



Approach to managing environmental impact

GRI 3-3 With the significant scale of our operations, it is vital for us to ensure responsible consumption of natural resources, significant reductions in greenhouse gas emissions and effective management of environmental impacts.

GRI 3-3 Our strategic vision focuses on the implementation of three priorities: resource conservation, decarbonisation and green finance. These strategic objectives are implemented at the portfolio company level. We analyse the progress of their implementation on an annual basis when summarising the results of the Development Plan.

We invest in reducing environmental impact through the development of innovative solutions, implementation of advanced technologies and modernisation of production assets of portfolio companies. We develop international partnerships to attract international investment and best international practices.

GRI 3-3 Given the specific nature of the business, the Fund ensures the environmental impact management at the level of portfolio companies. Our representatives on the Boards of Directors of portfolio companies participate in approval of environmental policies, defining key objectives, programmes and KPIs. Companies in industrial sectors with significant environmental impacts have built environmental management systems based on ISO 14001 standard, they assess environmental risks, implement industrial environmental control programmes, monitor and assess environmental quality and comply with environmental laws and regulations.

PRECAUTIONARY PRINCIPLE

**GRI 2-23
GRI 413-1** We adhere to the precautionary principle adopted at the Earth Summit in Rio de Janeiro in 1992, which is also at the heart of the Environmental Code of the Republic of Kazakhstan. Before launching new projects and facilities, we conduct an environmental impact assessment (EIA). This allows us to factor in possible environmental risks in advance and minimise them at the design stage. The EIA procedure also provides for public awareness of planned activities and their possible environmental impact. This approach meets the requirements of the Aarhus Convention adopted by Kazakhstan, which guarantees access to information and public participation in making environmentally significant decisions.

GRI 3-3 At mining and metallurgical enterprises in the mining and oil and gas sectors, the precautionary principle is implemented through the mechanism of liquidation funds. At the planning stage of each subsoil use project, we create a trust fund to finance environmental remediation measures after the end of production. These funds are used to reclaim land, dismantle equipment, dispose of waste and repair damage to ecosystems, including restoration of biodiversity in disturbed areas.

DIALOGUE WITH STAKEHOLDERS

**GRI 3-3
GRI 2-29** We understand the importance of maintaining an open dialogue with key stakeholders on environmental issues. Dialogues are built at the level of our portfolio companies through press conferences and round tables on topical environmental issues. This enables us to monitor the effectiveness of decisions and measures taken and to update environmental risks.

At the level of the Fund, we build dialogue with stakeholders at various international platforms that discuss issues of national, regional and global scale. For example, the Fund's management takes part in the annual UN Climate Change Conference (COP), which brings together world leaders and organisations interested in sustainable development. As part of the COP, we negotiate with potential strategic partners and conclude co-operation agreements aimed at supporting Kazakhstan's climate transition and the development of a green economy.

GRI 2-26 In addition, the Fund and its portfolio companies have feedback mechanisms in place. Any interested person can anonymously report environmental concerns or suggestions through secure lines on our website or the websites of our portfolio companies.

INVESTMENTS IN ENVIRONMENTAL PROTECTION

Investments and expenditures on environmental protection, KZT billion

Indicator	2021	2022	2023	2024
Implementation of technologies	5.1	1.1	7.9	4.6
Forest-climatic projects	0.1	0.2	0.9	0.03
Energy efficiency	4.3	2.6	4.2	3.2
Research and development	0.7	0.9	0.9	2.1
Others	25.9	31.9	47.0	40.5
Total*	36.1	36.7	60.9	50.4

* Excluding emission fees and taxes. Emission fees and taxes do not relate to environmental expenditures.

Over the past four years, total investments in environmental protection totalled KZT 184.1 billion, including about KZT 51 billion in 2024. In particular, portfolio companies invested KZT 2.2 billion in automation of environmental monitoring systems, KZT 2.1 billion was directed to research and development in the field of innovative projects for transition to a green economy. We used the rest of the funds to improve technological processes, upgrade equipment, etc.

Our approach to climate risk management

GRI 201-2 Climate change is among the key global challenges that have a direct impact on the activities of the Fund and its portfolio companies operating in virtually all sectors of Kazakhstan's economy. In the context of the national goal of achieving carbon neutrality by 2060, we pursue a gradual and balanced energy transition strategy aimed at reducing our carbon footprint without disrupting energy and economic stability.

Following the Task Force on Climate-related Financial Disclosures (TCFD) methodology, we look at climate through the lens of both climate risks (physical and transient) and climate opportunities that can enhance the competitiveness of the Fund and its portfolio companies.

We drive the implementation of strategic climate initiatives in our portfolio companies:

- Forming a unified concept of sustainable development and ESG standards;
- Establishing key performance indicators (KPIs) for climate;
- Ensuring coordination and monitoring of the implementation of decarbonisation programmes and roadmaps;
- Supporting the adoption of clean technology and green investments in portfolio companies.





Climate risk management

Sole Shareholder (Government of the Republic of Kazakhstan)

Approves the Development Plan, including Strategic Goals, Objectives and KAPs.

Board of Directors of the Fund

Provides strategic leadership on sustainable development and the climate agenda.

Approves the Low Carbon Development Concept.

Approves policies, sets climate goals for the Fund.

Approves non-financial reporting, including climate risk disclosure.

Monitors the implementation of the Development Plan, important industry initiatives and objectives, including achievement of key ESG indicators.

Reviews information on the progress of major investment projects.

Makes decisions on financing socially significant and (or) industrial-innovative projects initiated by the Government of the Republic of Kazakhstan.

Makes decisions on the social responsibility of the Fund Group.

Committees of the Board of Directors of the Fund

GRI 2-9
GRI 2-10
GRI 2-12 Make recommendations to the Board of Directors on the most complex and significant economic, environmental and social issues.

Strategy Committee: considers issues of strategic planning, including the Fund’s Development Plan for a 10-year period and the Fund’s Action Plan for a 5-year period; issues of investment activities of the Fund’s Group.

Audit Committee: oversees sustainability risks, the quality of non-financial information and reporting, compliance with corporate governance principles and legislation, and the independence of external and internal audit.

Nomination and Remuneration Committee: provides recommendations and forms proposals on the issues of attracting qualified specialists to the Board of Directors, the Management Board, the Corporate Secretary, and the Ombudsman.

Board of Directors of the Fund

Manages the day-to-day management of the Fund’s activities, including sustainable development issues.

Provides control and monitoring of activities on strategic development directions, programmes, activities, monitoring of implementation of sustainable development goals, approval of significant topics.

Reports quarterly to the Board of Directors on key initiatives, risks and major investment projects.

The executive employees of the Fund responsible for economic issues, sustainable development are members of the Management Board.

Sustainable Development Committee of the Fund’s Board of Directors

Defines priorities, goals and principles of sustainable development.

Develops and coordinates environmental, social responsibility and corporate governance programmes.

Analyses significant sustainability risks, including climate risks.

Monitors the implementation of decarbonisation programmes and ESG initiatives in portfolio companies.

Informs the Board of progress and the need for corrective action.

Portfolio companies

Develop and implement strategies, programmes or roadmaps for decarbonisation and sustainable development, in line with the Fund’s objectives and policies.

Set key climate performance indicators (KPIs) for senior management, including targets for renewable energy share, greenhouse gas emission reductions and energy efficiency programmes.

Implement projects to reduce carbon footprint: development of renewable energy (RES), reduction of methane emissions (OGMP 2.0), reduction of flaring, introduction of carbon capture and storage (CCUS) technologies.


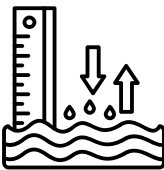
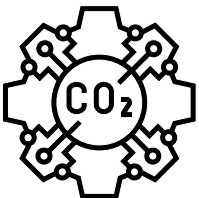
Ensure monitoring and reporting on the implementation of sustainable development plans, including disclosure of climate risks and opportunities.

There are committees under the Boards of Directors to oversee sustainable development issues, such as the Committee of the Board of Directors of JSC NC KazMunayGas on safety, labour and environment protection and sustainable development; in JSC NC Kazakhstan Temir Zholy in 2023 the Committee on Strategy and Sustainable Development under the Board of Directors was established; in JSC NAC Kazatomprom there is also a Committee on Strategy and Sustainable Development.

Participate in the Fund’s corporate programmes on decarbonisation, RES development initiatives, energy efficiency and climate change mitigation.

Key Climate Risks and Impacts

In line with TCFD recommendations, we categorise risks into physical risks (related to climate manifestations) and transitional risks (related to societal and market responses to climate change).

Type of climate risk	Potential implications for business	Samruk-Kazyna's responses and projects	Metrics, targets and facts for 2024
Physical Risks			
 <p>Short-term (extreme weather events: hurricanes, floods, droughts)</p>	Damage to critical infrastructure, including TPPs, gas pipelines, and transport routes. Increased repair and restoration costs, disruptions in energy supply and logistics.	Strengthening physical protection of infrastructure; mandatory insurance of critical assets; introduction of backup power supply; fire and rescue drills.	<p>In 2024, a project to strengthen the engineering protection of the Atyrau Refinery and KazMunayGas facilities in the western regions was implemented.</p> <p>Development of measures to prepare for spring floods and prevent flooding of vulnerable areas (road washout, damage to power lines, flooding of wells).</p> <p>Environmental risk insurance.</p> <p>Insurance of organisations' property against damage (accidental loss, loss or damage) as a result of accidental and unforeseen direct physical impact.</p> <p>KEGOC checks the risks of hurricanes, ice, increasing the insurance coverage of power lines.</p>
 <p>Chronic (long-term climate change: decreasing water levels in the Caspian Sea and rivers)</p>	Reduced oil and gas production, increased costs of water supply and treatment; possible tightening of water consumption regulation.	<p>Implementation of the TAZALYQ project (improving the efficiency of wastewater treatment at Atyrau Refinery).</p> <p>Introduction of water desalination technologies at the Fund's oil producing assets.</p>	<p>Investments in water efficiency exceeded KZT 145.4 billion (including investments in the seawater desalination plant project and in the implementation of the TAZALYQ project).</p> <p>In 2024, the share of water reuse at the Fund's key enterprises is increased by 7%.</p> <p>In green hydrogen, the development of the Surface Water Atlas of Western Kazakhstan was finalised to assess the water supply potential of RES-based electrolysis.</p> <p>Kazatomprom has introduced mandatory testing of water availability during the development of new fields to avoid the risk of water shortages.</p> <p>In 2024, Kazakhtelecom assessed climate risks according to the leading international methodologies IPCC SSP and IEA NZE-2050. In turn, KazMunayGas is implementing a financial model to take into account the growth of carbon price and decrease in oil demand in case of a global energy transition.</p>
Transition risks			
 <p>Political and legal (tightening of carbon regulation, introduction of carbon tax and CBAM mechanism)</p>	Additional costs, reduced competitiveness of Kazakhstani exports in external markets, especially in the EU and China.	<p>Low Carbon Vision 2060.</p> <p>Integrating a carbon price into investment models.</p> <p>Inventory of greenhouse gas emissions.</p> <p>Realisation of a portfolio of offset projects; issuance of green bonds.</p> <p>Implementation of carbon footprint disclosure practices in accordance with the requirements of the CDP and TCFD in portfolio companies.</p>	<p>Reduction of CO₂ emissions (Scope 1 + Scope 2):</p> <p>Target: -10% by 2032 from 2021 levels (carbon footprint of 72.2 million tonnes in 2021).</p> <p>"Green" funding:</p> <p>Objective: to build a portfolio of offset projects for 5.8 million tonnes of CO₂-eq. by 2032, and to continue issuing green bonds.</p> <p>Monitoring: amount of funds raised, project statuses, compliance with Green Bond Principles (ICMA).</p> <p>By 2024, the Fund's offset portfolio of 489,700 tonnes CO₂-eq.</p> <p>In 2024, NC KazMunayGas JSC sent to UNEP its first methane emissions inventory report prepared as part of its participation in the Oil&Gas Methane Partnership 2.0 (OGMP 2.0).</p>

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Type of climate risk	Potential implications for business	Samruk-Kazyna's responses and projects	Metrics, targets and facts for 2024
 Market risks (reduced demand for fossil fuels, changes in consumer preferences)	Loss of revenues in the oil and gas and coal segments; need to develop new competences and markets.	Development of new markets (hydrogen, SAF), Innovation (R&D): introduction of hydrogen technologies, carbon dioxide capture technologies (CCUS), Financing and implementation of R&D programme. Development of "clean" technologies systematic energy transition based on a balance between energy and environmental security.	A study on the potential of SAF production in Kazakhstan was carried out. Export markets for hydrogen fuel are being developed. Investments in R&D on green technologies in 2024 totalled KZT 1.2 billion.
 Reputational risks (negative social perception of the energy transition (5 single-industry towns and about 40,000 employees depend on the country's coal industry), increased investor and public demands for ESG)	Difficulties in attracting investments, deterioration of ratings.	Increased transparency of ESG reporting on TCFD and CDP; international co-operation (OGMP 2.0). Ensuring a fair energy transition with social support for the regions.	In 2024, the portfolio companies were rated by Sustainalytics, S&P and CDP at the level of companies in their industries. Public consultations and social programmes were conducted in single-industry towns (Ekibastuz, Temirtau). Participation in international initiatives (OGMP 2.0, CDP).

