

**2022 Activity Report of
the Health, Safety, Environment, and Sustainable Development Committee
of the Board of Directors of JSC NC “KazMunayGas”**

CONTENT

ADDRESS OF THE CHAIRMAN OF THE COMMITTEE	2
GENERAL INFORMATION	4
Introduction	4
Composition of the Committee	4
Committee objectives	6
CORE ACTIVITIES OF THE COMMITTEE IN 2022	6
Committee activities in figures	6
Items addressed by the Committee	8
Achievements and key initiatives of the company in 2022 in the areas of activity supervised by the Committee	11
CONCLUSION	21
Priorities for 2023	22
Abbreviations	23

ADDRESS OF THE CHAIRMAN OF THE COMMITTEE



Dear Readers,

We would like to bring to your attention the annual Activity Report of the Health, Safety, Environment, and Sustainable Development Committee of the Board of Directors of JSC NC “KazMunayGas” for 2022. In addition to general information about the Committee’s activities, this Report also covers the information about the Company’s achievements and key initiatives in the areas of activity overseen by the Committee, among which the following can be outlined.

In 2022, the urgent objective faced by KMG was to reduce the volume of accumulated waste, eliminate historical waste and clean up oil-contaminated contract areas. All accumulated waste in the temporary storage sites has been cleaned up and now all newly generated oil waste is transferred to specialized organizations for disposal. As for historical oil waste, in accordance with the requirements of the JSC “Samruk-Kazyna” Procurement Standard, purchase procedures to identify contractors for the disposal of historical oil waste were carried out step by step. Currently, all long-term contracts for the disposal of historical oil waste have been signed. Active measures are being taken to dispose of waste, including historical waste, and to reclaim contaminated land. The Company reduced emissions of pollutants into the atmosphere by 19% compared to 2017.

In 2022, the level of ESG risk rating was 28.5 points, in 2021 this indicator was 28.4 points. In the comparative rating, KMG ranked in the top 20 among the 270 global oil and gas companies evaluated by “Sustainalytics” agency. The mentioned result allowed KMG to keep the stable average level of the risk rating despite significant risks in the sphere of health, safety and environmental protection. The assessment on qualitative indicators of the rating was increased, now it is necessary to strengthen the work on fulfillment of quantitative indicators.

The volume of total water withdrawal over the past 4 years has decreased by 9% due to a systematic approach to water management and the implementation of measures for the rational use of water resources. In the reporting period, KMG retained its water safety rating of “B-” assigned based on the Carbon Disclosure Project (**CDP**) results, which indicates an improvement in the respective indicator compared to 2019, when the rating level was “C”. KMG and the Committee see a global trend toward decarbonizing operations. KMG's greenhouse gas reduction potential is 2.9 million tons of CO₂, or 27% of 2019-year emissions.

The activities to reduce greenhouse gas emissions and implementation of joint projects in the field of renewable energy sources are being carried out. According to the Action Plan for 2023, on the implementation of KMG's Low-Carbon Development Program (**LCDP**), the achievement of 95 measures is envisaged. The above is laid down in the KMG Development Strategy and LCDP for the period 2022-2031. The LCDP plan is aimed at the implementation of the following measures: renewable

energy sources (**RES**), energy efficiency and digitalization, innovative technologies, improvement of CDP rating, etc.

In the reporting period, the KMG enterprises successfully implemented the “Automated information system for environmental monitoring” (**AISEM**) project, the main objectives of which are to create a unified information space in the field of environmental protection and to increase transparency, efficiency and minimize human errors in order to avoid potential environmental fines.

Unfortunately, in the reporting period, accidents occurred in the KMG group of companies, including fatal one caused by a pipeline rupture at the LLP “Department of the Water Production and Transportation” site. The Company and the Committee paid special attention to these facts, and corrective measures are implemented after the root causes of the accidents are fully understood.

The Occupational Health and Safety Policy of KMG group of companies is based on the commitment of senior management to HSE and is aimed at involving each employee in the development of a safety culture. The management of the Company and its subsidiaries and affiliates follow the principle of zero tolerance for losses and damages associated with accidents and incidents, the use of alcohol, drugs, psychotropic substances and their analogues and road traffic accidents. As part of the work to improve occupational safety in the KMG group of companies, the Committee considered the issue “On approval of the corporate standard in the field of safety and labor protection “Life saving rules” for employees of the KMG group of companies” (**Standard**). The Standard was developed considering the current legislative and industry requirements of the RoK, international best practices and International Association of Oil and Gas Producers (**IOGP**) recommendations in the field of HSE, which replaced the "golden rules" and allow KMG to provide a more representative comparison with the IOGP indicators.

In its activities, the Committee adheres to the principle of making consistent and balanced decisions for the safe and sustainable development of the Company.

Sincerely Yours,

Timothy Glen Miller
Chairman of the Committee

GENERAL INFORMATION

1. Introduction

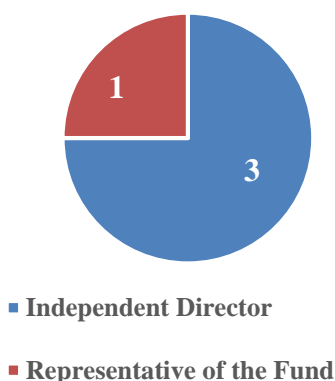
The Committee is a consultative-deliberative body of the KMG BoD and formed to review the most important issues and provide recommendations to the BoD and to the executive body of KMG within its competence defined by the Regulation on the Committee. The Regulation on the Committee was approved by the resolution of the KMG BoD dated December 12, 2018 (Minutes №19/2018, item 27). The Committee began its activities in 2019.

The functions of the secretary of the Committee are performed by the Corporate Secretary of KMG.

2. Composition of the Committee

The Committee is formed out of members of the BoD and duly qualified and competent experts. The Committee shall consist of at least three members, Independent Directors shall comprise the majority of members of the Committee.

Composition of the Committee



The composition of the Committee is elected by the BoD, with the Independent Director being the Chairman of the Committee. The composition of the Committee was re-elected by the resolution of the KMG BoD dated 15 June 2022 (Minutes No.11/2022, item 8) due to the changes in the composition of the KMG BoD. A.A. Khairova was elected as a new member of the Committee. In the reporting period, the Committee consisted of 100% non-executive directors, the majority of them were independent directors, and the Chairman was an independent director.

Committee members (as of 31 December 2022):

Committee member	Position	Date	Country
Timothy Glen Miller	Chairman	September 3, 2020	USA
Christopher John Walton	member	December 12, 2018	Great Britain
Uzakbay Suleimenovich Karabalin	member	May 8, 2019	Republic of Kazakhstan
Assel Anuarovna Khairova	member	June 15, 2022	Republic of Kazakhstan



Timothy Glen Miller – Chairman of the Committee, member of the KMG BoD - Independent director. Miller T.G. has had a long career in various divisions of Chevron Corporation around the world, where he held positions of Country Manager, Senior Vice President and Managing Director and Advisor to the President.

During the period from 2010 to 2015, Miller T.G. served as General Director of LLP “Tengizchevroil” in Atyrau. During his work at the company, no fatalities were recorded, production increased from 24 to 27 million tons per year, annual Kazakhstani expenditures were achieved, and the elemental sulfur storage facility in Tengiz (9 million tons) was eliminated. Since 2019, he has been executive and senior advisor for Integrated Global Services (IGS).



Christopher John Walton – member of the Committee, member of the KMG BoD - Independent director. He is a Master of the Guild of Free Masons of the City of London and a trustee of the Guild's charitable foundation.

Walton C.J. served as CFO of EasyJet Plc, where he successfully led the company's IPO. Over the years C.D. Walton has worked for major companies such as BP Australia, Qantas Airways, Air New Zealand, Australia Post and Australian Airlines.



Uzakbay Suleimenovich Karabalin – member of the Committee, non-executive member of the KMG BoD – representative of interests of JSC “Samruk-Kazyna”. Karabalin U.S. has extensive work experience in the oil and gas industry and held senior positions in the RoK executive authorities, regulating activities in the oil and gas industry. He has worked in various national companies in the RoK for a long time, where he held positions of General Director and Vice

President. U.S. Karabalin has received numerous state and international awards, orders and honorary titles.



Assel Anuarovna Khairova – member of the Committee, member of the KMG BoD - Independent director. Khairova A.A. is a chartered auditor of the state of Maine, USA ("US CPA"), as well as a certified auditor and a member of the Chamber of Auditors of the RoK. Khairova A.A. has more than 25 years of experience with global international level companies Century Integration AG and KPMG, with strong business ties in selected jurisdictions, and has extensive experience in providing professional services to major

Kazakhstan and foreign companies on audit, transaction support, risk management, corporate governance, valuation and capital expenditure consulting for companies in various sectors of the economy.

Participation of the Committee members in meetings in 2022

Number and date of the Committee meeting		1/2022 01.02	2/2022 01.04	3/2022 13.06	4/2022 05.09	5/2022 31.10	Participation rate %
Duration		16:00 - 17:11 (71 minutes)	16:06 - 17:06 (60 minutes)	11:00 – 12:30 (90 minutes)	11.00 – 12.25 (85 minutes)	11.00 – 12.50 (110 minutes)	
Number of items		8	7	9	6	10	
Name of the Committee member	T.G. Miller	•	•	+	+	+	100
	C.J. Walton	•	•	+	+	+	100
	U.S. Karabalin	•	•	+	+	+	100
	A.A. Khairova	Was not a member			+	+	100

+ *in-person participation by personal presence*

• *in-person participation via audiovisual communication*

3. Committee objectives

The Committee develops and provides recommendations to the BoD on the following issues:

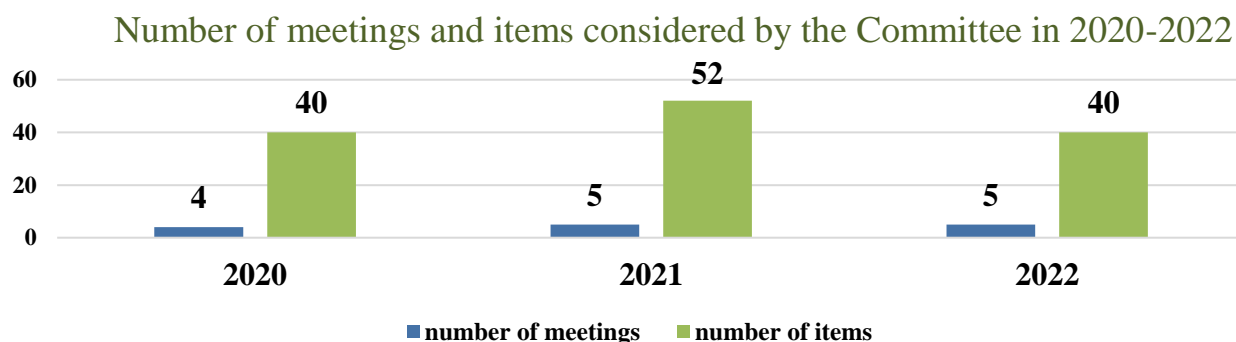
- ensuring occupational health, safety and environment protection;
- implementation of sustainable development principles into strategic planning and social and economic development of KMG;
- social commitment and programs of KMG within the signed subsoil use contracts;
- ensuring continuity of business of KMG;
- ensuring environment effectiveness of KMG.

The tasks, functions and powers of the Committee are disclosed in more detail in the Regulation on the Committee.

CORE ACTIVITIES OF THE COMMITTEE IN 2022

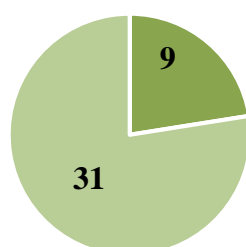
1. Committee's activities in figures

In 2022, the number of Committee meetings was the same as in 2021, but increased from 2020, and the number of issues considered decreased from 52 to 40 compared to 2021, but unchanged from 2020.



Number of items submitted after the Committee to the BoD, and number of items considered only within the Committee

Consideration of items on BoD and Committee



■ BoD ■ Committee

Out of **40** items, **9** were further submitted to the BoD meetings, while **31** were considered only within the Committee.

In general, in the reporting period the Committee's activities were carried out in accordance with the approved Activity Plan of the Committee for 2022.

During the reporting period, the Committee reviewed all the items stipulated by the Committee's approved 2022 Activity Plan, except for the following **3** items included in the Committee's 2022 Activity Plan with an "as-needed" deadline:

On KMG ESG (environmental, social, governance) rating. As part of the item “Status report on the implementation of the sustainable development system in KMG and its business units and the incorporation of sustainable development principles in key business processes” detailed information on the status of KMG ESG rating made by “Sustainalytics” agency and current trends was disclosed as well as the Action Plan to improve the ESG rating, including measures to improve environmental performance, social aspects and corporate governance of KMG was discussed.

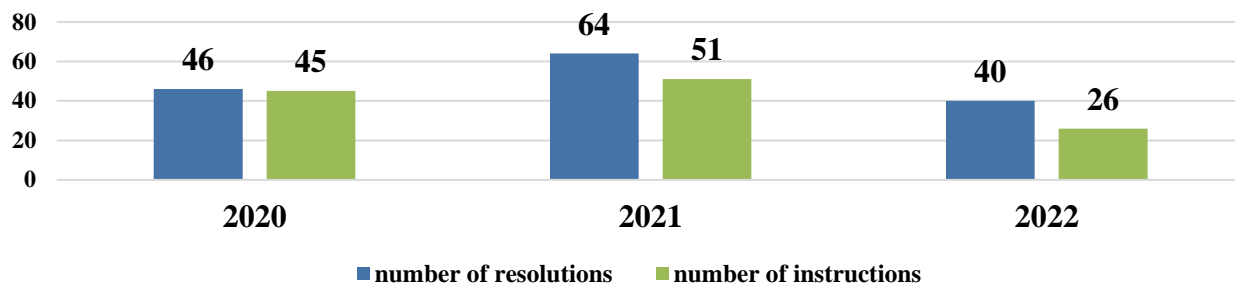
On approval of maps of motivational KPIs of executive officers related to the implementation of sustainable development for 2023. The item was considered as part of the approval of executive motivational KPI maps for 2023 at the KMG BoD meeting on December 13, 2022 (Minutes 21/2022).

Consideration of the Regulation on the Committee. There was no need to reconsider the Regulation on the Committee.

Based on the results of the meetings of the Committee in 2022, **40** resolutions were made and **26** instructions were formed **23** of which were executed, and **3** instructions of the Committee are being executed on an ongoing basis. Information on the status of their execution is given below.

The Secretary of the Committee monitors execution of the Committee's instructions on a regular basis and the relevant reports are submitted to each meeting of the Committee.

Number of resolutions and instructions of the Committee in 2020-2022

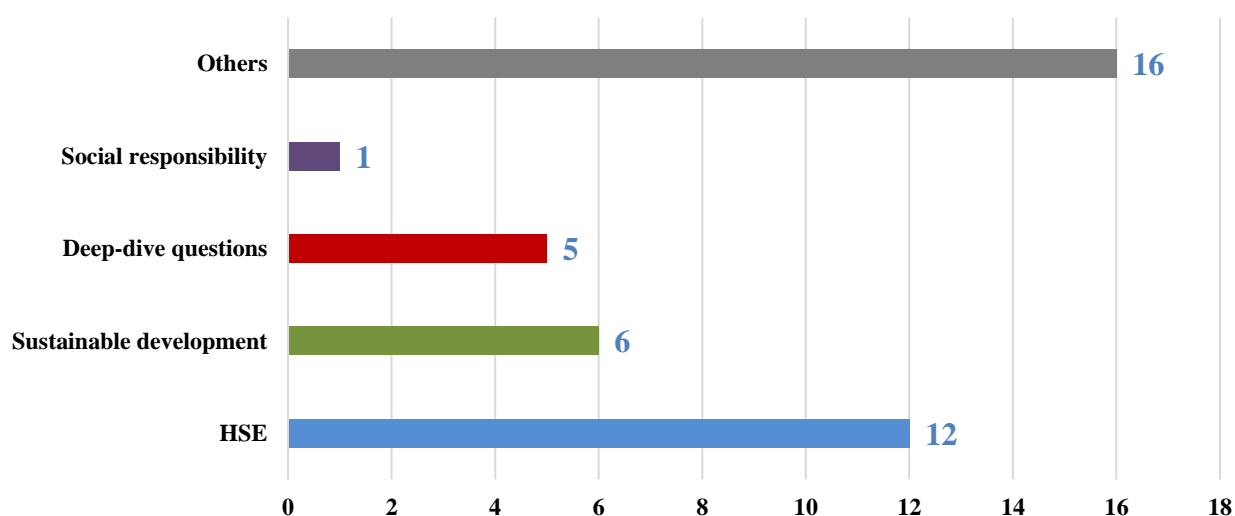


The officials and employees of KMG were regularly invited to the meetings of the Committee to participate in the activities of the Committee, without the right to vote.

2. Items addressed by the Committee

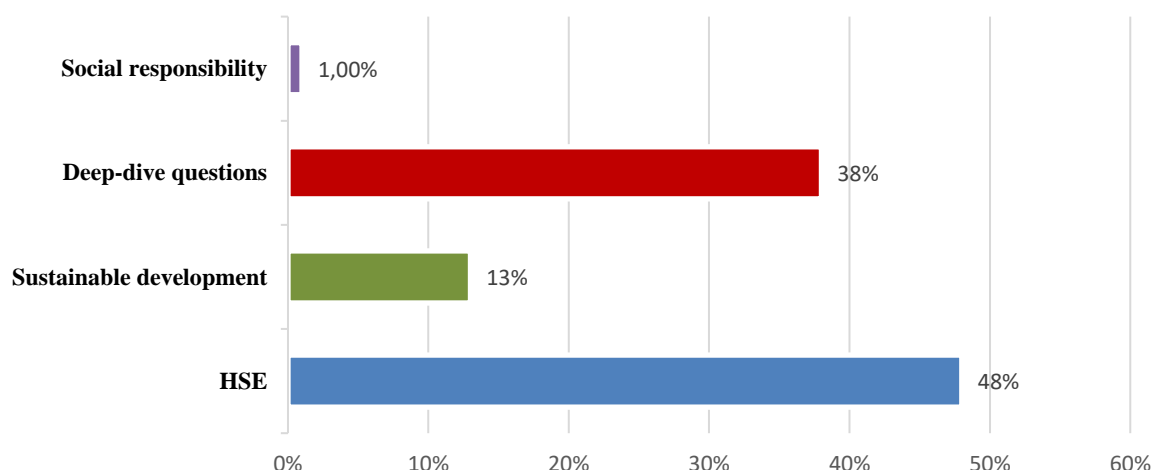
The items submitted to the Committee can be roughly divided into the following categories:

Number of items by categories



Time devoted by the Committee to the above categories of items (excluding others) is shown in the chart below

Time devoted by the Committee to the above categories of items



Issues in the key areas of activity reviewed by the Committee in 2022

The above chart indicates the time allocated by the Committee to certain categories of agenda items.

It should be noted that the Committee has introduced the practice of reviewing key “deep dive questions” on HSE in detail at the meetings.

Deep dive questions

In 2022, such as the following 5 issues were considered by the Committee.

On Crisis and Emergency Management in KMG group of Companies.

Particular attention of the Committee members was drawn to the information on the establishment of the CMT. The main activity of the CMT is to prevent crisis situations, promptly respond to them, as well as to reduce the severity of the consequences of crisis situations. The CMT will help to activate the Comprehensive Business Continuity Plan, in order to eliminate the threat of business continuity. Following a hearing on the issue, the Committee was instructed to explore the possibility of providing backup communications in case of internet outage or any communication failure to maintain communications in the KMG group of companies, which was executed on time.

On waste management, status of implementation of the Memorandum on disposal of historic waste. The emphasis of the Committee was on the fact that the urgent task facing the Company is to reduce the accumulated waste, elimination of historical waste and cleaning of oil-contaminated contract areas. Also, the processes of disposal of various types of waste at KMG subsidiaries and affiliates were reviewed in detail, including statistical data for the reporting period. The Committee members also heard information on the Company's waste management plans for the period 2022-2023.

On projects on automation and digitalization in the field of industrial safety, labor protection and environment. The attention of the members of the Committee was focused on the project “Information system on occupational safety, labor protection and environment “HSE KMG”” being implemented in KMG. The main purpose of this system is to reduce labor costs for the formation, processing, transfer, storage and analysis of information on HSE. The Committee considered the main

objectives and plans set before KMG in the field of automation and digitalization.

On measures to improve fire safety in the KMG group of companies. At the request of the Committee, the statistics and causes of fires at KMG facilities over the past 5 years were presented in detail. It was reported that during the analysis the immediate and root causes of fires were identified. The official state statistics and causes of fires for the first half of 2022 was given for comparison.

On environmental projects of KMG. The members of the Committee were presented with the status of utilization of historical oil waste, a video on oil waste treatment processes and information on water management. The members of the Committee also heard information on the AISEM project, which is designed to create a single information space in the HSE field. All the instructions given by the Committee within the framework of consideration of this issue were fulfilled in time.

In addition to the aforementioned "deep dive" questions, the Committee also considered the following issues:

Health, safety and environment

In order to assist the BoD and meet KMG's key objectives of business continuity and environmental performance, the Committee heard the following HSE issues in 2022.

As part of the discussion of the issue **“Report on occupational health, safety and environmental protection”** at each Committee meeting members heard information about the cases and events that occurred during the reporting period in the HSE field in the KMG group of companies, with the provision of detailed data.

During the consideration of the issue **“On approval of the Corporate standard in the field of occupational health and safety “Life saving rules” for employees of KMG group of companies”**, Committee members were presented with three new rules not covered by the “golden rules” included in the Corporate Standard: bypassing safety measures, hot work and hazardous area.

As part of the report on the item **“On the health and hygiene management system”** the consolidated health and safety indicators of the KMG group of companies for the reporting period were presented.

During the discussion of the item **“On the management of KMG contractors”**, the consolidated indicators of KMG group of companies on the HSE contractor management system for 2021, displayed in the GAP-analysis, were presented.

Item **“Report on the situation in KMG on COVID-19”** was considered at each meeting of the Committee with the disclosure of statistical data on the epidemiological situation both for the KMG group of companies and in the country as a whole.

Sustainable development и ESG rating

In order to fulfill the tasks of the Committee in the field of implementation of the sustainable development principles in the strategic planning and socio-economic development of KMG, the following issues were considered at the meetings of the Committee during the reporting period.

The item **“Status report on the implementation of the sustainable development system in KMG and its business units and the incorporation of**

sustainable development principles in key business processes” was introduced to inform the Committee members on the status of work on the Sustainable Development Report, on the action plan to improve KMG's ESG rating, on implementation of the LCDP, etc.

As part of the issue **“On approval of KMG Sustainable Development Report for 2021”**, the Committee members were presented with information on KMG Sustainability Report 2021, which discloses key economic, environmental and social performance indicators for the period from 2019 to 2021, includes information on KMG activities on the essential aspects of sustainable development.

The item of **“On approval of the Sustainable Development Policy”** was submitted to the Committee for its consideration in order to approve the Sustainability Policy, according to which KMG expresses its commitment to the principles of sustainable development and aims to ensure sustainable economic, environmental and social responsibility with commitments at all levels of management.

The item **“On KMG's contribution to achieving the SDG”** was submitted for consideration by the Committee, as KMG's approach to sustainable development issues is based on the consistency of the Company's interests and plans with the UN basic principles, universal human values, global trends and development priorities of Kazakhstan.

As part of consideration of item **“Key topics for disclosure in the Sustainable Development Report for 2022”** Committee members attention was drawn to the fact that in October 2021 the Global Reporting Initiative (GRI) unveiled a significant update to its disclosure standards, came into force January 1, 2023. As part of the new GRI 2021 requirements - companies must identify and report their material topics.

Social responsibility

Due to the fact that one of the main objectives of the Committee is to make recommendations and decisions on issues of social commitment, in order to assist the BoD, the Committee in detail considered the issue on **“Approval of the Policy on Human Rights and Public Relations”**.

3. Achievements and key initiatives of the Company in 2022 in the areas of activity supervised by the Committee On the sustainable development goals

KMG's approach to sustainable development issues is based on the consistency of the Company's interests and plans with the basic principles of the UN, universal human values, global trends and development priorities of Kazakhstan. Company pays special attention to the following goals.





GOOD HEALTH AND WELL-BEING



OUR PRIORITY

Ensure healthy lives and promote well-being for all at all ages.



TARGETS

3.6. Reduce deaths and the trauma caused by road accidents

3.8. Achieve universal health coverage, including financial risk protection,

access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.9. Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



OUR RESULTS

- EMG completed the implementation of a pilot project to introduce the automated vehicle monitoring system “Trip Management”:
 - ✓ The number of speeding violations decreased by 62%;
 - ✓ 591 road signs were installed/updated to limit speed limits on the roads of EMG production divisions;
 - ✓ The rating of drivers based on their driving style and recorded violations has been introduced;
 - ✓ an up-to-date electronic map of field and unpaved roads and coordinates of EMG field facilities was drawn;
 - ✓ New functionality has been implemented (trip sheets, deviations from the route, online notifications).
- 100% of KMG employees are covered by the health insurance program.

OUR INITIATIVES

The "Train Management" project

In order to improve the level of transport safety and create a culture of safe driving, it is planned to replicate the “Train Management” project in stages to other subsidiaries of KMG.

Next steps:

- diagnosis of the maturity of processes in subsidiaries and affiliates, taking into account the level of automation, equipment with GPS trackers;
- preparation of individual programs for the development of transport management processes for each subsidiaries and affiliates;



- phased implementation of the transportation management system with a focus on traffic safety.

Personnel health management

KMG will develop a personnel health management program. The main directions of the program:

- prevention of occupational diseases;
- development of minimum standards of medical care and medical assistance for employees of production facilities;
- systematic monitoring of the health of employees of the KMG group;
- improving the quality of medical care and motivating employees to a healthy lifestyle.

Medical health insurance

Medical examinations and vaccinations for employees are carried out on a regular basis.

10 Steps to Wellness Initiative

The health and well-being of KMG employees are priorities that are of paramount importance when it comes to labor productivity, competitiveness and stability of enterprises. “10 Steps to Wellness” is primarily aimed at increasing physical activity and eliminating unhealthy eating habits, and is effective in improving employee health-related results.

Leadership Initiatives

A Code of Leadership and Employee Commitment to HSE compliance is implemented and enforced.

«Korgau» Map

A program is implemented to identify and report unsafe conditions/unsafe behaviors/unsafe behaviors/hazards.



AFFORDABLE AND CLEAN ENERGY



OUR PRIORITY

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

Increasing the energy efficiency of production.

Increasing the share of clean energy available.



TARGETS

7.1. Ensure universal access to affordable, reliable and modern energy services

7.b. Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all



OUR RESULTS



- On May 31, 2022, the Action Plan for Implementation of the LCDP until 2031 was approved: realization of an energy efficiency potential of 541,029 tons of conventional fuel (t.c.f.) through:
 - ✓ savings 426,421 kilowatt/hour of electricity, 292,541 gigacalory of thermal energy 439,246 t.c.f. of fuel resources;
 - ✓ production of at least 60,978 thousand kilowatt/hour of green electricity from own low-power RES at the subsidiaries and affiliates.

2031

- ✓ 100% coverage of subsidiaries and affiliates by energy management services;
- ✓ implementation of renewable energy projects of at least 300 megawatts;
- ✓ 15% - share of RES in the balance of KMG's electricity consumption.

OUR INITIATIVES

The main strategic areas of the Group's energy saving and energy efficiency development are modernization of process equipment, introduction of energy-saving technologies, optimization of heat generation and consumption, and development of own generation sources, including those using renewable energy sources.

The LCDP through 2031 was confirmed, and priority areas of activity were identified

To increase energy efficiency:

- implementation of the BAT;
- modernization of boiler and furnace equipment;
- modernization of technological installations that consume thermal energy;
- modernization of mechanical equipment;
- implementation of management programs aimed at optimizing the mechanical stock and pumping equipment with the introduction of frequency-controlled wire;
- thermal insulation of the main and auxiliary equipment;
- optimization of transportation equipment;
- introduction of automated fuel and energy resources (FER) accounting and management systems;
- creation of energy management services.

On the development of RES projects:

- 1 gigawatt of wind power plant together with Total Eren;
- 180-megawatt hybrid power plant together with Eni;
- 50-megawatt wind power plant in Astana jointly with Eni;
- small capacity SES at subsidiaries and affiliates with total capacity of 6.9 megawatt;
- purchase of at least 15% green electricity by 2031;
- purchase of green certificates of the international standard I-REC to confirm the consumption of electricity from RES generation sources.



DECENT WORK AND ECONOMIC GROWTH



OUR PRIORITY

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



TARGETS

8.5. Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6. Substantially reduce the proportion of youth not in employment, education or training

8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment



OUR RESULTS

- ✓ KMG employs over 44,000 people, including 82% of men and 18% of women;
- ✓ Programs to attract and develop young specialists in production: Zhas Maman, Dual Training.

OUR INITIATIVES

Programs for the development and attraction of young professionals in production

Zhas Maman is a program to attract and develop young specialists in Atyrau refinery and Pavlodar petrochemical. From 2019 to 2021 – 23 people study and work at Atyrau refinery, 9 of them are employed, 14 people at Pavlodar petrochemical, 10 of them are employed.

Dual training is a program including training, internship and further employment in KMG group of companies. Thus, in the period from 2019 to 2021, 2 out of 114 people trained under this program were employed at EMG; 7 out of 56 people were employed at Atyrau refinery; 41 out of 57 people were employed at Pavlodar petrochemical.

Model rules of social support

Social support of employees of KMG subsidiaries and affiliates is defined in their collective agreements and rules of social support. In order to unify the types and norms of social support for all enterprises of KMG group of companies, the Model Rules for Social Support of Employees of KMG subsidiaries and affiliates were adopted.





INDUSTRY, INNOVATION AND INFRASTRUCTURE



OUR PRIORITY

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



TARGETS



9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.4. Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.



OUR RESULTS

- Five ABAI modules (“Database”, “Visualization Center”, “Complication Monitoring”, “Process Mode”, “Depth Pumping Equipment Selection”) were implemented. Achieved effects:
 - ✓ additional production was obtained due to a more efficient technological mode at LLP “Kazgermunai”;
 - ✓ reduced the number of underground well workovers due to reduced failures of downhole pumping equipment at JSC “Mangistaumunaigas”;
 - ✓ Improved the accuracy of chemical dosing, taking into account the actual rate of corrosion at JSC “Ozenmunaigas”;
 - ✓ 12 types of reporting were automated (oil production measurements, dynamics of well production indicators, etc.).

2031

- ✓ 100% coverage of subsidiaries and affiliates with energy management;
- ✓ services reduction of energy intensity by 10% of the level of 2019.

OUR INITIATIVES

The LCDP until 2031 was confirmed, and priority areas for energy efficiency activities were identified:

- optimization of energy management and creation of energy management services;
- introduction of automated fuel and energy accounting and management systems;
- determining the applicability of breakthrough projects to the assets of specific subsidiaries and affiliates;
- implementing the BAT;

- upgrading the Company's machinery stock, and optimizing and modernizing the composition of transport vehicles.

KMG's digital transformation program promotes scientific research, improving the technological capabilities of industrial sectors. KMG is investing heavily in scientific research and building local capacity in this area. The development of domestic technological capabilities to ensure industrial diversification will also have a positive impact on the climate situation in the country.

ABAI IS Development” project provides for centralization of all production information of the KMG group in a single database on the Big Data platform, as well as its processing and analysis using artificial intelligence and machine learning.

ABAI information system - 17 autonomous modules, each aimed at solving specific production problems.



CLIMATE ACTION



OUR PRIORITY

Take urgent action to combat climate change and its impacts.



TARGETS

- 13.2.** Integrate climate change measures into national policies, strategies and planning
- 13.3.** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning



OUR RESULTS

- Approved Environmental Policy
- ✓ The Action Plan for implementation of the LCDP for the period 2022-2031 has been developed and approved;
- ✓ KMG's greenhouse gas reduction potential of 2,893,460 tons of CO₂, including direct emissions of 2,189,483 tons of CO₂ and indirect emissions of 703,977 tons of CO₂-eq. which is 27% of 2019 emissions;
- ✓ Low-carbon development department established;
- ✓ Hydrogen energy competence center established on the basis of KMG Engineering LLP;
- ✓ As part of a pilot project to capture and store carbon dioxide (CCUS) and determine the potential of CO₂ injection to increase the oil recovery of depleted oil reservoirs, CO₂ emission sources have been screened, fields are currently being screened to select a suitable reservoir for CO₂ injection.

OUR INITIATIVES

Corporate methodology for quantifying greenhouse gas emissions



To standardize approaches to inventory, monitoring and reporting on greenhouse gas emissions and provide a unified methodological basis for calculating greenhouse gas emissions, a corporate methodology for quantitative assessment of greenhouse gas emissions is currently being developed.

The concept of domestic carbon pricing

In order to create an additional incentive to reduce greenhouse gas emissions of subsidiaries and affiliates, as well as to fully consider the impact of carbon regulation on financial and economic indicators, the concept of internal carbon pricing of KMG group of companies is being developed.

Carbon Disclosure Project

The company calculates its carbon footprint and posts the Climate Questionnaire on the Carbon Disclosure Project site.

Task Force on Climate-related Financial Disclosures (TCFD)

Disclosure of climate risks in accordance with the recommendations of TCFD, the working group on financial disclosures related to climate change.

Green Office

The corporate “green” direction is being actively developed and the principles of “green office”, such as the introduction of separate waste collection, water and energy saving in the office premises, etc., are being gradually implemented.



LIFE ON LAND



OUR PRIORITY

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.



TARGETS

15.3. Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

15.5. Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species



OUR RESULTS

- TAZALYQ:
 - ✓ 10% reduction in water withdrawal from the Ural River, 15% reuse of treated plant effluent at the plant. In 2021, areas of evaporation fields occupied by wastewater from Sections 1 and 2 are drained;



- ✓ 2024: Complete elimination of the Company's historical wastes, 1,852,554 tons of oil waste treated in 2019-2022;
- ✓ 2031: Implementation of forest-climatic projects on an area of 2,000 hectares.

OUR INITIATIVES

KMG implements projects and measures aimed at reducing pollutant discharges and water intake from natural sources:

Carbon Disclosure Project

The company calculates the water footprint and posts a water safety questionnaire on the CDP site.

TAZALYQ

The Atyrau Refinery is actively implementing a large-scale environmental project, TAZALYQ, designed to improve the environment in Atyrau.

Construction of desalination plants

Formation water desalination plant is a unique project in solving the issue of water supply in Mangistau region. The plant will release at least 6.2 million m³/year of Volga water for the development of the region.

A desalination plant in the Kenderly Recreation Area Mangistau region.

The expected capacity will be 50 thousand cubic meters of water per day.

Land Restoration

The Company is working to restore "historical" oil waste and clean up oil-contaminated land.

Forest-climatic projects

As part of KMG's LCDP until 2031, it is planned to implement forest-climatic projects that will have a beneficial effect on the conservation of terrestrial ecosystems.

Hierarchy of biodiversity mitigation measures

The Company applies a hierarchy of mitigation measures for impacts on biodiversity when planning and implementing its operations, taking into account four key actions: preventing, minimizing, restoring, and compensating for potential significant direct impacts.

Raising the awareness of Committee members in the field of sustainable development

Within the item “Status report on the implementation of the sustainable development system in KMG and its business units and the incorporation of sustainable development principles in key business processes” detailed information on the status of KMG ESG rating made by “Sustainalytics” agency and current trends was disclosed as well as the Action Plan to improve the ESG rating, including measures to improve environmental performance, social aspects and corporate governance of KMG was discussed. We can highlight the following activities carried out to improve the ESG rating in 2022:

- 1) The Action Plan for the LCDP for 2022-2031 was approved;
- 2) KMG's Sustainable Development Policy was approved;
- 3) KMG Policy on Human Rights and Public Relations was approved;
- 4) KMG has implemented and operates an accessible grievance mechanism;

- 5) GRI207 and Country by Country OECD Action 13 tax disclosure;
- 6) publication of the Report on payments to the state on KMG's corporate website for public access;
- 7) expanding the gender composition of the BoD and the Committee;
- 8) Disclosure of contractor fatal accidents in the Sustainability Report for 2021.

At the Committee's meeting No. 3/2022 dated June 13, 2022, the Sustainability Report for 2021 was presented to the Committee. Based on the results of the review, consolidation of the draft Sustainability Report for 2022 is scheduled under the updated international GRI-2021 Standards from November 2022. The content of the Sustainability Report for 2022 will be maintained in view of more complete disclosure of information for ESG rating assessment. Summing up the results of 2022, at the ceremony held on February 17, 2023, JSC “Kazakhstan Stock Exchange” (KASE) awarded KMG for a number of achievements in the field of transparency and preparation of corporate reporting. KMG won in the nomination “The Best Sustainable Development Report for 2021”. Company pays special attention to the preparation of detailed and high-quality information about its activities, striving to comply with international best practices of corporate reporting. KMG was also awarded a diploma “For Striving for Transparency”, due to the proper disclosure of information in accordance with regulatory requirements, as well as Company's commitment to full and meaningful coverage of its activities.

In addition, in the reporting period the Committee members heard the information on the management of emissions into the atmospheric air, within the framework of which the Committee members were presented the information on the gross emissions of pollutants by KMG group of companies, the volume of which amounted to 87 thousand tons for 9 months of 2022. In addition, the members of the Committee regularly heard information on the compliance of the main innovations in KMG with the requirements of the new Environmental Code of the RoK. Among the main innovations during the reporting period are the AISEM project and the transition to BAT. AISEM is designed to create a unified information space in the field of environmental protection. And also to increase transparency, efficiency and minimize human errors in order to avoid potential environmental fines. On the transition to BAT, the Company carried out a lot of work together with NPJSC "International Center for Green Technologies and Investment Projects" - reference books on BAT were developed (on waste disposal, oil and gas production, etc.). After developing the reference books, the transition to BAT is planned from 2025 to the top 50 companies polluting the environment of the RoK, including 3 refineries from the KMG group and LLP “KazakhoilAktobe”. It was also reported on the efforts of KMG to amend the Environmental Code of the RoK, as it was found that it has inconsistencies that complicate the lives of subsoil users.

An important item addressed by the Committee in 2022 is the issue of waste management and implementation of the Memorandum on Historic Waste Management. Committee members were presented with a package of materials that reflected, among other things, the background to this important issue and highlighted the scope and effectiveness of the work being done. In particular, the Committee

members were presented with information on key developments in oil waste management; volumes of waste disposed at the landfills; oil waste management schedule reflected in the presented videos; concept of oil waste management (historical pollution) and main requirements to the technical specification.

In the reporting period, the Committee members paid special attention to the issues of engaging contractors in the perimeter of operational safety improvement. Thus, information was heard about the consolidated indicators of the KMG group of companies on the HSE management system of contractors, which were reflected in the GAP-analysis, both for business areas and for each subsidiaries and affiliates separately.

Also, on a regular basis, the Committee heard reports on HSE, where the Committee members receive the most up-to-date information on the key relevant indicators and preventive measures taken to avoid accidents in the KMG group of companies.

In general, the items brought up at Committee meetings are very significant for the Company and help focus attention on topical issues of sustainable development, industrial safety and environmental protection and the solution of problems associated with them.

Sustainable Development Session of the BoD

On September 7, 2022, the annual Sustainable Development Session of the BoD (hereinafter – SDS) was held, during which the following topical issues, actively discussed on the Committee's platform, were addressed.

As part of the consideration of the question *"Critical assessment and in-depth discussion of options for the development of ESG of JSC "NC "KazMunayGas""*, at the SDS a detailed report on the development of ESG in KMG group of companies with the provision of statistical data was presented.

During the discussion of the item *"Global trends in sustainable development, approaches to the construction of a strategy of JSC NC "KazMunayGas" in the field of sustainable development"* the systematization of potential ESG-projects, which will allow the efficient allocation of resources was mentioned. To the attention of the BoD members, among other things, information on the correct and gradual implementation of ESG in the business model of the Company was presented.

Moreover, during the SDS, the BoD members heard a report on the status of LCDP implementation. The report included a detailed presentation of the action plan aimed at the effective implementation of the LCDP, as well as ongoing projects and initiatives. At the subsidiaries and affiliates level, the main focus was on measures to improve energy and operational efficiency. At the level of the corporate center - on projects in the field of RES and development of the carbon policy. In addition, it is planned to implement a set of organizational measures, as well as in the field of methane leakage monitoring and additional decarbonization measures, which correspond to the key areas of LCDP.

CONCLUSION

During 2022 the Committee:

- in its work was guided by the provisions of the KMG Charter, KMG Corporate Governance Code and internal documents of KMG;
- assisted in the work of the KMG BoD; and
- fully met the goals and objectives set for it.

The Committee's activities were carried out in accordance with the Committee's Activity Plan for 2022, combined with the SDGs (taking into account the above-mentioned priority SDGs for KMG) and with the strategic and business initiatives stipulated by the KMG Development Strategy and LCDP.

The current composition of the Committee is sufficiently diversified and balanced. All Committee members have significant experience, professional reputation and knowledge, which positively influences consistent and balanced decision-making on the path to safe, sustainable development.

Moreover, as of the date of this report, Philip Malcolm Holland, an independent director with extensive experience in operational safety management, has also been elected to the Committee. Ph.M. Holland has managed major oil and gas projects for Bechtel Corporation around the world, joined Shell in 2004 and served as executive Vice President of Projects for Shell Global Solutions. In 2009, Ph.M. Holland became Executive Vice President of Downstream Projects for Shell's newly formed projects and technology business, and in 2010 he was appointed Director of the Kashagan Phase 2 project in Kazakhstan. Since 2013, he worked as an independent project management consultant.

Priorities for 2023

Within the framework of the Committee meeting dated October 31, 2022 (Minutes No. 5/2022, item 3), the Committee approved the Activity Plan for 2023, taking into account the following priority issues:

- Sustainable Development issues;
- On the status of implementation of KMG's LCDP measures for 2022-2031;
- HSE issues;
- Any materially significant health, personal or occupational safety incidents that occurred during the period.

Chairman of the Committee

T.G. Miller

Abbreviations:

AISEM means automated information system for environmental monitoring;

BAT means best available technologies;

BoD means Board of Directors;

CCUS means Carbon capture, utilisation and storage;

CDP means Carbon Disclosure Project;

CFO means Chief Financial Officer;

CMT means crisis management team;

Committee means the Health, Safety, Environment, and Sustainable Development Committee of the Board of Directors of JSC NC “KazMunayGas”;

CPA means Certified Public Accountant;

EMG means JSC “Embamunaigas”;

ESG means Environment, Social and Government;

Fund means JSC “Samruk-Kazyna”;

GAP analysis means a method of assessing the performance of a business unit to determine whether business requirements or objectives are being met and, if not, what steps should be taken to meet them;

GPS means Global Positioning System;

GRI means Global Reporting Initiative;

HSE means Health, Safety and Environment;

IOGP means International Association of Oil and Gas Producers;

I-REC means International Renewable Energy Certificates;

KMG / Company means JSC NC “KazMunayGas”;

KPI means key performance indicator;

KPMG means audit company “Klynveld Peat Marwick Goerdeler”;

LCDP means Low-Carbon Development Program for 2022-2031 period;

NPJSC means non-public joint-stock company;

OECD means Organisation for Economic Co-operation and Development;

RES means renewable energy sources;

RoK means the Republic of Kazakhstan;

SDG means Sustainable Development Goals of the United Nations;

SES means sanitary and epidemiological station;

UN means United Nations;

USA means United States of America;