed with the Government of the French Republic "On the implementation of cooperation in the field of combating global warming".

ANNEX 5. SPECIES IDENTIFIED IN THE AREAS AFFECTED BY OPERATIONS AND THEIR CONSERVATION STATUS GRI304-4

No.	Name in Russian	Name in Latin	IUCN Status	Status in the Red Book of the Republic of Kazakhstan (if applicable)	Source (company)*
Birds					
1	Little egret	Egretta garzetta	Least concerned – causing the least concern 	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas JSC NAC Hazatomprom
2	Spoonbill	Platalea leucorodia	Least concerned – causing the least concern 	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas JSC NAC Hazatomprom
3	Pelicans (no specific species)	Pelecanus crispus (?)	Near threatened – close to a vulnerable position 	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas
4	Dalmatian pelican	Pelecanus crispus	Near threatened – close to a vulnerable position 	Category 2 Type, whose numbers are rapidly declining	JSC NC QazaqGaz
5	Whooper swan	Cygnus cygnus	Least concerned – causing the least concern 	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas JSC NC QazaqGaz JSC NAC Hazatomprom
6	Ferruginous Duck	Aythya nyroca	Near threatened – close to a vulnerable position 	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas
7	Pallas's Gull	Larus ichthyæetus	Least concerned – causing the least concern	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas

No.	Name in Russian	Name in Latin	IUCN Status	Status in the Red Book of the Republic of Kazakhstan (if applicable)	Source (company)*
8	Steppe eagle	Aquila nipalensis	Endangered – endangered 	Category 5 restored, in need of constant monitoring	JSC NC HazMunayGas Samruk-Energy JSC JSC NC QazaqGaz JSC NAC Hazatomprom
9	Avocet	Recurvirostra avosetta	Least concerned – causing the least concern	–	JSC NC HazMunayGas
10	Oystercatcher	Haematopus ostralegus	Near threatened – close to a vulnerable position	–	JSC NC HazMunayGas
11	Flamingo	Phoenicopterus roseus	Least concerned – causing the least concern	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas
12	Saker falcon	Falco cherrug	Endangered – endangered	Category 1 Endangered species	JSC NC HazMunayGas
13	Golden Eagle	Aquila chrysaetos	Least concerned – causing the least concern	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas JSC NAC Hazatomprom
14	Eagle-owl	Bubo bubo	Least concerned – causing the least concern	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas
15	Vulture	Neophron percnopterus	Endangered – endangered	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas
16	Purple swamphen	Porphyrio porphyrio	Least concerned – causing the least concern	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas
17	White-tailed eagle	Haliaeetus albicilla	Least concerned – causing the least concern	Category 2 Type, whose numbers are rapidly declining	JSC NC HazMunayGas
18	Osprey	Pandion haliaetus	Least concerned – causing the least concern	Category 1 Endangered species	JSC NC HazMunayGas JSC NAC Hazatomprom
19	Black-sided lapwing	Vanellus gregarius	Critically endangered – on the verge of complete extinction 	Category 1 Endangered species	JSC NC HazMunayGas
20	Imperial eagle	Aquila heliaca	Vulnerable – vulnerable 	Category 3 rare, occurring in small quantities	Samruk-Energy JSC JSC NAC Hazatomprom
21	Stiff-tail	Oxyura leucocephala	Endangered – endangered	Category 1 Endangered species	JSC NC QazaqGaz
22	Little bustard	Tetrax tetrax	Near threatened – close to a vulnerable position	– Another type of little bustard (Otis tetrax) in the second category	JSC NC QazaqGaz
23	Pin-tailed sandgrouse	Pterocles alchata	Least concerned – causing the least concern	Category 3 rare, occurring in small quantities	JSC NC QazaqGaz

No.	Name in Russian	Name in Latin	IUCN Status	Status in the Red Book of the Republic of Kazakhstan (if applicable)	Source (company)*
Reptiles					
24	Pallas's runner	Elaphe sauromates	Least concerned – causing the least concern	–	JSC NC HazMunayGas
25	Central Asian (steppe) tortoise	Testudo horsfieldii	Vulnerable – vulnerable	In the Red Book it is specified on one site, no category. There is no at redbookkz on the site	JSC NC HazMunayGas
26	European pond turtle	Emys orbicularis	Near threatened – close to a vulnerable position	In the Red Book it is specified on one site, no category. There is no at redbookkz on the site	JSC NC QazaqGaz
Mammals					
27	Caspian seal	Phoca caspica		–	JSC NC HazMunayGas
28	Persian gazelle	Gazella subgutturosa	Vulnerable – vulnerable	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas JSC NC QazaqGaz
29	Ustyurt argali – urial	Ovis vignei	Vulnerable – vulnerable	No category in the Red Book	JSC NC HazMunayGas
30	Caracal	Caracal caracal	Least concerned – causing the least concern	Category 1 Endangered species	JSC NC HazMunayGas
31	Honey badger	Mellivora capensis	Least concerned – causing the least concern	Category 1 Endangered species	JSC NC HazMunayGas
32	Caucas leopard	Panthera pardus saxicolor	Vulnerable – vulnerable are not in the book by such a Latin name	There is in the Red Book. No category	JSC NC HazMunayGas
33	Hemprich's arrow-eared bat	Otonycteris hemprichi	Least concerned – causing the least concern	Category 3 rare, occurring in small quantities	JSC NC HazMunayGas
34	Lesser mouse-eared bat	Myotis blythii	Least concerned – causing the least concern	–	JSC NC HazMunayGas
35	Noctule bat	Nyctalus noctula	Least concerned – causing the least concern	–	JSC NC HazMunayGas
36	Jackal	Canis aureus	Least concerned – causing the least concern	–	JSC NC HazMunayGas
37	Raccoon dog	Nyctereutes procyonoides	Least concerned – causing the least concern	–	JSC NC HazMunayGas
38	Striped hyena	Hyaena hyaena	Near threatened – close to a vulnerable position	–	JSC NC HazMunayGas
39	Indian crested porcupine	Hystrix indica	Least concerned – causing the least concern	Category 4 uncertain (insufficiently studied), but with a low number	JSC NC HazMunayGas
Insects					
40	Mantis Bolivarina short-winged	Bolivarina brachyptera	Data deficient – lack of data 	It is included in the Red Book. The category is unknown (declining in number)	JSC NC QazaqGaz JSC NAC Hazatomprom
41	True agrinids	Calopteryx virgo	Least concerned – causing the least concern	It is included in the Red Book. The category is unknown (declining in number)	JSC NC QazaqGaz
42	Ladybird	Stethorus punctillum		–	JSC NC QazaqGaz
43	Bug Arma custos	Arma custos		–	JSC NC QazaqGaz

No.	Name in Russian	Name in Latin	IUCN Status	Status in the Red Book of the Republic of Kazakhstan (if applicable)	Source (company)*
44	Arboreal mantis	Hierodula tenuidentata	Least concerned – causing the least concern	It is included in the Red Book. The category is unknown (declining in number)	JSC NC QazaqGaz JSC NAC Hazatomprom
45	Coranus subapterus	Coranus subapterus		–	JSC NC QazaqGaz
Plants					
46	Volga adonis	Adonis volgensis			JSC NAC Hazatomprom
47	Nodding tulip	Tulipa patens			JSC NAC Hazatomprom
48	Windflower	Pulsatilla patens			JSC NAC Hazatomprom
49	Feather grass	Stipa pennata			
50	Schrenk Tulip	Tulipa suaveolens		It is included in the DG RoK for rare species	
51	Polyporus	Polyporus rhizophilus Pat			
52	Altai Laurel	Daphne altaica			
53	Schrenk Spirea	Spiraeanthus schrenckianus	Endangered – endangered	It is included in the DG RoK for rare species	
54	Bieberstein 's Tulip	Tulipa biebersteiniana		It is included in the DG RoK for rare species	
55	Biflorous tulip	Tulipa biflora			JSC NAC Hazatomprom
56	Asiatic poplar	Populus pruinosa			JSC NAC Hazatomprom

ANNEX 6. CONTACT INFORMATION

JOINT STOCK COMPANY “SOVEREIGN WEALTH FUND “SAMRUK-KAZYNA”

Legal and actual address: Republic of Kazakhstan, Astana,
010000 17/10 Syganak street, [GRI2-1](#)

Executive office: +7 (7172) 55-40-01

IIN: 081140000436

Reporting year: 2022

FOR ALL QUESTIONS, COMMENTS AND SUGGESTIONS REGARDING THE REPORT, PLEASE CONTACT THE EMPLOYEES OF THE FUND:

On ESG issues

Email: sustainability@sk.kz

On requests of media and internal communications

Email: press@sk.kz

On investor relation issues

Email: ir@sk.kz

Hotline

Phone: 8 (800) 080 4747 (Toll-free on the territory of
the Republic of Kazakhstan)

Email: mail@sk-hotline.kz [GRI2-3](#)

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Kenzhali Raissa

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Satubaldin Nesipbai

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Utepov Mirat

Khashieva Lydia

Shomayeva Gulsara

Shumanakh Gafura

 Website: www.sk.kz

 [Instagram.com/samrukkazyna_official](https://www.instagram.com/samrukkazyna_official)

 [Facebook.com/SamrukKazyna](https://www.facebook.com/SamrukKazyna)

 [T.me/samrukkazynaofficial](https://t.me/samrukkazynaofficial)

 [Youtube.com/user/SKazyna](https://www.youtube.com/user/SKazyna)

ANNEX 7. FEEDBACK FORM

Please take a few minutes to fill out this questionnaire for the 2022 Sustainability Report.
We appreciate your feedback, as it helps us to manage our activities more effectively and improve results.

Which of the following interests you the most? (multiple choice)

- Corporate governance and transparency
- Actions in the field of corporate responsibility
- Environment
- Health and safety
- Human resources
- Information about stakeholders (shareholder, employees, customers, suppliers, NGOs, etc.)

Please choose how much you agree with the following:

(1) Strongly disagree

(2) Not agree

(3) I find it difficult to answer

(4) Agree

(5) Strongly agree

- Principles and problems are sufficiently disclosed in line with the Development Strategy of the Fund
- The content is complete and clear.
- The structure of the report is functional and complete.
- The information provided is reliable and accurate.
- Tables and graphs are clear to understand and are depicted qualitatively.
- Images and drawings enhance the report, making it readable and more interesting.
- The print version corresponds to the publication on sustainable development.
- I prefer the electronic version of the report.
- I will recommend the report to others.

Evaluate, in order of priority from 1 to 5, the following areas in which the company has developed significant initiatives and activities, in your opinion: (please select five)

- Safety on the workplace
- Environmental protection
- Contribution to regional sustainable development
- Contributing to the country's infrastructural development
- Transparency
- Socially significant activities
- Economic prosperity
- Decarbonization

Which of these stakeholder groups do you belong to? (one option)

- Employees
- Population in regions of operation
- NGO
- Media
- Suppliers
- Customers
- Business partners
- Government representatives
- Other

How did reading the 2022 Sustainability Report affect your opinion about the Fund? (one option)

- Positive
- Not affect
- Negative

CONTACT INFORMATION

Surname _____

Name _____

Type of activity _____

Place of work _____

Position _____

Mobile phone _____

E-mail _____

Website _____

Place of residence _____

ANNEX 8. GLOSSARY

Shareholder – a party owning shares;

Charity – a socially useful activity based on the providing charitable assistance and satisfaction of humane needs, carried out voluntarily, gratuitously or on preferential terms in the form of sponsorship and patronage activities;

Fund group – Fund, companies, their subsidiaries, more than fifty percent of the voting shares (interest) of which are owned by the companies, as well as legal entities, more than fifty percent of the voting shares (interest) of which are owned by the specified subsidiaries of the companies for which a special legal status is established by the Law “On Sovereign Wealth Fund”;

Official – a member of the Board of Directors or the Executive Body, or a person performing solely the functions of the Executive Body;

Other indirect greenhouse gas emissions (Scope 3) – greenhouse gas emissions that differ from energy indirect greenhouse gas emissions that are the result of an organization's activities, but arise from greenhouse gas sources owned or controlled by other organizations.

Stakeholders – natural persons, legal entities, groups of natural persons or legal entities that affect, or may be affected by, the activities of the Fund and / or the Portfolio Companies, its products or services, and related actions by virtue of legislation norms, signed agreements (contracts) or indirectly (circuitously); this definition does not apply to all those who may be merely familiar with the Fund and the Portfolio Companies or express an opinion about them; the main representatives of the Stakeholders are Shareholders, employees, customers, suppliers, government bodies, subsidiary organisations, bond holders, creditors, investors, public organizations, and residents of the regions in which the Fund and the Portfolio Companies operate;

Quota-based installation – an installation whose quota-based greenhouse gas emissions exceed twenty thousand tons of carbon dioxide per year in regulated sectors of the economy.

Key performance indicators are indicators that characterize the level of performance of the Fund or Portfolio Company, enabling to evaluate their activities as a whole, as well as the executives of the Fund or Portfolio Company. KPIs have a quantitative value that is approved as part of the action plan of Fund or the Portfolio Company and corresponds to their performance for the planned and reporting periods;

Independent Director – a member of the Board of Directors who is not an affiliated person of this joint stock company and has not been an affiliated person for three years prior to his/her election to the Board of Directors (except for the case of his/her tenure as an independent director of this joint stock company), is not an affiliated person in relation to the affiliated persons of this joint stock company; is not subordinated to the officials of this joint stock company or affiliated organisations of this joint stock company and has not been subordinated to these persons during the three years preceding his/her election to the Board of Directors; is not a civil servant; is not a shareholder's representative at meetings of the bodies of this joint stock company and has not been one for three years prior to his/her election to the Board of Directors; does not participate in the audit of this joint stock company as an auditor working as part of an audit organisation, and has not participated in such an audit during the three years preceding his/her election to the Board of Directors;

Ombudsman – an individual appointed by the Fund's Board of Directors, whose role is to advise the employees of the Fund and the Portfolio Companies who seek the advice, provide them with assistance to resolve labour disputes, conflicts, matters of a social and labour nature, and compliance with the principles of business ethics by employees of the Fund and the Portfolio Companies;

Portfolio Companies – legal entities in which more than 50% of the voting shares (interests) are directly or indirectly owned by the Fund based on the right of property or trust management;

Partners – suppliers and contractors, partners in joint projects.

Action Plan – a document that has been approved by the Board of Directors and determines the core activities and the KPIs of the Fund and the Portfolio Companies for the following five years;

Government – the Government of the Republic of Kazakhstan, the Sole Shareholder of the Fund;

Direct greenhouse gas emissions (Scope 1) – Greenhouse gas emissions from greenhouse gas sources owned or controlled by an organization;

Rational use of fuel and energy resources – the use of resources that ensures the achievement of maximum efficiency at the current level of technology and technology development, given the limited reserves and compliance with the requirements of reducing the anthropogenic impact on the environment and other requirements of society;

Recycling water supply system – a water supply system in which water is used repeatedly for the same purposes without purification;

Water recycling system – a water supply system in which the wastewater discharged is used after purification for other purposes;

Tonne of oil equivalent (toe) – conversion of natural fuel (tno) into conventional (toe) is carried out by caloric equivalent by multiplying the amount of natural fuel by the ratio of the lowest

calorific value of the fuel of this type to the calorific value of 1 kg of conventional fuel;

Fuel and energy resources – a combination of various types of fuel and energy (products of the oil refining, gas, coal, peat and shale industries, electricity from nuclear and hydroelectric power plants, as well as local fuels) which the country has at its disposal to meet its production, domestic and export needs;

Carbon footprint – the sum of greenhouse gas emissions and removals in the production system, expressed as equivalents and based on an assessment of the product life cycle using one impact category – climate change. The equivalent of a specific amount of greenhouse gas is calculated as the mass of a given greenhouse gas multiplied by its global warming potential. For the purposes of this Concept, the carbon footprint includes direct (carbon dioxide, CO₂) and methane (CH₄) and energy indirect greenhouse gas emissions.

Carbon neutrality – a zero level of greenhouse gas emissions achieved by balancing emissions and carbon dioxide uptake.

Conditional fuel – a unit adopted in technical and economic calculations, regulated in norms and standards, which serves to compare the thermal value of various types of organic fuels;

Sustainable development – development in the course of which the Fund and the Portfolio Companies manage the influence of their operations on the environment, the economy, society and make decisions, taking into account the Stakeholders' interests.

Fund – Joint Stock Company "Sovereign Wealth Fund "Samruk-Kazyna";

Energy audit (energy audit) – collection, processing and analysis of data on the use of energy resources in order to assess the possibility and potential of energy conservation and prepare an opinion on energy conservation and energy efficiency improvement;

Energy resources – a set of natural and produced energy carriers, the stored energy of which is currently being used or can be used in the future in economic and other types of activities, as well as types of energy (atomic, electrical, chemical, electromagnetic, thermal and other types of energy);

Energy efficiency (energy efficiency) – the quantitative ratio of the volume of services rendered, works, products (goods) produced or energy resources produced to the initial energy resources spent on it;

Efficient use of energy resources – achieving a technically feasible and economically justified level of use of energy resources;

Energy saving – the implementation of organizational, technical, technological, economic and other measures aimed at reducing the amount of energy resources used;

Energy management – a set of administrative actions aimed at ensuring rational consumption of energy resources and improving the energy efficiency of a management facility, including the development and implementation of energy conservation and energy efficiency policies, action plans, procedures and methodologies for monitoring, energy consumption assessment and other actions aimed at improving energy efficiency.

Energy indirect greenhouse gas emissions (Scope 2) – Greenhouse gas emissions from the production of imported electrical energy, heat or steam consumed by an organization..

ACRONYMS AND ABBREVIATIONS

NPP	Nuclear power plant
RES	Renewable energy sources
WPP	Wind Power Plants
GeoTPP	Geothermal power plant
GTPP	Gas turbine power plant
GRES	Hydraulic circulation station
HPP	Hydroelectric power plant
KPI	Key performance indicators
ETL	Energy transmission line
MGP	Main gas pipelines
R&D	Research, Development and Engineering works
NGO	Non-governmental organization
NDC	Nationally determined contributions
SPT	Specially protected territories
GHG	Greenhouse gases
CCGT	Combined-cycle gas plant
APG	Associated petroleum gas
OECD	Organization for Economic Cooperation and Development
LPG	Liquefied petroleum gas
USA	United States of America
SPP	Solar power plant

TOE	Tonne of oil equivalent
FER	Fuel and energy resources
CHP	Central heating and power plant
CSTI	Center for Scientific and Technological Initiatives
CSIC	Center for Social Interaction and Communications
UN SDGs	Sustainable Development Goals adopted by the United Nations
Shymkent Refinery	Shymkent Oil Refinery
AIX	Astana International Exchange
BAU	Business as usual
CDP	The Carbon Disclosure Project
CO₂	Carbon dioxide
D	Decarbonization
DD	Deep Decarbonization
ESG	Environmental, Social, and Corporate Governance
KASE	Kazakhstan Stock Exchange
KBA	Key biodiversity areas
IBA	Important Bird Area
ISO	International Organization for Standardization
SRS	Samruk Research Services
TCFD	Task Force on Climate-Related Financial Disclosures

ANNEX 9. ESG DATA

PRODUCTION INDICATORS

Key production indicators	Unit of measure	2018	2019	2020	2021	2022
Oil and gas sector						
Oil and condensate production (per year)	thousand tons/year	23 625.9	23 634.99	21 767.2	21 665.2	22 025.2
Oil and condensate production (per day)	thousand tons/day	64.7	64.8	59.6	59.4	60.3
Natural and associated gas production (per year)	million m ³ /year	8 485.9	8 805	8 516.8	8 359.2	8 518.6
Extraction of natural and associated gas (per day)	thousand m ³ /day	978.3	982.2	914.9	784.2	782.9
Number of drilling sites (with a share of more than 50%)	amount	71	71	67	65	65
Oil and gas refining	thousand tons	19 715	20 588	18 077	18 833	19 900
Oil and gas refining, including	thousand tons	18 338	19 134	16 818	17 404	18 668
Gasoline	thousand tons	4 854	5 128	4 592	4 941	5 330
Fuel oil	thousand tons	2 344	2 347	1 939	2 190	2 416
Vacuum gas oil (VGO)	thousand tons	771	463	522	526	482
Paraxylene	thousand tons	16	119	205	45	76
Diesel fuel	thousand tons	6 569	6 945	6 305	6 387	6 588
Benzene	thousand tons	16	27	44	7	9
Coke	thousand tons	347	373	345	386	377
Liquefied gas	thousand tons	826	838	804	806	846
Sulfur	thousand tons	46	54	53	61	60
Aviation fuel	thousand tons	570	872	457	595	838
Heating oil	thousand tons	167	25	34	14	16
Bitumen	thousand tons	549	607	871	601	657
Commercial oil	thousand tons	251	254	243	257	231
Raw materials for technical carbon	thousand tons	-	-	-	26	10
Light naphtha	thousand tons	-	5	-	-	2
Propylene	thousand tons	142	153	-	-	-
Other (please specify)	thousand tons	869	926	403	562	730
Installed processing capacity*	thousand tons/day	75.8	75.8	75.8	75.8	76
Transportation of natural gas, including	billion m ³ *km	121 415	113 220	97 033	106 835	95 550
by main gas pipelines	million m ³	111 567	103 494	86 590	95 422	83 744
by gas distribution networks	million m ³	9 848	9 726	10 443	11 413	11 806

Oil transportation, including	million tons/km	75 038	78 066	73 171	74 565	74 659
by main pipelines	million tons/km	67 961	67 337	64 181	64 710	65 316
by sea (tankers)	million tons/km	7 077	10 729	8 990	9 855	9 343
Energy						
Electricity generation volume, including	billion kW/h	31.7	30.2	31.4	35.6	35.9
on coal	billion kW/h	28.4	27	28.2	32.8	32.7
on natural gas	billion kW/h	0.4	0.3	0.5	0.4	0.4
on fuel oil	billion kW/h					
HPP	billion kW/h	2.7	2.7	2.6	2.2	2.6
WPP	billion kW/h	0.2	0.2	0.2	0.2	0.2
SPP	billion kW/h	0.0072	0.0073	0.0079	0.0090	0.0082
Electricity generation from the turbine of SHZ-U LLP*	billion kW/h	0.114	0.118	0.104	0.105	0.116
Length of overhead and cable lines (0.4-220 kV transmission lines)	km	44 732.6	45 599.9	45 882.7	45 983.5	45 676.2
Length of overhead and cable lines (330-500 kV transmission lines)	km	10 152.1	10 151.3	10 151.3	10 145.5	10 145.5
Length of overhead and cable lines (1150 kV transmission lines)	km	1 421.2	1 421.2	1 421.2	1 421.2	1 421.2
Electricity supply volume (own production is excluded)	million kW/h	5 904	6 218	6 055	6 702	6 839
Coal production volume	million ton	44.9	44.9	43.3	44.6	42.5
Chemical industry						
Sulfuric acid	ton	121 244.9	154 334.6	153 601.3	180 902.8	175 339.2
Liquid herbicide	thousand liters	0	980	1 073	197	603
Granular herbicide	ton	0	0	0	46.3	12.1
BOPP	ton	4 596	7 070	8 312	9 357	5 299
PB	thousand pcs	15 921	20 682	17 848	15 546	15 476
Mining and processing of minerals						
Natural uranium production volume	ton	21 699	22 761	19 587	21 834	21 279
Uranium products manufacturing volume	ton	21 705	22 808	19 477	21 819	21 227
Rare metals production volume	ton	1 869	1 823	1 530	1 580	1 469
Ore extraction and processing volume	ton	–	21 920	21 920	–	185 000
Production of finished products: refined gold	ton	22.7	29.2	33.5	51.1	55.6
Production of finished products: refined silver	ton	6.2	7	9	6.4	8.3
Production of finished products: silicon	ton	14 408	14 134	–	–	–
Production of finished products: quartz	ton	49 000	53 000	–	–	–

Total volume of exports of products in physical terms						
U ₃ O ₈ sales volume (consolidated)	ton	16 647	16 044	16 432	16 526	16 358
incl. Company sales volume	ton	15 287	14 148	14 126	13 586	13 572
Rare metal sales						
Beryllium products	ton	1 662	1 636	1 375	1 529	1 332
Tantalum products	ton	138	120	144	165	166
Niobium products	ton	23	9	16	8	13
Communication services						
Number of fixed lines	thousands of lines	2 978.5	2 849.9	2 893.5	2 774.5	2 636.6
Number of broadband access subscribers	thousands of ports	1 700.9	1 705.5	1 833.2	1 860.7	1 857.4
Number of pay TV subscribers	thousands of points	772.4	774	863.9	918.7	917.5
Number of mobile communication subscribers	million subscribers	16.1	15.5	14.8	14.5	14.4
Air transportation						
Sortie number	amount	44 670	47 505	30 955	47 113	51 819
Fleet average age	number of years	8.3	6.5	5.1	4.7	5
Available Seat Kilometers		14 267 050	14 781 918	7 904 320	13 063 678	15 921 347
Railway transportation						
Passenger turnover*	billion pkm	19.1	18.4	8.6	13.6	16.9
Freight turnover**	billion tons/km	219.9	224	231.8	233.3	245.2
Postal Services						
Postal Services	thousand units	191 951	177 517	137 752	131 662	114 663

WHOLESALE SALE OF PETROLEUM PRODUCTS MANUFACTURED IN THE REPUBLIC OF KAZAKHSTAN

Products	Unit of measure	2018		2019		2020		2021		2022	
		Internal market	Export	Internal market	Export	Internal market	Export	Internal market	Export	Internal market	Export
Gasoline	thousand tons	701	0	789	37	647	163	1 195	0	1 333	7
Fuel oil	thousand tons	192	414	188	469	211	402	241	542	265	588
Vacuum gas oil (VGO)	thousand tons	0	200	0	167	0	155	0	166	0	105
Paraxylene	thousand tons	0	2	0	55	0	90	0	25	0	34
Diesel fuel	thousand tons	954	0	1 028	0	930	115	1 291	57	1 513	0
Benzene	thousand tons	0	5	0	12	0	19	0	4	0	3
Coke	thousand tons	44	58	40	51	61	57	79	66	56	65
Liquefied gas	thousand tons	128	0	114	0	133	1	162	1	204	0
Sulfur	thousand tons	9	4	2	13	6	5	3	17	5	14
Aviation fuel	thousand tons	34	0	85	0	65	0	120	0	161	0
Heating oil	thousand tons	32	34	7	0	6	0	4	0	0	0
Bitumen	thousand tons	53	0	65	0	87	0	83	0	125	0
Technological fuel	thousand tons	0	0	0	0	0	0	382	0	408	0
Other (please specify)	thousand tons	4	0	14	0	15	0	18	0	22	0

SOCIAL INDICATORS [GRI 2-7, GRI 2-8, GRI 401-1, GRI 403-9](#)

FULL-TIME EMPLOYEES	Unit of measure	2018	2019	2020	2021	2022
Number of full-time employees at the end of the year	person	286 520	278 586	268 220	258 044	259 055
by gender						
Men	person	205 006	199 236	190 914	185 233	187 115
Share of men	%	72	72	71	72	72
Share of men in governing bodies	%	67	75	69	62	60
Women	person	81 514	79 350	77 306	72 811	71 940
Share of women	%	28	28	29	28	28
Share of women in governing bodies	%	33	25	31	38	40
by age						
Up to 30	person	61 178	55 811	52 355	44 845	44 397
Share of employees up to 30	%	21	20	20	17	17
Men	person	43 302	39 240	37 039	31 988	32 318
Women	person	17 876	16 571	15 316	12 857	12 080

Governing bodies	person	1 038	954	817	929	814
30-50	person	153 312	150 639	145 436	143 421	144 003
Share of employees from 30 to 50	%	53	55	54	56	56
Men	person	108 835	106 883	102 129	102 287	103 417
Women	person	44 477	43 756	43 307	41 134	40 586
Governing bodies	person	6 846	7 051	7 127	7 584	7 788
50+	person	72 030	72 136	70 429	69 778	70 654
Share of employees over 30	%	25	27	26	27	27
Men	person	52 869	53 113	51 746	50 958	51 381
Women	person	19 161	19 023	18 683	18 820	19 273
Governing bodies	person	2 813	2 767	2 807	3 098	3 107
by type of activity		286 520	278 586	268 220	258 044	259 055
Production and transmission of heat and electricity	%	5	5	6	6	6
Oil and gas exploration and production	%	5	5	5	6	6
Oil and gas refining	%	2	2	2	2	2
Oil and gas transportation	%	6	6	6	7	7
Railway transportation	%	47	46	44	44	44
Mining industry	%	8	8	8	8	8
Air transportation	%	2	2	2	2	3
Postal Services	%	8	8	8	7	7
Chemical industry	%	0	0	0	0	0
Telecommunication	%	8	10	10	10	9
Other	%	9	8	8	8	8
by the term of the employment contract		286 520	278 586	268 220	258 044	259 055
Permanent employees	person	273 210	264 370	254 719	245 056	246 618
Men	person	200 589	194 432	186 767	181 478	183 178
Women	person	72 621	69 938	67 952	63 578	63 440
Temporary workers (for the period of maternity and child care leave, study leave, etc.)	person	13 310	14 216	13 501	12 988	12 436
Men	person	4 417	4 804	4 147	3 755	3 937
Women	person	8 893	9 412	9 354	9 233	8 499
by region		286 520	278 586	268 220	258 044	259 055
Republic of Kazakhstan	person	277 769	269 880	259 616	249 816	250 813
Astana	person	25 843	26 307	23 778	22 274	19 862
Pavlodar region	person	16 519	15 895	15 138	14 536	14 662

Almaty oblast	person	27 748	28 287	27 376	25 944	26 886
Hyzylorda oblast	person	14 358	14 292	13 100	12 445	13 274
Aktobe region	person	17 123	17 441	16 466	15 659	15 535
Atyrau region	person	19 279	17 945	18 304	17 552	17 472
Mangystau oblast	person	28 518	27 441	26 803	27 298	28 688
North Kazakhstan oblast	person	3 155	3 031	2 838	2 945	3 202
Kostanai oblast	person	11 376	10 665	10 939	10 375	10 480
Zhambyl region	person	12 340	12 094	11 501	11 070	10 889
Turkestan region	person	14 213	13 931	13 619	14 111	15 926
Shymkent	person	5 475	5 672	5 321	5 351	5 869
Abai region	person	7	6	6	6	472
Almaty	person	27 524	29 523	28 909	26 360	18 250
Zhetysu region	person	11	12	13	9	764
Akmola oblast	person	7 719	7 343	6 711	7 132	10 403
Karaganda region	person	15 137	15 747	15 323	14 572	15 822
Ulytau oblast	person	1	1	25	33	284
West Kazakhstan oblast	person	9 983	4 107	3 610	3 525	4 384
East Kazakhstan oblast	person	15 901	15 426	15 072	13 984	14 524
South Kazakhstan region	person	1 888	1 858	1 842	1 691	204
Other regions	person	3 651	2 856	2 942	2 944	2 961
Outside the Republic of Kazakhstan	person	8 752	8 707	8 605	8 229	8 242
Staff with disabilities	person	1 937	2 541	2 443	2 725	2 860
Republic of Kazakhstan	person	1 923	2 530	2 432	2 710	2 848
Astana	person	116	134	137	138	136
Pavlodar region	person	140	169	189	191	187
Almaty oblast	person	122	184	205	199	211
Hyzylorda oblast	person	81	149	144	224	210
Aktobe region	person	107	129	128	120	136
Atyrau region	person	183	231	214	229	236
Mangystau oblast	person	244	290	303	454	482
North Kazakhstan oblast	person	31	62	41	37	39
Kostanai oblast	person	74	91	82	95	100
Zhambyl region	person	64	115	98	92	118
Turkestan region	person	81	94	93	108	182

Shymkent	person	43	67	69	86	94
South Kazakhstan region	person	83	95	100	96	36
Abai region	person	-	-	-	-	2
Almaty	person	135	160	146	129	137
Zhetysu region	person	11	11	8	10	12
Akmola oblast	person	76	129	77	79	94
Karaganda region	person	150	186	196	201	209
Ulytau oblast	person	-	-	-	-	1
West Kazakhstan oblast	person	56	70	71	77	71
East Kazakhstan oblast	person	113	154	117	122	137
Continue	person	13	10	14	23	18
Outside the Republic of Kazakhstan	person	14	11	11	15	12
Staff turnover	%	10	9	9	13	8
New employees hired in the reporting year by gender	person	39 602	33 829	35 103	41 436	38 437
Men	person	28 618	23 747	26 059	30 013	28 305
Women	person	10 984	10 082	9 044	11 423	10 132
Number of employees on maternity and paternity leave or returned from these vacations	person	13 129	13 641	14 329	14 780	13 170
Men	person	269	393	453	604	705
Women	person	12 860	13 248	13 876	14 176	12 465
TEMPORARY WORKERS	Unit of measure	2018	2019	2020	2021	2022
Temporary workers (for the period of maternity and child care leave, study leave, etc.)	person	13 310	14 216	13 501	12 988	12 436.3
Men	person	4 417	4 804	4 147	3 755	3 937
Women	person	8 893	9 412	9 354	9 233	8 499.3
STAFF TRAINING	Unit of measure	2018	2019	2020	2021	2022
Total number of hours of study per year (GRI 404-1)	hours	3 843 772.1	7 725 566.4	7 201 789.5	6 115 097	11 809 889
Men	hours	3 146 574	743 167	6 051 484	1 677 832	9 208 124
Women	hours	697 198	6 982 399	1 150 305	4 437 266	2 601 765
Average number of hours of training per employee per year GRI 404-1		15	16	16	13	19
by gender						
Men	hours	17	8	17	7	22
Women	hours	9	17	12	20	13

by position						
CEOs	hours	555 770	1 126 545	948 246	1 074 268	1 590 746
Specialists	hours	1 132 033	1 947 678	2 078 862	2 545 972	4 158 895
Workers	hours	2 155 968	4 651 343	4 174 682	2 494 857	6 060 248
Number of trained employees per year	person	262 370	490 983	454 922	472 316	625 328
Employee training costs per year	HZT million	13 319	21 405	15 448	107 621	104 259
PROCUREMENT PRACTICE	Unit of measure	2018	2019	2020	2021	2022
Total purchased goods and services	HZT billion	3 216	3 731	3 103	3 427	3 591
Single-source procurement	HZT billion	2 829	2 285	626	475	636
Single-source procurement	%	88	61	20	14	18
Procurement through request for quotations	HZT billion	22	35	45	55	83
Procurement through request for quotations	%	1	1	1	2	2
Open tender procurement	HZT billion	365	492	515	640	1 077
Open tender procurement	%	11	13	17	19	30
Procurement by holding competitive negotiations	HZT billion	0	17	1 152	1 405	997
Procurement by holding competitive negotiations	%	0	0	37	41	28
Procurement within intra-holding cooperation	HZT billion		902	765	852	799
Procurement within intra-holding cooperation	%	0	24	25	25	22
LOCAL CONTENT SHARE	Unit of measure	2018	2019	2020	2021	2022
Total throughout the Fund	%	88	90	90	91	92
By Portfolio Companies						
HazMunayGas JSC	%	79	79	82	78	82
HazTransGas JSC	%	–	–	–	90	90
Hazakhstan Temir Zholy JSC	%	74	80	80	79	85
JSC NAC Kazatomprom	%	84	80	68	80	82
Samruk-Energy JSC	%	85	80	79	89	85
Hazakhtelecom JSC	%	23	51	41	55	24
Air Astana JSC	%	32	33	30	45	23
HEGOC JSC	%	62	58	62	58	52
JSC NMC Tau-Hen Samruk	%	68	71	70	46	52
Hazpost JSC	%	64	80	74	26	34
Other	%	46	34	38	36	30
OCCUPATIONAL HEALTH AND INDUSTRIAL SAFETY GRI 403-9	Unit of measure	2018	2019	2020	2021	2022
Number of registered work-related injuries	person	157	145	117	119	108

Number of injured persons in work-related accidents	person	162	165	122	133	111
Number of fatalities in work-related accidents	person	15	11	11	14	12
Number of severe injuries related to industrial activity	person	-	-	-	-	71
Lost Time Industrial Injury Frequency Rate (LTIF)	ratio	0.29	0.3	0.24	0.22	0.16
Fatality rate	ratio	2.49	1.95	2.18	2.93	2.60
Ratio of serious injuries related to industrial activity	ratio	-	-	-	-	0.15
Road accidents ratio	ratio	0.11	0.08	0.04	0.07	0.05
All road accidents ratio	unit	165	131	68	79	60
Indicators of occupational injuries by Group (contractors)						
Number of contractors' employees fatalities in work-related accidents	person	0	4	2	1	1
Number of injured persons in contracting organizations in labor-related accidents	person	2	22	21	17	14
Indicators of industrial diseases						
Number of cases of health deterioration in the workplace that are not related to work and have not led to a fatal outcome	person	-	-	-	3 877	6 384
Number of fatalities not related to work due to poor health	person	-	-	-	53	27
Number of employees registered on the "D" account	person	-	-	-	108 501	23 958
Number of employees subject to mandatory periodic medical examination	person	-	-	-	203 212	207 407
Number of employees who have undergone periodic medical examination according to laws of the Republic of Kazakhstan	person	-	-	-	193 026	201 463
Number of fires	pcs	89	91	90	103	106
Number of accidents	pcs	2	5	5	13	7
Number of incidents	person	357	316	327	284	334
Labor protection and occupational safety costs						
Amount of money spent to ensure the occupational safety requirements, including in the following areas:	HZT billion	57	65.3	122.4	99.8	126
Labor protection	HZT billion	17	17.7	19.9	22.5	24.4
Fire safety	HZT billion	7.6	8.2	8.6	10.2	15.2
Occupational safety	HZT billion	27.8	34	88.4	60.8	81.9
Training	HZT billion	2	2.4	1.9	2.4	1.7
Other	HZT billion	2.2	2.5	3.3	3.6	2.5

CORPORATE GOVERNANCE

BOARD OF DIRECTORS OF THE FUND	Unit of measure	2018	2019	2020	2021	2022
Average age	years	59	60	56	51	52
Chairman of the Board of Directors		Sagintayev	Mamin	Dudas	Dudas	Dudas
Independent Directors on the Board of Directors	person	3	3	4	4	3
Share of independent members on the Board of Directors	%	43	43	57	50	43
Chief Executive Officer on the Board of Directors	person	Yessimov	Yessimov	Yessimov	Satkaliyev	Satkaliyev
Number of meetings held	amount	11	10	15	10	18
MANAGEMENT BOARD OF THE FUND GROUP	Unit of measure	2018	2019	2020	2021	2022
Number of members	pcs	287	272	267	271	258
Men	pcs	272	264	258	262	248
Women	pcs	24	28	28	26	36
Share of women on the Management Board	%	8	10	10	10	14

ENVIRONMENTAL INDICATORS [GRI 302-1](#), [GRI 302-3](#), [GRI 302-4](#)

CLIMATE AND ECOLOGY	Unit of measure	2018	2019	2020	2021	2022
Carbon footprint	million tons of CO ₂ -eq.	65.1	64.5	69	72.1	60.9
Direct greenhouse gas emissions (Scope 1) GRI 305-1	million tons of CO ₂ -eq.	58.5	56.7	58.4	61.6	50.7
by type of greenhouse gases						
Carbon dioxide (CO ₂)	million tons of CO ₂	46.2	44.3	44.7	45.4	44.9
Methane (CH ₄)	million tons of CO ₂ -eq.	11.8	11.9	12.9	15.3	5.1 ²⁶
Nitrogen oxide (N ₂ O)	million tons of CO ₂ -eq.	0.5	0.4	0.9	0.9	0.6
By segments:						
Oil and gas exploration and production	million tons of CO ₂ -eq.	4.2	3.8	4.1	4.3	2.8
Oil and gas refining	million tons of CO ₂ -eq.	4.4	4.8	6.2	6.1	5.2
Oil and gas transportation	million tons of CO ₂ -eq.	5.1	5.7	4.7	7.5	6.1
Uranium exploration and production	million tons of CO ₂ -eq.	0.13	0.11	0.09	0.11	0.10
Electricity and heat production	million tons of CO ₂ -eq.	41.2	39.11	40.68	40.31	32.99
Railway transportation	million tons of CO ₂ -eq.	2.33	2.23	2.16	2.28	2.39
Passenger air transportation	million tons of CO ₂ -eq.	1.07	0.97	0.54	0.84	1.02
Telecommunication services	million tons of CO ₂ -eq.	0.03	0.02	0.03	0.03	0.03

²⁶ The decrease is due to a change in the calculation methodology in accordance with Order No. 9 of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 17 January 2023 "On Approval of Methodologies for Calculating Greenhouse Gas Emissions and Absorption".

Electric power transmission sector	million tons of CO ₂ -eq.	0	0	0.0085	0.0091	0.0089
Production of chemical products	million tons of CO ₂ -eq.	0.0008	0.0017	0.0012	0.0013	0.0015
Extractive projects	million tons of CO ₂ -eq.	0.0023	0.0027	0.0012	0.0012	0.0014
Metallurgical projects (For Tau-Ken Altyn only, Tau-Ken Temir is at downtime)		0.0714	0.0490	0.0002	0.002	0.002
By sources						
from stationary sources, including flaring	million tons of CO ₂ -eq.	39.2	37.3	38.1	42.7	42.2
unorganized sources	million tons of CO ₂ -eq.	3.8	3.9	5.8	6	3
industrial processes (except TER)	million tons of CO ₂ -eq.	3.7	3.9	2.6	5	4
other		11.9	11.5	12	7.9	1.5
Indirect GHG emissions (Scope 2) GRI305-2	million tons of CO₂-eq.	6.62	7.81	10.53	10.53	10.2
By segments:						
Oil and gas exploration and production	million tons of CO ₂ -eq.	1.3	1.32	1.44	1.38	1.26
Oil and gas refining	million tons of CO ₂ -eq.	1.88	1.79	1.84	1.7	1.74
Oil and gas transportation	million tons of CO ₂ -eq.	0.14	0.35	0.33	0.33	0.29
Uranium exploration and production	million tons of CO ₂ -eq.	-	0.84	0.82	0.84	0.84
Railway transportation	million tons of CO ₂ -eq.	3.3	3.3	3.3	3.2	3.2
Electricity and heat production	million tons of CO ₂ -eq.	-	-	-	-	0.013
Telecommunication services	million tons of CO ₂ -eq.	-	0.198	0.196	0.225	0.204
Electric power transmission sector	million tons of CO ₂ -eq.	-	-	2.61	2.85	2.63
Production of chemical products	million tons of CO ₂ -eq.	0.00001	0.000019	0.000012	0.000012	0.0014
Mining projects	million tons of CO ₂ -eq.	0.017	0.016	0.013	0.023	0.018
Metallurgical projects (Only for Tau-Ken Altyn, Tau-Ken Temir at idle)	million tons of CO ₂ -eq.	0.264	0.242	0.003	0.003	0.003
GHG emissions intensity (Scope 1) GRI305-4	million tons of CO₂-eq./pcs of product					
By segment						
Oil and gas exploration and production	million tons of CO ₂ -eq./1000 tons of CHC	0.0002	0.0002	0.0002	0.0002	0.0001
Oil and gas refining	million tons of CO ₂ -eq./1000 tons of CHC	0.0002	0.0002	0.0003	0.0002	0.0002
Oil and gas transportation	million tons of CO ₂ -eq./1000 tons of CHC	0.00006	0.00006	0.00005	0.00006	0.00005
Electric power generation (EGRES-1 LLP; SEGRES-2 JSC; AIES JSC (HPP-1; HPP-2; HPP-3))	million tons of CO ₂ /million kWh	0.92	0.86	0.88	0.86	0.84
Heat/energy generation (AIES JSC)	million tons of CO ₂ -eq./million Gcal	0.44	0.44	0.43	0.31	0.3
Coal mining (Bogatyr-Komir LLP)	million tons of CO ₂ -eq./million tons	0.26	0.25	0.27	0.17	0.03

Uranium exploration and production	million tons of CO ₂ -eq./t U	0.000006	0.000005	0.000005	0.000005	0.000005
Railway transportation (cargo turnover)	grams of CO ₂ -eq /tkm	10.5	8.7	8.1	6.7	8.8
Railway transportation (passenger turnover)	grams of CO ₂ -eq /km-p	15.6	13.9	30.9	20.4	17.2
GHG emissions intensity (Scope 2) GRI.305-4	million tons of CO₂-eq./pcs of product					
By segment						
Oil and gas exploration and production	million tons of CO ₂ -eq./1000 tons of CHC	0.05	0.05	0.06	0.06	0.06
Oil and gas refining	million tons of CO ₂ -eq./1000 tons of CHC	0.1	0.09	0.1	0.09	0.09
Oil and gas transportation	million tons of CO ₂ -eq./1000 tons of CHC	0.01	0.01	0.01	0.01	0.01
Uranium exploration and production	million tons of CO ₂ -eq./t U	-	0.00004	0.00004	0.00004	0.00004
Railway transportation (cargo turnover)	grams of CO ₂ -eq /tkm	15.2	14.9	14.4	13.9	13.3
Railway transportation (passenger turnover)	grams of CO ₂ -eq /km-p	22.5	22.1	52.3	34.2	26.4
Greenhouse gas emission intensity GRI.305-4						
GHG emissions (Scope 1) on revenue, HZT	metric tons of CO ₂ -eq. per HZT million of sales	166.2	167.9	152.6	130.2	92.9
GHG emissions (Scope 1) on revenue, USD	metric tons of CO ₂ -eq. per HZT million of sales	57 265.2	64 169.1	63 013.9	55 348.9	43 075.7
GHG emissions (Scope 1+2) on revenue, HZT	metric tons of CO ₂ -eq. per HZT million of sales	169.9	173.7	165.8	150.2	108.9
GHG emissions (Scope 1+2) on revenue, USD	metric tons of CO ₂ -eq. per HZT million of sales	58 673.5	66 205.5	65 366	57 213.1	44 907.6
Additional information about GHG emissions: quotas						
Allocated GHG quotas	t CO ₂	112 279 844		40 758 049		40 037 200
Inventory of GHG emissions	t CO ₂	41 985 174.8	40 029 837.6	41 131 752.6	41 796 175.2	40 753 643.1
Deficit, including	t CO ₂	7 382 682	6 214 876	7 284 717	5 108 907	4 785 231
Received additionally	t CO ₂	7 313 560	6 214 876	6 966 630	4 956 071	92 382
RESOURCE CONSUMPTION AND ENERGY EFFICIENCY						
	Unit of measure	2018	2019	2020	2021	2022
Total energy consumption²⁷	thous. GJ	555 646.3	541 493.5	535 287.4	593 626.7	594 144.2
Electricity, including	thous. GJ	55 465	54 913.7	53 361.9	55 402.3	54 499.9
Purchased electricity, including	thous. GJ	40 871.3	40 794.9	40 009.9	40 558.2	39 063.7
RES		0	0	0	26.2	43
Own electricity production, including	thous. GJ	14 593.7	14 118.8	13 351.9	14 844	15 436.2
RES	thous. GJ	47.6	41.8	49.7	36.8	52.6
Thermal energy, including	thous. GJ	36 641.9	41 730.9	41 413.1	41 568.3	40 371.9
purchased thermal energy	thous. GJ	8 491.9	7 176.9	6 773.3	6 717.5	5 989

²⁷ According to GRI 2021, total energy consumption (302-1. E) = Non-renewable fuel consumed + Renewable fuel consumed + Electricity, heating, cooling, and steam purchased for consumption + Self-generated electricity, heating, cooling, and steam, which are not consumed – Electricity, heating, cooling, and steam sold

own production of thermal energy	thous. GJ	28 149.9	34 554	34 639.8	34 850.8	34 382.9
Cooling	thous. GJ	0	0	0	0	0
Steam	thous. GJ	0	0	0	0	0
Refinery gas	thous. GJ	33 433.5	36 209.3	41 034	37 919.4	43 156
Coal	thous. GJ	300 506	281 929.6	293 560.4	334 720.2	328 635.9
APG	thous. GJ	14 877.1	14 786.3	13 931.6	14 460.6	15 702
Gas, including	thous. GJ	96 728.2	103 320.1	94 336.3	109 071.7	104 280.2 ²⁸
Natural gas	thous. GJ	84 671.1	86 700.8	76 876	90 779.6	87 056
tail gas	thous. GJ	11 863.5	16 418.2	17 256.5	18 071.4	17 103.2
CPBM (LPG)	thous. GJ	193.5	201.2	203.7	220.7	121
Liquid fuel, including	thous. GJ	46 497.5	45 553.4	36 799.4	42 713.4	50 214.4
Gasoline	thous. GJ	1 135.7	1 075.1	976.6	892.3	958.3
Diesel fuel	thous. GJ	30 024.2	29 093.3	27 992.8	29 743.2	30 971.9
jet fuel	thous. GJ	15 337.7	15 385	7 830.1	12 077.9	18 288.3
Boiler fuel, including	thous. GJ	14 240.7	11 723	8 842.4	7 465.6	7 099
heating oil	thous. GJ	809.8	1 257.3	1 171.9	1 780.1	3 216
Oil	thous. GJ	1 588	864.6	780.5	651.9	958
Fuel oil	thous. GJ	11 829.6	9 555.8	6 836	5 006	2 924
marine fuel (fuel oil, IFO)	thous. GJ	13.4	45.2	53.9	27.5	1
By segments:						
Oil and gas exploration and production	thous. GJ	53 131.3	54 652.9	50 950.2	53 869.7	58 216.2
Oil and gas refining	thous. GJ	67 408.4	70 180.7	71 294.1	67 323	68 654
Oil and gas transportation	thous. GJ	48 070.2	50 590.6	42 020.1	54 934.2	49 516
Uranium exploration and production	thous. GJ	5 584.8	5 425.6	5 072.8	5 470.5	5 250.1
Electricity and heat production	thous. GJ	310 642.9	291 384	306 441.5	346 373.9	340 197.2
Railway transportation	thous. GJ	40 675.7	39 489.9	38 659.3	39 759.8	40 938.7
Passenger air transportation	thous. GJ	16 431.4	16 458.5	9 039.4	13 076.8	19 428.9
Telecommunication services	thous. GJ	1 369.8	1 405.5	1 433.4	1 624.2	1 385.7
Electric power transmission sector	thous. GJ	10 780.7	10 711	10 350.7	11 163	10 373.2
Production of chemical products	thous. GJ	75	154.8	89.9	91.8	80.5
Energy intensity						
		kWh/pcs of product				
By segments:						
Oil and gas exploration and production	GJ/ton of extracted CHC	2.29	2.37	2.39	2.43	2.78

²⁸ This indicator does not include technological losses of gas.

Oil refining	GJ/ton of refined oil (gas)	4,1	4.05	4.45	3.84	3.79
Oil transportation	GJ/ ton of oil	0.56	0.62	0.59	0.7	0.7
Freight turnover (electric locomotives)	kWh/ 10 thousand tons km	132.5	128.9	126.2	128.7	128.4
Freight turnover (diesel locomotives)	kWh/ 10 thousand tons km	28.7	28.2	27.5	28.4	26.9
Production of chemical products	GJ/t of manufactured chemical products	10.9	14.3	12	22.6	14
Uranium exploration and production	thous. GJ/t of extracted U	0.220	0.305	0.259	0.251	0.254
Electricity and heat production	GJ/thousand kWh	9.8	9.6	9.8	9.7	9.5
Metallurgical projects (Only for Tau-Ken Altyn, Tau-Ken Temir idle)	GJ/refined gold	71	67	202	141	162
Total amount of energy saving	thous. GJ	1 716.2	9 595.1	13 029.1	15 825.2	16 551.3
EMISSIONS	Unit of measure	2018	2019	2020	2021	2022
Emissions of pollutants, including	ton	599 990	594 341.2	566 825.4	615 263.7	608 760.6
by type of pollutants						
Nitrogen oxides (in terms of NOx)	ton	93 339.3	89 799.4	91 314.3	100 913.7	104 212.6
Sulfur Dioxide (SO _x)	ton	217 466	225 427	220 942.3	236 412.3	235 612.2
Particulate matter (PM)	ton	45 414.2	44 582	45 856.3	51 333	51 217.8
Carbon oxide (CO)	ton	32 929.1	27 361.2	25 138.9	27 864.6	29 719.6
Other	ton	209 574.4	203 093.7	180 128.3	195 441.7	187 998.4
by place of emissions						
Republic of Kazakhstan	ton	599 990	594 340.8	566 544.2	614 965.1	608 676.5
Outside the Republic of Kazakhstan		93.5	93.5	84.1	84.1	84.1
WATER USE AND SANITATION	Unit of measure	2018	2019	2020	2021	2022
Water withdrawal GRI 303-3	thousand m³	300 346	293 850	287 829	305 844	304 143
Fresh water (Total salinity <1000 mg/l)	thousand m ³	158 143	157 123	185 614	200 712	205 073
Other water (Total salinity ≥1000 mg/l)	thousand m ³	142 203	136 727	102 215	105 133	99 070
by source type						
Surface water bodies	thousand m ³	186 591	185 233	183 916	201 267	199 760
Underground water bodies	thousand m ³	42 377	43 055	43 225	39 914	34 622
Municipal water supply systems	thousand m ³	44 359	40 982	40 143	44 527	49 498
Other sources (please specify)	thousand m ³	27 018	24 580	20 545	20 137	20 264
Water intensity (specify units of production)	m ³ per pcs of product	567	474	538	467	435
Water consumption GRI 303-5	thousand m³	300 346	293 850	287 829	305 844	304 143
Production needs, including	thousand m ³	225 553	222 706	219 803	237 391	234 895

Household and drinking	thousand m ³	6 466	5 751	6 059	5 712	5 831
Transferred to other customers without use	thousand m ³	56 109	54 699	51 514	52 621	54 227
Water discharge <small>GRI 303-4</small>	thousand m³	84 606	81 163	82 537	88 912	87 926
By type of receivers						
Discharge to evaporation ponds	thousand m ³	77 520	74 059	76 444	83 163	83 569
Transferred to third-party organizations	thousand m ³	1 836	1 429	853	926	941
Reuse						
Volume of reused water	thousand m ³	10 011	7 112	8 008	9 302	10 122
Volume of recycled water	thousand m ³	3 757 254	3 630 426	3 581 714	3 935 229	3 978 678
Total volume of produced water	thousand m ³	124 372	129 200	125 374	136 520	136 519
OTHER INDICATORS						
Number of hours of environmental training per person	number/person	-	-	32	24	24
ENVIRONMENTAL PROTECTION COSTS						
	Unit of measure	2018	2019	2020	2021	2022
Environmental protection costs						
Total	HZT million	35 273.7	32 425.6	41 576.9	55 308.5	56 284.3
by type of event						
Technologies implementation, including	HZT million	1 283.3	1 247.5	1 234.8	4 579.8	1 150.7
BAT	HZT million	0	0	0	0	8.6
AMS	HZT million	0	0	0	0	1 092.5
Energy efficiency	HZT million	1 048.9	950.9	1 085.2	184.4	920.7
R&D	HZT million	861.8	734.1	1 152.5	727.6	890.7
Emissions Payments, including	HZT million	11 507.3	9 991.2	10 956.5	13 716.6	13 747
Regulatory emissions payments (tax)	HZT million	10 401.8	9 944.6	10 886.9	13 696.9	13 738.6
Over limit emissions payments	HZT million	1 105.6	46.6	69.6	19.7	8.4
Other	HZT million	20 572.4	19 502	27 147.9	36 100.1	39 575
Environmental fines		8 635.3	243.5	334.4	627.2	1 937.2
Claimed	HZT million	85 614.3	244.5	269.2	752.2	1 831.7
Paid	HZT million	8 635.3	243.5	335.2	627.2	1 937.2
Cases of non-financial sanctions	amount	3	1	0	0	2

