



ҚазМұнайГаз
NATIONAL COMPANY • ҰЛТТЫҚ КОМПАНИЯСЫ

SUSTAINABILITY
REPORT

2019

**STRIVING
FOR PROGRESS**

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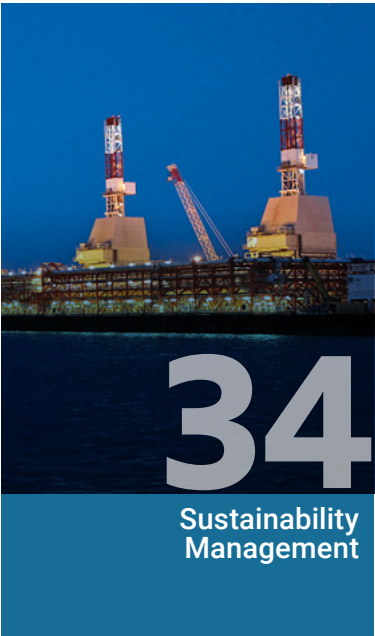


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REPORT OVERVIEW

GRI 102-1, 102-32, 102-46, 102-50, 102-52, 102-54



In order to demonstrate its clear and transparent operations to its stakeholders, JSC NC "KazMunayGas" describes the Company's approach to sustainable development, social, economic and environmental responsibility on an annual basis.

JSC NC "KazMunayGas" has been developing annual reports in the field of sustainable development activities since 2008, while since 2012, these reports have been published in accordance with the GRI Sustainability Reporting Standards (GRI Standards).

This report has been prepared in accordance with the GRI Standards: Core option.

The Report contains consolidated data about KMG, its subsidiaries and associated companies for 2019 calendar year (hereinafter referred to as KMG, the Company, the Group).

The scope of the Report covers KMG's subsidiaries and associated companies with fifty and more per cent of voting shares (interest) directly or indirectly owned or held in trust by KMG, as well as the legal entities whose activities KMG is entitled to control (the detailed scope of reports by sections is presented in Appendix 1 hereto).

The Company's financial standing and production performance are presented based on the Company's consolidated data with the organizational support of the Company's relevant Business Units. This Report has been developed on the basis of KMG's management and audited financial statements prepared in accordance with the International Financial Reporting Standards.

This Report has been compiled pursuant to the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards, 2016) and the sector supplement for oil and gas companies called GRI G4 Oil and Gas Sector Disclosures.

In order to enable benchmarking and comparability of data by specific indicators, the information is presented in the form of multi-year trends.

All the KMG Sustainability Reports are available in electronic and on-line form in Kazakh, Russian and English at http://kmg.kz/eng/ustoichivoe_razvitie/reports/.



The KMG Sustainability Report is approved by a resolution of KMG's Board of Directors and is communicated to the stakeholders by means of publication on the corporate website and distribution of the paper copy.

Since 2006, KMG has been a member and active participant of the United Nations Global Compact (hereinafter — the UN GC) and is committed to the UN GC Ten Principles and 17 Sustainable Development Goals (hereinafter — the SDG/SDGs). The Company's Annual Sustainability Report is our message on the progress under the United Nations Global Compact and is available at <https://www.unglobalcompact.org/what-is-gc/participants/6810>.



United Nations
Global Compact

20
years



Human rights		Principle 1	Businesses should support and respect the protection of the internationally proclaimed human rights.
		Principle 2	Businesses should not be complicit in human rights abuses.
Labour relations		Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
		Principle 4	Businesses should uphold the elimination of all forms of forced and compulsory labour.
		Principle 5	Businesses should uphold the effective abolition of child labour.
		Principle 6	Businesses should uphold the elimination of discrimination in respect of employment and occupation.
Environment		Principle 7	Businesses should support a precautionary approach to environmental challenges.
		Principle 8	Businesses should undertake initiatives to promote greater environmental responsibility.
		Principle 9	Businesses should encourage the development and diffusion of environmentally friendly technologies.
Anti-corruption		Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.



SUSTAINABLE
DEVELOPMENT GOALS



KMG GROUP KEY PERFORMANCE INDICATORS

GRI 102-2, 102-7, OG1

Oil and Gas Production



PRMS RESERVES,
CATEGORY 2P

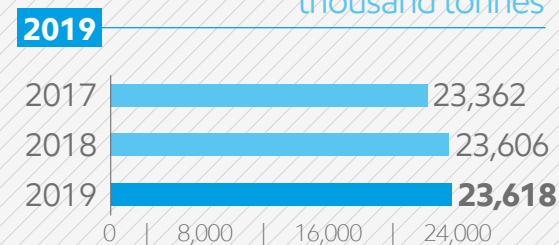
676

mln tonnes of o.e.



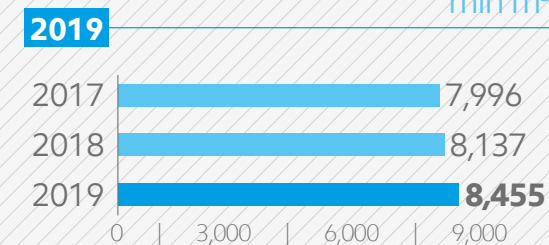
OIL AND CONDENSATE PRODUCTION

23,618
thousand tonnes



NATURAL AND ASSOCIATED GAS
PRODUCTION

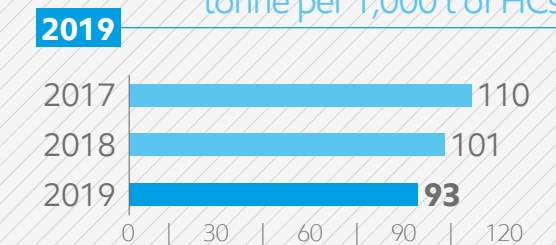
8,455
mln m³



CO₂ EMISSION RATE

93

tonne per 1,000 t of HCs



KMG GROUP KEY PERFORMANCE INDICATORS

GRI 102-2, 102-7



Oil and Gas Transportation

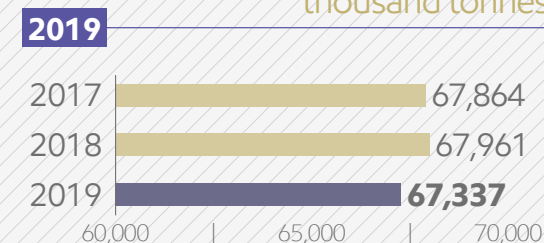
57%
OF TOTAL OIL
TRANSPORTATION
IN KAZAKHSTAN

79%
OF TOTAL GAS
TRANSPORTATION
IN KAZAKHSTAN



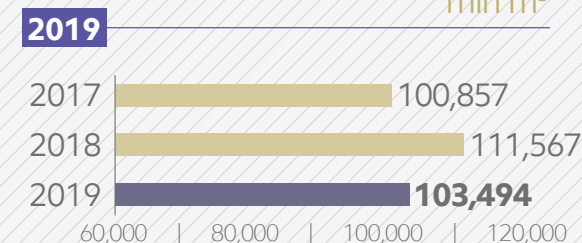
OIL TRANSPORTATION VIA THE TRUNK PIPELINES

67,337
thousand tonnes



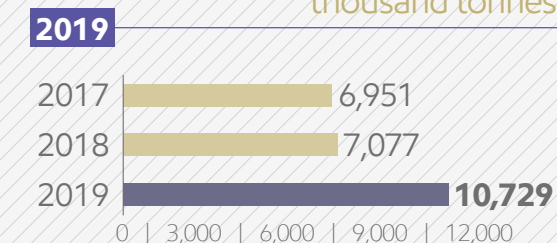
GAS TRANSPORTATION VIA THE TRUNK PIPELINES

103,494
mln m³



OIL TRANSPORTATION BY SEA

10,729
thousand tonnes



KMG GROUP KEY PERFORMANCE INDICATORS

GRI 102-2, 102-7

Refining and Marketing

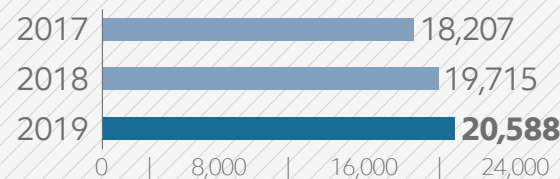
Service



OIL REFINING

20,588
thousand tonnes

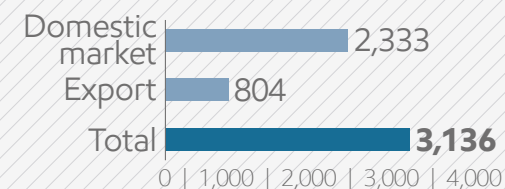
2019



WHOLESALE OF OIL PRODUCTS PRODUCED IN KAZAKHSTAN

3,136
thousand tonnes

2019



LAND AND AIR
TRANSPORT



OFFSHORE OPERATIONS
SUPPORT



DRILLING AND INTEGRATED
SERVICES



PROCESS
AUTOMATION



OIL SPILL
RESPONSE SERVICES



OIL AND GAS EQUIPMENT
MANUFACTURE

MORE
THAN

10.5

THOUSAND VEHICLES

ARE ENGAGED AT OUR PRODUCTION
FACILITIES ON A DAILY BASIS

KMG GROUP KEY PERFORMANCE INDICATORS

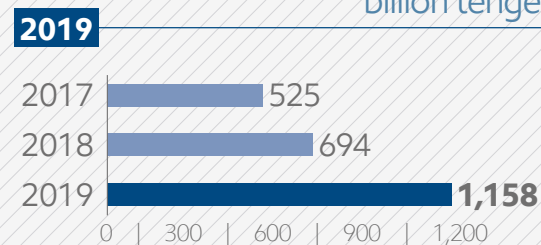
GRI 102-2, 102-7, 102-9

Financial Performance



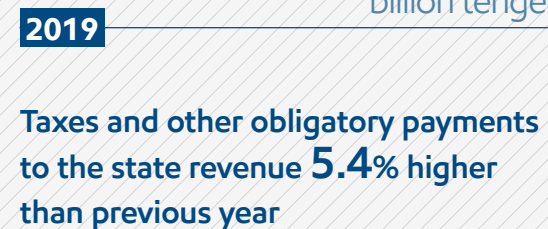
PROFIT

1,158
billion tenge



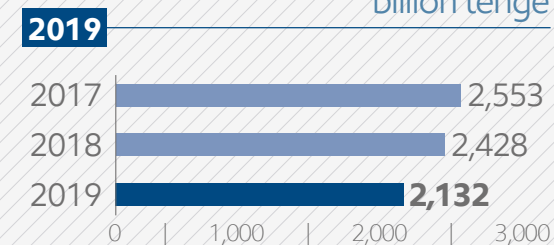
TAXES

1,522
billion tenge



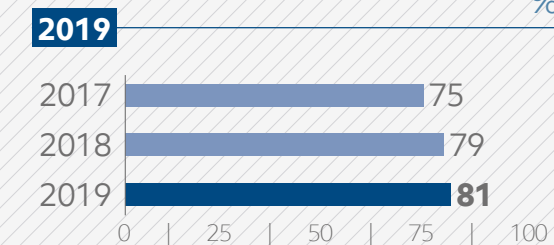
PROCUREMENTS

2,132
billion tenge



SHARE OF LOCAL CONTENT IN PROCUREMENTS

81
%



KMG GROUP KEY PERFORMANCE INDICATORS

GRI 102-2, 102-7, 102-8

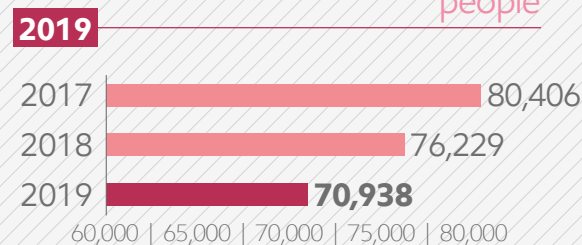


Social Responsibility and HSE Indicators



EMPLOYEES*

70,938
people

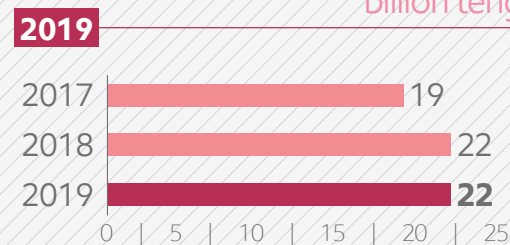


* Actual headcount, see Appendix 1 and p. 91 for details



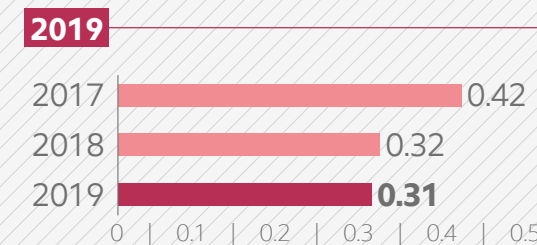
SOCIAL SUPPORT EXPENSES

22
billion tenge



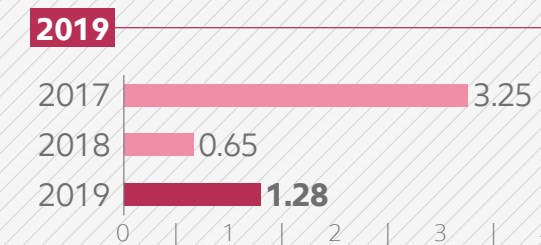
LOST TIME INJURY RATE (LTIR)

0.31



FATAL ACCIDENT RATE (FAR)

1.28



KMG GROUP KEY PERFORMANCE INDICATORS

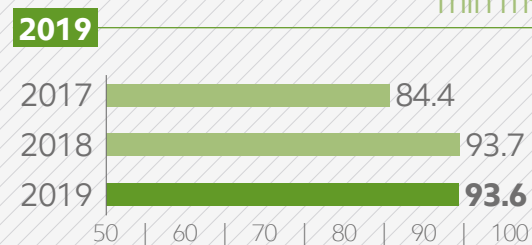
GRI 102-2, 102-7

Environmental Performance



WATER WITHDRAWAL

93.6
mln m³



CO₂ EMISSIONS*

9.7
mln tonnes

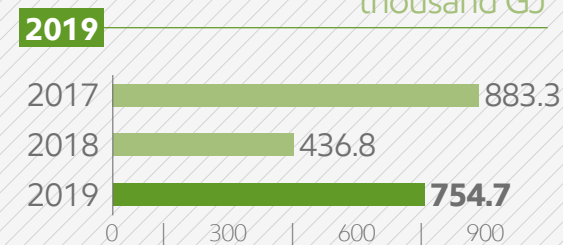


* See more on calculation methods in Appendix 1



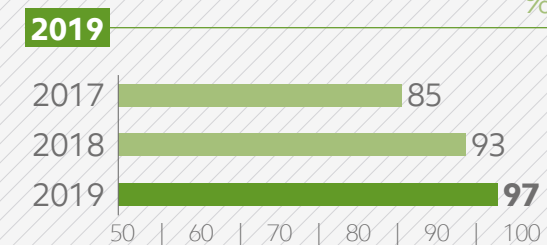
ENERGY SAVING

754.7
thousand GJ



ASSOCIATED PETROLEUM GAS DISPOSAL PERCENTAGE

97
%



MESSAGE OF THE CHAIRMAN OF THE BOARD OF DIRECTORS

GRI 102-10, 102-14, 102-44



Dear readers,

It is my pleasure to present JSC NC KazMunayGas' Sustainability Report for the reporting period.

During 2019, we continued our focused effort on delivering the principles of sustainability and improving the sustainability management processes.

During the reporting year, not only were we able to achieve solid operational and financial performance, but we also made considerable progress in sustainable development, in accordance with the best corporate governance practices.

For instance, firstly, we improved corporate and functional key performance indicators with due account for sustainability. The result of that was a new corporate key performance indicator for the next year, which would help us improve 28 corporate indicators, which, altogether, form the Company's overall ESG score. We reaffirm our commitment to follow the Global Sustainable Development Goals, and we have set specific goals in our functional corporate indicators to incorporate those into Company's Development Strategy.

Secondly, to improve the sustainability process, we have developed a corporate document titled Sustainability Management Guideline across the KMG Group. The Guidelines have been developed to embed the sustainability management principles throughout

all business processes of the KMG Group, effectively liaise with stakeholders, and ensure that sustainability performance is consistently improving.

In the mid-term, we are going to ensure that the sustainability management system is implemented in KMG's subsidiaries as well. We are planning to keep track of the implementation of the system and clarify the provisions of the Guidelines on a regular basis. That would promote a systemic approach to assessing the effectiveness of sustainability within the Company going forwards.

Thirdly, to facilitate the implementation of sustainability into our key business processes and to improve the ESG rating, we have set up a sustainability project office, approved a new composition of the Sustainability Working Group, and allocated the sustainability responsibilities.

In the fourth place, to raise awareness on sustainability, we arranged a corporate training course for the Company. For the first time, the new employee induction programme includes sustainability training.

We have stepped up the efforts of our Board of Directors in terms of sustainability. That said, the Health, Safety, Environment, and Sustainability Committee held three meetings in which it discussed more than thirty items to do with sustainability. We also had a joint meeting of the Board of Directors and the Management Board of KMG to discuss sustainable development. Since 2019,

we have been regularly reviewing the implementation of the sustainability system throughout KMG.

We were pleased to have published KMG's first-ever CDP Climate Change Programme Report in 2019. As the entire world seeks solutions to the climate change problem, KMG is committed to managing the climate risk by reducing emissions, launching an energy efficiency CAPEX programme, tracking its progress, and sharing best practices with other global players. November 2019 saw the launch of a Forum on Greenhouse Gas Emissions Management that was held in Nur-Sultan.

As we usher in a new decade, we must not compromise our commitment to leadership in sustainable development. We have already set strategic goals and initiatives in our long-term strategy to achieve the sustainability targets. As a member of the UN Global Compact, we reaffirm our progress in our annual sustainability reports. We have taken the lead in Kazakhstan in terms of Environmental Responsibility Rating among oil and gas companies and ESG disclosure. However, we still have much to accomplish in terms of integrating sustainable development into the Company's business processes at all levels. As each year passes, we will become a better corporate citizen.

Sincerely,
Christopher John Walton

MESSAGE OF THE CHAIRMAN OF THE MANAGEMENT BOARD

GRI 102-10, 102-14, 102-44



Dear readers,

By voluntarily undertaking implementation and introduction of the sustainable development principles, the Company intends to further modify its business processes to ensure that our activities meet the sustainable development principles and our economic, environmental and social goals are aligned.

According to the adopted Long-Term Development Strategy 2028, we have established sustainable development as one of our strategic goals by preparing strategic initiatives to implement this goal. Our principal strategic initiatives are aimed at enhancing occupational safety and environmental responsibility, introducing the ethics and compliance system, developing the corporate culture and creating a comprehensive talent management system. In the reporting year, we continued our efforts focused on these areas.

The Company's top priorities still include occupational health and industrial safety leadership and commitment, greenhouse gas emission management and gas flaring reduction, water management, land reclamation and energy efficiency improvement, as well as industrial waste management.

In 2019, in order to ensure disposal of historical waste and oil-contaminated territories in the Mangystau Region, a Memorandum of Environmental Cooperation was signed between KMG and the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

We follow the zero tolerance policy in terms of loss and damage related to environmental pollution. In this regard, in the beginning of the year, we approved the Environmental Policy aimed at increasing the focus on such environmental

aspects as climate, biodiversity, commitment to perform an additional risk assessment for environmentally valuable territories, to carry out contaminated land reclamation and to ensure pipeline integrity.

Under the World Bank's Global Gas Flaring Reduction (GGFR) initiative intended to achieve zero regular associated petroleum gas flaring by 2030, KMG has approved the Emission Management Policy that envisages eight key principles aimed at zero regular flaring.

The KMG Group Occupational Health and Industrial Safety Policy prepared and approved in July 2019 is intended to involve every employee in the safety culture development and compliance with the zero tolerability policy towards loss and damage associated with accidents and emergencies, abuse of alcohol, drugs, psychotropic substances and their equivalents, as well as road traffic accidents.

Life and health of our employees are our priority, this is why we will always keep working towards our main goal intended to achieve zero accidents, i. e. 100% safety. Over the last five years, we have achieved significant improvements in health and safety performance. Our employees note that we create safe working conditions and implement the highest standards and principles in order to protect ourselves, our colleagues and the public.

We should also note that the Company provides jobs to more than 70 thousand employees in its operating regions, with the share of production personnel in the total headcount equal to 90 per cent and the share of administrative and management personnel equal to 10 per cent. Our approach to personnel motivation is based on ensuring fair remuneration and observing the rights of the employees. Collective bargaining

agreements are executed and 40 trade union committees operate at our production facilities. In 2019, the number of the KMG Group employees covered with collective bargaining agreements exceeded 58 thousand persons. The above agreements envisage 35 types of social assistance for employees and their family members. Our social stability index is equal to 72 per cent, which is "above the average".

KMG annually invests into training and development of its personnel, establishes new development approaches and programmes for the KMG Group employees. Since 2019, the KMG Group has been focusing on development of production employees under its training concept, including both managers, engineers and technicians, and employees engaged in trade jobs.

We should also note that the Company annually assigns the budget through the Social Project Development Fund Samruk-Kazyna Trust to implement charity projects and programmes in order to solve the socially relevant issues for the Kazakhstan population. Moreover, we render social assistance to the local communities in our operating regions. In this regard, more than 30 billion tenge was allocated for regional development in 2019.

In conclusion, I would like to emphasise that, in spite of the current challenges, we aspire to ensure maximum transparency in our activities, safety of our employees, social and environmental responsibility and thus confirm our commitment to the sustainable development principles in accordance with the strategic priorities adopted by the Company.

Sincerely,
Alik Aidarbayev

COMPANY OVERVIEW

GRI 102-1, 102-2, 102-4, 102-5, 102-6, 102-9

OUR PROGRESS

23,618

thousand tonnes

Oil and condensate production

23,618	2019
23,606	2018
23,362	2017

20,588

thousand tonnes

Oil refinery

20,588	2019
19,715	2018
18,207	2017

10,729

thousand tonnes

Oil transportation by sea

10,729	2019
7,077	2018
6,951	2017



Joint Stock Company “National Company “KazMunayGas” is a unique vertically integrated oil and gas operator that implements the full production cycle, from upstream and downstream operations with respect to hydrocarbons to specialised services.

KMG was established pursuant to Decree of the President of the Republic of Kazakhstan (hereinafter — the RoK) dated 20 February 2002, No. 811, regarding Activities to Further Pursue State Interests in the National Oil and Gas Sector, and RoK Governmental Resolution dated 25 February 2002, No. 248, regarding Activities to Enforce Decree of the RoK President dated 20 February 2002, No. 811. KMG is a legal successor of Closed Joint Stock Companies “National Oil and Gas Company “Kazakhoil” and “National Company “Oil and Gas Transport” and Joint Stock Company “KazMunayGas — Refining and Marketing”. KMG was founded by the RoK Government represented by the State Property and Privatisation Committee under the RoK Ministry of Finance.



KMG shareholders are “Samruk-Kazyna” Sovereign Wealth Fund Joint Stock Company (hereinafter referred to as Samruk-Kazyna JSC) **(90.42%)** and “Kazakhstan National Bank” Republican State Enterprise **(9.58%)**.

The KMG Group includes 144 companies with fifty and more voting shares (interest) directly or indirectly owned by KMG, of which 77 assets are located in the RoK. Other assets are based in such countries as Romania, Georgia, Switzerland, the Netherlands, Canada, Bulgaria, Ukraine, Moldova, Russia and Turkey.

On 30 December 2015, pursuant to RoK Governmental Resolution No. 1141, regarding Certain Privatisation Issues 2016–2020, the Comprehensive Privatisation Plan 2016–2020 was approved, including 73 KMG Group companies, of which 89 % of the activities have been completed. The number of legal entities forming part of the KMG Group is reduced under the privatisation and divestment programmes.

KMG ships diesel fuel for field agricultural activities and supplies fuel oil to social production facilities and enterprises during the heating season.

The remaining oil product volumes are sold to third-party consumers on the domestic market and for export.

In 2019, KMG’s share in the oil product output amounted to 12,513 thousand tonnes of finished products. In 2019, KMG fully covered the domestic market needs in light oil products in the Republic of Kazakhstan. KMG’s share in refining of raw hydrocarbons in the total oil refining volume in Kazakhstan made up 81% in 2019.

Starting from September 2019, KMG additionally commenced motor gasoline export (37 thousand tonnes).

In 2019, dark oil products and gasoline shipments to Europe predominated in the scheme of oil product export supplies. The petrochemicals, coke and sulphur were supplied to China, Russia and Tajikistan.

12,513

 THOUSAND TONNES
OF FINISHED PRODUCTS

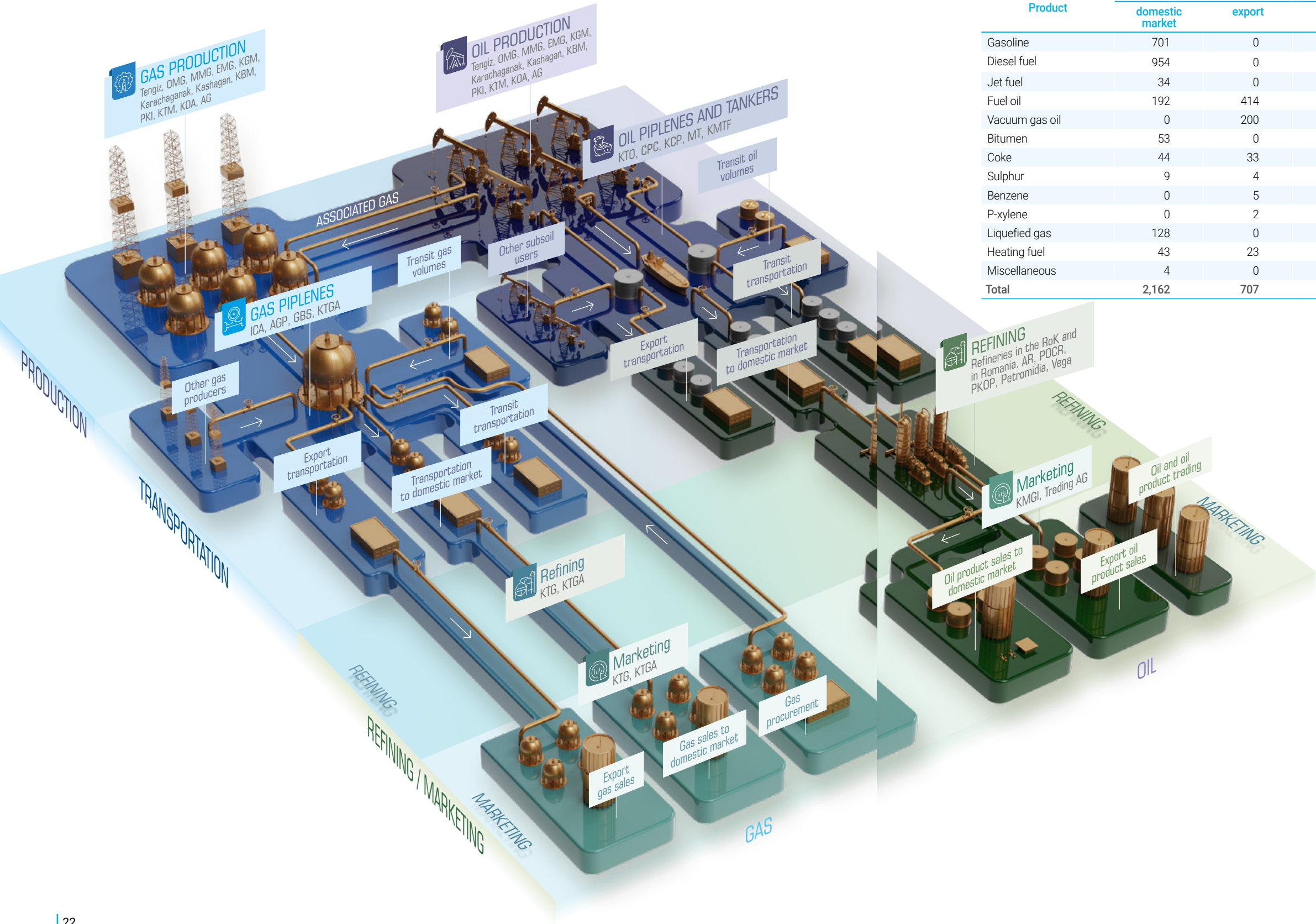
 Oil product output
in 2019

In 2019, jet fuel was sold by KMG-Aero to the following airports and air companies:

- JSC Aktau International Airport
- JSC Taraz International Airport
- JSC Sary-Arka International Airport
- Deutsche Lufthansa Aktiengesellschaft (Germany)
- PJSC Aeroflot (Russia)
- ATLAS GLOBAL (Turkey)
- JSC Air Astana
- JSC QAZAQ AIR
- JSC Ir-Aero (Russia)
- JSC Scat

Production Value Chain

GRI 102-7, 102-9



Wholesale of KMG Oil Products Produced in the Republic of Kazakhstan, thousand tonnes

Product	2018			2019		
	domestic market	export	total	domestic market	export	total
Gasoline	701	0	701	789	37	826
Diesel fuel	954	0	954	1,028	0	1,028
Jet fuel	34	0	34	85	0	85
Fuel oil	192	414	606	188	469	658
Vacuum gas oil	0	200	200	0	167	167
Bitumen	53	0	53	65	0	65
Coke	44	33	77	40	51	91
Sulphur	9	4	13	2	13	14
Benzene	0	5	5	0	12	12
P-xylene	0	2	2	0	55	55
Liquefied gas	128	0	128	114	0	114
Heating fuel	43	23	66	7	0	7
Miscellaneous	4	0	4	14	0	14
Total	2,162	707	2,868	2,333	804	3,136


GRI 417-1

In accordance with the Technical Regulations of the Customs Union, starting from 2018, motor fuels of environmental classes K4 and K5 (Euro-4 and Euro-5) are produced at domestic refineries.

K4 and K5 (EURO-4 and EURO-5)

OG8


- In this respect:
- The volume fraction of benzene shall not exceed 1% for environmental classes K4 and K5.
 - The weight fraction of sulphur for K4 shall not exceed 50 mg/kg, while the weight fraction of sulphur for K5 shall not exceed 10 mg/kg.
 - The lead content shall not exceed 5 mg/dm³ for environmental classes K4 and K5.



The information on the quality of products by Kazakhstan refineries is available at the official websites of the relevant refineries:

https://www.pnhz.kz/product/quality_of_product/

https://www.anpz.kz/production/product/http://www.petrokazakhstan.kz/rus/pages/processing_subdivision.html



A more detailed overview of the Company's production operations and financial performance is presented in the 2019 Annual Report http://www.kmg.kz/uploads/reports/KMG_AR19_RU.pdf

COMPANY'S MISSION AND STRATEGIC INTENTS

GRI 102-16

MISSION

Ensure the maximum benefits for the Shareholders for their participation in the national oil and gas industry development

VISION

A highly efficient vertically integrated company – the national oil and gas industry leader that meets the highest safety and corporate governance standards

STRATEGIC GOALS

1

Create value for the shareholders by improving production performance and investing into growth

2

Implement process digitalisation and optimisation

3

Implement the best sustainable development and corporate governance practices

4

Maintain financial stability

KMG STRATEGIC PERFORMANCE

- ✓ Increased free cash flow and return on investments
- ✓ Implementation of digital solutions across the value chain
- ✓ Business process optimisation and transition to new operating model
- ✓ Ethics, compliance, corporate culture
- ✓ Sustainable development and environmental responsibility

SHAREHOLDERS' STRATEGIC PERFORMANCE

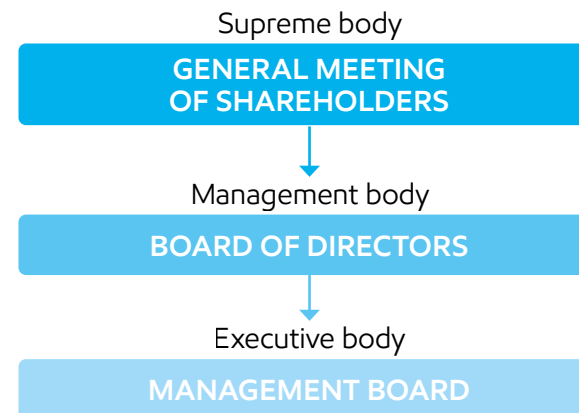
- ✓ Increased company's value
- ✓ Increased dividends to shareholders

CORPORATE GOVERNANCE

GRI 102-18

Pursuant to the RoK laws and KMG Charter, the KMG corporate governance structure is as follows:

KMG corporate governance bodies are:



The Board of Directors is engaged in general management of KMG activities, prioritises the activity areas, defines the Company's development strategy and is accountable to the General Meeting of Shareholders as related to its management duties. The day-to-day activities are managed by the Management Board, which, in its turn, is accountable to the Board of Directors.

Delegation of Authorities 102-19

The authorities related to economic, environmental and social issues are delegated by the management bodies to the top executives and other employees as part of the corporate governance processes in accordance with the KMG Charter and Corporate Governance Code. The corporate governance issues are controlled by the Board of Directors. The Corporate Secretary is responsible for the process of improving corporate governance practices at KMG, which is then implemented in KMG's subsidiaries and affiliates. The scope of sustainable development issues, including delegation of economic, environmental and social issues, is described in detail in the action plans on corporate governance improvement and is also envisaged in the decisions taken by the Board of Directors and its committees.

In order to address the most critical issues and to develop recommendations to the Board of Directors, the dedicated committees are established at KMG under the Board of Directors. The following committees operate under the Board of Directors:

- 1. Nomination and Remuneration Committee** is established to address the tasks related to succession planning for the Board of Directors and the Management Board, performance evaluation of the KMG bodies, ensuring the efficient HR policy, the wage and remuneration system, as well as social assistance, professional development and training of KMG officials and employees.
- 2. Strategy and Portfolio Management Committee** is established to address the issues of development strategy and investment policy, KMG operation priorities, improvement of KMG investment attractiveness, KMG financial and economic planning and transformation monitoring.
- 3. Finance Committee** is established to pursue an effective financial policy by evaluating the financial standing, monitoring the financial framework and strategy and controlling implementation of investment projects.
- 4. Audit Committee** is intended to efficiently control the financial and economic activities, to ensure efficiency of the internal control, risk management and corporate governance systems, to address audit and financial reporting issues.
- 5. Health, Safety, Environment, and Sustainability Committee** is intended to address the issues related to health, safety and environment, implementation of the sustainable development and social and economic development principles, social commitments and programmes, ensuring business continuity and environmental efficiency. This committee is responsible for initiation, in-depth review of and decision-making on economic, environmental and social aspects of the impact caused by the Company.

Economic, Environmental and Social Responsibility GRI 102-20

Pursuant to the KMG Corporate Governance Code, the Board of Directors and the Management Board shall establish and implement the appropriate sustainable development system within their competence, while every employee and official at every level shall contribute to sustainable development.

During 2019, the responsibilities for sustainable development issues were allocated as follows at the executive body level:

1. Deputy Chairman of the Management Board — Chief Financial Officer is responsible for the economic scope of sustainable development issues, including promotion of economic development in the operating regions and increase in the local content in procurements.
2. Managing Director for Strategy is responsible for development and implementation of the sustainable development management system to ensure compliance with the sustainable development principles and integration of sustainable development into the key processes, the Company's development strategy and decision-making processes.

3. Managing Director for Safety and Environment is responsible for development and implementation of KMG's HSE strategy and policies, as well as industrial safety, occupational health, environmental protection and environmental security issues.
4. HR Managing Director is responsible for implementation of labour, HR and social processes and management within the sustainable development scope.

The above persons are accountable to the Management Board and/or its Chairman. Accountability of those responsible for economic, environmental and social issues is governed in detail by the Company's regulatory documents, internal control and business continuity procedures. In this regard, the issues according to the development plans are regularly presented for review to the Management Board, which, in its turn, is accountable to the Board of Directors. Comprehensive control over implementation of the appropriate duties and actions aimed at improving the corporate governance shall be exercised within the scope of authorities delegated to the Audit Committee under KMG's' Board of Directors.

Economic, Environmental and Social Consultations to Stakeholders

GRI 102-21, 102-31, 102-32, 102-33, 102-34

Economic, environmental and social consultations between the stakeholders and the Company's supreme corporate governance body shall be implemented in various ways and on a continuous basis.

Safety, Environment, and Sustainability Committee of the Board of Directors (hereinafter — the Committee) develops and submits to the Board of Directors its recommendations in the following disciplines:

- Health, safety and environment
- Integration of the sustainable development principles into KMG strategic planning and social & economic development
- KMG social commitments and programmes under the existing subsoil use contracts
- KMG environmental efficiency monitoring.

In 2019, the Committee's activities were mainly focused on health, safety and environment, strategic management of the ESG (Environmental — Social — Governance)

aspects, as well as sustainability reporting. The key issues addressed by the Committee in 2019 are listed below:

- Improving transparency and quality of reports submitted by business units and management efficiency within the Committee's competence
- Obtaining the ESG rating from reputable international rating agencies
- Independent audit and verification of the 2018 Sustainability Report
- Recording the potential safety hazards, preventing incidents associated with high danger to the life and health of employees
- Acknowledging climate-related risks, such as water use risks, risks associated with air emissions of greenhouse gases and associated petroleum gas flaring, risks associated with the RoK environmental law amendments
- Contractor management as related to health, safety and environment, increasing responsibility among contractors

- Holding special-purpose internal audits on health, safety and environment, and analysing the audit findings
- Detailed review of environmental fines and sanctions imposed on the KMG Group and the response actions taken
- Comprehensive review of waste management issues, such as recording, identification and disposal of various waste types across the KMG Group
- Implementing the UN Global Sustainable Development Goals
- Establishing a balanced system of KPIs (key performance indicators) for the Company's specific managers by sustainable development areas
- Investigating and preventing fatal accidents, road traffic accidents and safety incidents, holding managers liable for actual safety incidents
- Defining the leadership position as related to management of environmental and nature preservation issues, participating in development of the RoK environmental laws
- Culture, training and accountability of managers and employees at KMG and its subsidiaries.


Moreover, the Committee reviewed and approved the following principal documents in 2019:

- JSC NC KazMunayGas Sustainability Report for 2018
- Sustainability Management Guideline across the KMG Group
- JSC NC KazMunayGas Health and Safety Policy
- JSC NC KazMunayGas Environmental Policy
- JSC NC KazMunayGas Policy on Alcohol, Drugs, Psychotropic Substances and Their Equivalents
- JSC NC KazMunayGas Policy on Safe Operation of Land Transport Vehicles
- Corporate Standard on Contractor Engagement in Health, Safety and Environment at the JSC NC KazMunayGas Group
- Corporate Standard on Competence Assurance in Health, Safety and Environment at the JSC NC KazMunayGas Group.

KMG officials and employees were regularly invited to take part in the Committee's activities by attending the meetings of the Committee without the voting rights. The KMG Board of Directors has accepted every recommendation developed by the Committee.

Economic, environmental and social consultations are provided to a wide range of stakeholders via

the Company's website, public relations service (press service), as well as by issuing the annual Sustainability Report that serves as a communication centre between KMG and its internal and external stakeholders in terms of disclosing sustainable development information. At the same time, KMG has various communication methods in place, which enable a proper dialogue with the stakeholders and the Company.

—  —
The Health, Safety, Environment, and Sustainability Committee of the Board of Directors is in charge of general management of the activities of the above-mentioned officials. In this regard, three meetings of the Committee were held in 2019, where 36 issues were addressed, with 57 decisions and assignments developed based on the meetings of the Committee

For instance, the detailed information intended for the investment community is published on the dedicated portal at <http://ir.kmg.kz>

The employment issues are addressed at <http://work.kmg.kz>

The confidential reporting system is implemented via the helpline channel at doverie@kmg.kz

Functional engagement is also carried out as related to the Ombudsman's activities at ombudsman@kmg.kz

Safety and environment at hse@kmg.kz

Sustainable development at sustainability@kmg.kz

While the confidential reporting system is implemented via the hot line administrated by an independent third party.

Management Body and its Committees GRI 102-22, 102-23

The Board of Directors is composed of the following persons (as on 31.12.2019):

1. Christopher John Walton

Chairman of the Board of Directors, Independent Director;
2. Alik Aidarbayev

Member of the Board of Directors, Chairman of KMG Management Board;
3. Baljeet Kaur Grewal

Member of the Board of Directors, Representative of JSC Samruk-Kazyna;
4. Uzakbay Karabalin

Member of the Board of Directors, Representative of JSC Samruk-Kazyna;
5. Almasadam Satkaliyev

Member of the Board of Directors, Representative of JSC Samruk-Kazyna;
6. Anthony Espina

Member of the Board of Directors, Representative of JSC Samruk-Kazyna;
7. Stephen James Whyte

Member of the Board of Directors, Independent Director;
8. Philip John Dayer

Member of the Board of Directors, Independent Director;
9. Luís Maria Viana Palha Da Silva

Member of the Board of Directors, Independent Director.

The composition of the Committees of the Board of Directors is as follows:

AUDIT COMMITTEE

1. Philip John Dayer, *Chairman*
2. Stephen James Whyte
3. Luís Maria Viana Palha Da Silva

STRATEGY AND PORTFOLIO MANAGEMENT COMMITTEE

1. Stephen James Whyte, *Chairman*
2. Christopher John Walton
3. Uzakbay Karabalin
4. Baljeet Kaur Grewal
5. Philip John Dayer
6. Luís Maria Viana Palha Da Silva
7. Anthony Espina

Nomination and Remuneration Committee


1. Luís Maria Viana Palha Da Silva, *Chairman*
2. Philip John Dayer
3. Christopher John Walton
4. Stephen James Whyte
5. Uzakbay Karabalin
6. Anthony Espina

FINANCE COMMITTEE

1. Christopher John Walton, *Chairman*
2. Stephen James Whyte
3. Baljeet Kaur Grewal
4. Philip John Dayer
5. Luís Maria Viana Palha Da Silva
6. Anthony Espina

HEALTH, SAFETY, ENVIRONMENT, AND SUSTAINABILITY COMMITTEE

1. Philip John Dayer, *Chairman*
2. Christopher John Walton
3. Stephen James Whyte
4. Uzakbay Karabalin
5. Luís Maria Viana Palha Da Silva



The members of the Board of Directors are elected for up to three years. The Board of Directors includes one woman, Ms. Baljeet Kaur Grewal. Three out of nine members of the Board of Directors are the Kazakhstan citizens. The Board of Directors and its Committees maintain the balance of skills, experience and knowledge to ensure the independent, unbiased and efficient decision-making process in the interests of KMG and in view of equal treatment of all shareholders and sustainable development principles. The members of the Management Board, except the Chairman of the Management Board, cannot be elected to the Board of Directors, and the Chairman of the Management Board cannot be elected the Chairman of the Board of Directors. For more details on the members of the Board of Directors, visit KMG website: http://kmg.kz/rus/kompaniya/korporativnoe-upravlenie/sovet_direktorov/

Nomination and Selection of Supreme Management Body GRI 102-24

Procedure for Nomination and Selection of Candidates to the Board of Directors

The procedure for nomination and selection of candidates to the Board of Directors is determined by the Charter and other regulatory documents and implemented by the General Meeting of Shareholders together with the Chairman of the Board of Directors and the Chairman of the Nomination and Remuneration Committee of the Board of Directors, and is governed by the transparent, fair and professional approach to recruitment and employment of candidates. The members of the Board

of Directors are elected from among the candidates nominated as potential representatives of shareholders and other parties. The candidates to the Board of Directors shall have the knowledge, skills and experience necessary to discharge their duties and to ensure long-term added value and sustainable development, and shall also have impeccable business reputation. The Chairman of the Board of Directors is elected at the General Meeting of Shareholders. Independent directors are selected in accordance with the approved Rules for Determining Composition of Boards of Directors / Supervisory Boards of the Samruk-Kazyna Companies.

Role of the Management Body in Establishing Goals, Values, Mission and Strategy

GRI 102-26

The Board of Directors shall prioritize the activity areas, approve and monitor implementation of the development strategy, including the goals, values, mission, as well as economic, environmental and social development related policies and tasks as agreed with the shareholders based on the proposals prepared by the executive body.

For instance, on 1 July 2019, the Annual Ad Hoc Joint Meeting of the KMG Board of Directors and Management Board on Sustainable Development for 2019 (hereinafter – SDM 2019) was held, where the members of the Board of Directors and the Management Board jointly discussed the topical issues of long-term sustainable development of the KMG Group.

Based on SDM-2019, the KMG Board of Directors and Management Board agreed on the long-term priorities in social & economic development, safety and environment, as well as corporate governance, including the following:

- All management decision-making processes by the KMG bodies shall envisage sustainable development principles.
- KMG shall strive to ensure continuous improvement of social security for the KMG employees, including

- attractive social conditions and social infrastructure for employees engaged at the KMG production facilities in order to retain and develop talents, foster the culture and favourable social environment in the teams and at workplaces.
- Social stability and community relations to address social risks shall be KMG’s key priorities at all decision-making levels on a continuous basis.
 - KMG shall strive to ensure the proper professional personnel and talent pool at KMG in order to efficiently perform the full range of works within the sustainable development scope.
 - KMG shall ensure continuous engagement with the respective governmental authorities to assist the government in addressing the pressing social issues in the operating regions where KMG has direct or indirect social impact and interests.

Thus, the members of the Board of Directors have established the following top priorities: ecology and environmental protection, protection of life and health of the company’s employees at all production facilities, talent pool development and commitment to the recognised global Sustainable Development Goals.

Management Body Competence and Performance Review

Collective Knowledge of the Management Body Members GRI 102-27

The members of the Board of Directors strive to regularly enhance their skills and professional competencies, including those related to economic, environmental and social management. The Nomination and Remuneration Committee regularly reviews the current balance of skills and knowledge among the members of the Board of Directors and develops a training plan.

Outreach sessions of the Board of Directors are held on a regular basis at production sites. The training plans for the KMG management and employees are also envisaged as related to sustainable management, ethics and compliance, along with other seminars and sessions implemented on a continuous basis in terms of corporate governance components.



Information on skill and knowledge enhancement for the members of the Board of Directors is available on the Company's website: http://www.kmg.kz/rus/kompaniya/korporativnoe_upravlenie/treningi_chlenov_soveta_direkt/

Management Body Performance Review GRI 102-28

According to the KMG Corporate Governance Code, the Board of Directors annually reviews its own performance, as well as performance of the Committees, Chairman and members of the Board of Directors. Moreover, a review is performed by an independent consultant once every three years. The procedure to review performance of the Board of Directors is governed by the Regulations on Performance Review of the Board of Directors, Committees of the Board of Directors, Chairman of the Board of Directors, Members of the Board of Directors and Corporate Secretary of KMG.

Economic, Environmental and Social Impact Management GRI 102-29

The KMG Board of Directors plays a crucial role in management of economic, environmental and social impact and the associated prospects. The Company regularly performs the risk assessment on a quarterly basis and at the year-end in compliance with the approved risk management methodology, including economic, environmental and social risks. Based on the identified risks, the relevant action plans are developed and implemented to prevent, monitor and eliminate such risks. In particular, the following functions are deemed to be within the competence of the Board of Directors: determining the corporate risk management policy, approving the risk register and risk map, the critical risk management action plan, the overall risk appetite,

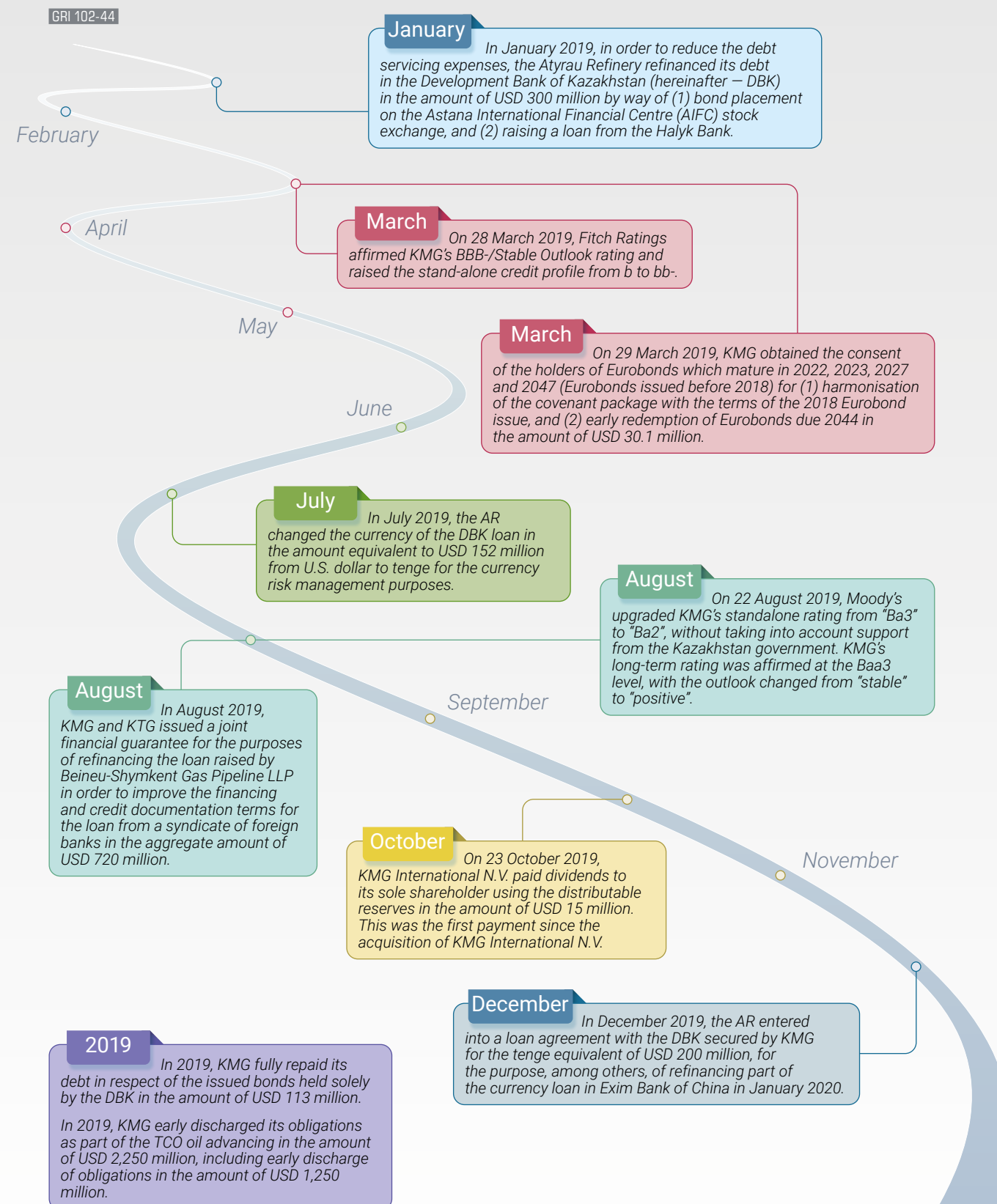
the tolerability levels for each key risk, approving the risk report, the internal control documents and the documents related to the KMG business continuity management system support.



For more details regarding the performance under **GRI 102-15, 102-30, 102-35, 102-36, 102-37, 102-38, 102-39** (risk management, remuneration of the Board of Directors), see the Annual Report at the KMG website: http://ir.kmg.kz/storage/files/efba6caf32a34f5c/KMG_AR_2019_ENG_30.04_1451.pdf

KEY CORPORATE EVENTS in 2019

GRI 102-44



DIGITAL TRANSFORMATION

GRI 102-10



KMG's digital transformation directly contributes to the achievement of the SDGs, and particularly supports SDG 9 "Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation".

Industrialisation drives the national economy and generates jobs. In addition to resilient infrastructure, it is based on research, innovation, and technical progress. The role of digitalisation in this context becomes greater. Today, digital technologies find their way into all the spheres of economy, and offer fundamental improvements in terms of efficiency and security. The energy sector is no exception — leading oil and gas companies worldwide are actively using the Big Data, predictive analytics, artificial intelligence, computer-assisted learning, robots, etc.

In view of the growing role of digitalisation all over the world, Kazakhstan is implementing the Digital Kazakhstan national programme aimed at ensuring the competitiveness of the country. The Programme covers almost all the economic sectors, including the oil and gas industry, and sets the following goals:

- Implement the smart field technologies in the large producing companies of Kazakhstan
- Ensure transparent accounting for commercial oil production by means of using metering devices
- Ensure uninterrupted fuel supply domestically by equipping the RoK refineries with monitoring systems, replacing equipment, and implementing an automated maintenance and repair system.

In 2019, based on the new vision for JSC Samruk-Kazyna, KMG revised the concept of the Transformation Programme by shifting the focus from business processes to digital technologies, updated the digital transformation project portfolio, and approved the Roadmap 2019–2024. The Company will introduce digital technologies into all its activities stage by stage, taking into account the current trends. The digitalisation projects in oil and gas production, refining and transportation, which are included in the current Programme portfolio, are intended to raise the quality of the data being used and operational asset management, to improve forecasting and simulation, and to reduce production losses. All this will contribute to higher operational efficiency of the Company.



Development of the KMG Digitalisation Strategy is scheduled for 2020. The Strategy will define priorities of digital technology implementation within the KMG Group based on the added-value chain, identify opportunities, assess potential effect of digitalisation, and indicate the focus of business functions and projects. At the corporate centre level, digitalisation will concentrate on the implementation of "continuity", "integration", and systemic methodology projects.

Three projects and two activities were completed in 2019. In particular, in the framework of project "Implementation of New Model of Maintenance and Repair (M&R) Management in Mangistaumunaygas", which was implemented in the oil production business. The M&R management process was automated through implementation of a tool for operational and strategic management by way of annual and monthly scheduling of production repairs of equipment, and prioritized performance of critical activities. A mechanism was implemented for generation of operational and analytical reports based on the cost planning and control for oilfield equipment M&R.



The Company will introduce digital technologies into all its activities stage by stage, taking into account the current trends. The digitalisation projects in oil and gas production, refining and transportation, which are included in the current Programme portfolio, are intended to raise the quality of the data being used and operational asset management, to improve forecasting and simulation, and to reduce production losses

In the refining business, the Implementation of Advanced Production Planning at KMG Refineries project was completed on the basis of Spiral software. The project



deliverables demonstrate high planning accuracy, the planning process is controlled at the corporate centre level, collaboration is in place between the refinery structural units and the head office in the development of the plans, and planning transparency is ensured. Implementation of advanced production planning has already resulted in better yield of HC products, which will contribute to cost reduction and higher competitiveness of the refineries.

Another project, which was implemented in Oil Refining and Marketing, is Transition of RoK Refineries to a Three-Year Workover Interval (Including Automation of M&R System). Implementation of the project has created conditions for increased refining output, reduction of repair costs, mitigation of the risk of accidents, and has made it possible to shut down refineries for repairs once every three years instead of every year.

Continued implementation of two vital initiatives of the Digital Transformation Programme is planned on the basis of the new approaches, namely introduction of a 'Smart Field' concept and "Transformation of Main ERP Business Functions" (hereinafter — ERP).

The Smart Field project deals with implementation of the industrial automation and data collection facilities,

and lays the basis for promotion of "Smart Field" technologies and models. Development of the concept of a full-scale smart field model using analytical systems, predictive analytics, and artificial intelligence is currently at the completion stage. The project will be restructured by reference to this concept, and will be included in the Digital Kazakhstan national programme in the new configuration.

Pursuant to the new approach, the ERP activities will be shaped into a project programme under which KMG's subsidiaries will independently implement the S4/HANA-based ERP system. KMG will control the programme implementation, monitor compliance with the unified corporate standards, methodologies, and harmonisation of reference materials.

The KMG transformation programme facilitates implementation of SDG 9, particularly Target 9.5, in terms of scaling up scientific research and upgrading the technological capabilities of industrial sectors. KMG invests heavily in scientific research and build-up of local content in this sphere. Should this target be achieved, SDG 9.b pertaining to support of domestic technology development ensuring industrial diversification will also positively influences the climatic situation in the country (SDG 13).

SUSTAINABILITY MANAGEMENT



Principle 1. Businesses should support and respect the protection of the internationally proclaimed human rights

Principle 2. Businesses should not be complicit in human rights abuses

Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labour

Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation

Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility

Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery

SUSTAINABILITY PRINCIPLES



Openness



Accountability



Transparency



Ethical conduct



Respect for stakeholders' interest



Lawfulness



Respect for human rights



Intolerance of corruption



No conflicts of interests



Personal example

You can find more detailed information about the sustainability principles in the Corporate Governance Code available on the corporate website https://www.kmg.kz/rus/kompaniya/vnutrennie_dokumenty/

SUSTAINABILITY INTEGRATION

GRI 102-16

Pursuant to the Company's Corporate Governance Code, KMG grasps the importance of its influence on the economy, ecology and society, and, striving for growth of its long-term value, ensures its sustainable development taking into account the interests of the stakeholders. We are focused on achieving consistency of our economic, environmental and social goals to ensure long-term sustainable development.

Our approach to control of sustainability aspects is based on implementation of sustainability principles.

In its Development Strategy 2028, KMG defined sustainable development as one of the strategic objectives aimed at integrating the sustainability principles in the key business processes, operations, and decision-making practices.

Implementation of the strategic objective of sustainable development is expected to result in the creation of a governance system, which ensures better corporate social responsibility and HSE indicators, stronger economic impact in the operating regions, anti-corruption

activities, higher quality of stakeholder relations, better corporate governance, corporate culture, ethics and compliance ratings.

Engineering a sustainable development system is one of the key SD tasks in the implementation of the Development Strategy.

To develop and implement a sustainable development system, the Sustainability Management Guideline across the KMG Group was prepared in 2019.

In the context of raising the Company's SD efficiency, a new corporate KPI of improved ESG rating has been approved.

The activities to upgrade the Company's ESG rating were started in 2019, and a preliminary assessment was made in respect of the three components — environmental, social, and governance. An agreement was entered into with a rating agency. The assessment is made by reference to publicly available materials. The 2019 rating will be available in 2020.

The sustainability management system includes, but is not limited to, the following:

- ✓ Commitment to the sustainability principles at all the management levels
- ✓ Analysis of the external and internal situation in terms of the three sustainability aspects — economic, environmental, and social
- ✓ Definition of SD risks in economic, environmental, and social spheres
- ✓ Interaction with stakeholders and build-up of a stakeholder map
- ✓ Definition of goals and KPIs of sustainable development
- ✓ Realisation of priority areas (initiatives) of sustainable development
- ✓ Integration of sustainable development into the key business processes
- ✓ Professional development of the Company's employees in sustainable development
- ✓ Organisation of annual sustainability reporting process
- ✓ Sustainable development efficiency measuring
- ✓ Upgrading the sustainable development process.

The ESG ratings are used to assess the corporate governance efficiency and to forecast possible corporate, environmental and social risks.

The ESG rating may heighten the interest of investors and clients, who are focused on working with the companies committed to the sustainability principles.

Being guided by the international sustainable development initiatives, the Company is committed to the principles of

the UN Global Compact², and is integrating the SDGs³ into its operations.

KMG has supported the SDG implementation initiative. It is planned to develop initiatives for implementing SDGs relevant for the Company and for identifying target indicators. SDG integration with the reporting data will enable us to assess the SDG achievement process more effectively, and to make efforts for improvement of the Company's performance in the implementation of the SD principles.



ETHICS AND INTEGRITY

GRI 102-16

Values, Principles, Standards and Norms of Conduct

The **values, principles, standards and norms of conduct** represent a code of corporate ethics rules. They are reflected in the KMG Code of Business Ethics (hereinafter — the Code), and define the most important standards of business conduct and stakeholder relations.

KMG accepts and follows the provisions of the Code in its relations with its shareholders, employees, subsidiaries and associated companies, governmental authorities, partners, other stakeholders, when making business decisions and in every-day operations.

The Code is an open document and is freely available to KMG's business partners and to any other stakeholders. It is also available on the Company's website in the Corporate Documents section.

Pursuant to the approved Code, KMG's activities are based on the following principles:



MECHANISMS FOR SEEKING ADVICE ON UNETHICAL CONDUCT

GRI 102-17

To prevent violation of employee rights, confidential and accessible means have been made available for online reporting of any wrongful actions on the part of employees or third parties.

Any employee of the Group, or any other person, who has any doubts regarding the legality of actions taken by other employees, counterparties, or any other persons interacting with KMG and its SACs, may inform their management, supervisor, or the Compliance Function.

Such information can be transmitted by the following confidential channels and means of communication:

- To the KMG trust system by e-mail doverie@kmg.kz, or by trust line **8 (7172) 78 65 65**;
- To the Ombudsman (for business ethics, discrimination, labour disputes and other labour matters, etc.) by e-mail ombudsman@kmg.kz, or by phone **8 (7172) 78 65 60, 8 (7172) 78 65 61**;
- To the Compliance Function (in case of any suspected or available information regarding corruption, fraud, or unethical conduct) through a single centralised hot line administered by an independent external provider:



Turysbek Aliaskarov, Corporate Security Director says: "Human resources are the main value of KMG. Protection of their employment and other rights is one of the major targets of the company. Our goal is not just to review and resolve all the requests and communications from the employees, but also to take all legal measures to restore their violated rights."

- Toll-free call to: **8 800 080 19 94**;
- E-mail to: sk.hotline@deloitte.kz;
- Through Internet portal: www.sk.deloitte-hotline.com

The contact details of the Hot Line are available on the KMG corporate website in the national, Russian and English languages. Similar information is available at the websites of the SACs.

All communications, including anonymous, will be received and processed by the operators of the external independent company and forwarded to the KMG Compliance Function, which is in charge of professional

²UN Global Compact: <https://www.unglobalcompact.org/what-is-gc>

³More information on SDGs <https://www.un.org/sustainabledevelopment/ru/sustainable-development-goals>



Hot Line

You may report any violations of the Code of Conduct, including facts of corruption, fraud, unethical behaviour or discrimination.

We guarantee

Confidentiality and anonymity Review of **100%** of reports.

8 800 080 19 94

sk.hotline@deloitte.kz

www.sk.deloitte-hotline.com

All communications will be received and processed by Deloitte (an independent company).

Deloitte.

and confidential review thereof. The Compliance Function will bring the information about the results of such review to the attention of the Board of Directors on a quarterly basis. 42 communications were received at the Hot Line in 2019 (vs 24 in 2018).

It should be noted that all communications received by different channels are subject to recording and statistical analysis.

In 2019, the Group's trust information system alone received 185 applications (67 in 2018, 60 in 2017), of which more than 10% dealt with the employee rights related to the remuneration level, occupational safety, etc.

48 communications were received by way of personal reception by the KMG management and by mail. 38 more communications from individuals and legal entities were received by mail or personally, of which 13% reported violation of the employee rights. All the received communications were reviewed in accordance with the established time frames and procedures, relevant measures were taken, and the submitters were duly informed.

KMG guarantees proper and timely review of all the received communications.

Procedure for Applying to the Ombudsman:

If any violations of the approved business ethics standards, legal rules or KMG internal regulations are discovered, the Ombudsman will prepare materials to be channelled for review and resolution to the KMG authorised bodies and business units responsible for the matters in question.

The Ombudsman guarantees confidential, unbiased and unprejudiced review of any information regarding violations of the Code of Business Ethics, the RoK laws, and the internal regulations. The rights of the applicant must not be prejudiced either during the review of their information or after the decision is made.

Activities of the Ombudsman Function in 2019

The KMG Ombudsman Function acts in accordance with the approved principles of sustainable development.

In the reporting period, meetings were organised in 22 subsidiaries and associated companies with the management, representatives of trade unions and conciliation commissions, business unit managers in charge of HR and social matters,



**Anatoly
Tegisbayev**

employees of the legal functions, engineers and technicians of SACs in order to promote and explain the provisions of the Code of Business Ethics, the functions and tasks of the Ombudsman, and to analyse the communications received from the employees.

The Ombudsman reviewed 18 communications in 2019.

All necessary measures were taken in respect of all received communications in order to resolve the problems, including advisory measures and actions aimed at restoration of violated rights and legal interests.

Satisfaction with the Ombudsman's activities is measured on the basis of assessments and comments by the parties to disputes and conflicts. The positive results for the current period reflect the Ombudsman's role in

problem resolution. Payment of the year-end bonuses to the KMG employees was decided together with the KMG management.

Since the Ombudsman's principal task is to contribute to improvement of KMG's rating and image by early prevention and settlement of disputes, conflicts and problems, the Ombudsman Function promptly responds to the communications (warnings) received. In 2019, the Ombudsman Function submitted two performance reports to the KMG Board of Directors. The KMG Board of Directors pays due attention to the performance reports.

The KMG Ombudsman is actively involved in the sustainability management standing task group, which defines responsibilities for integration of SD and ESG rating matters in all spheres of business.

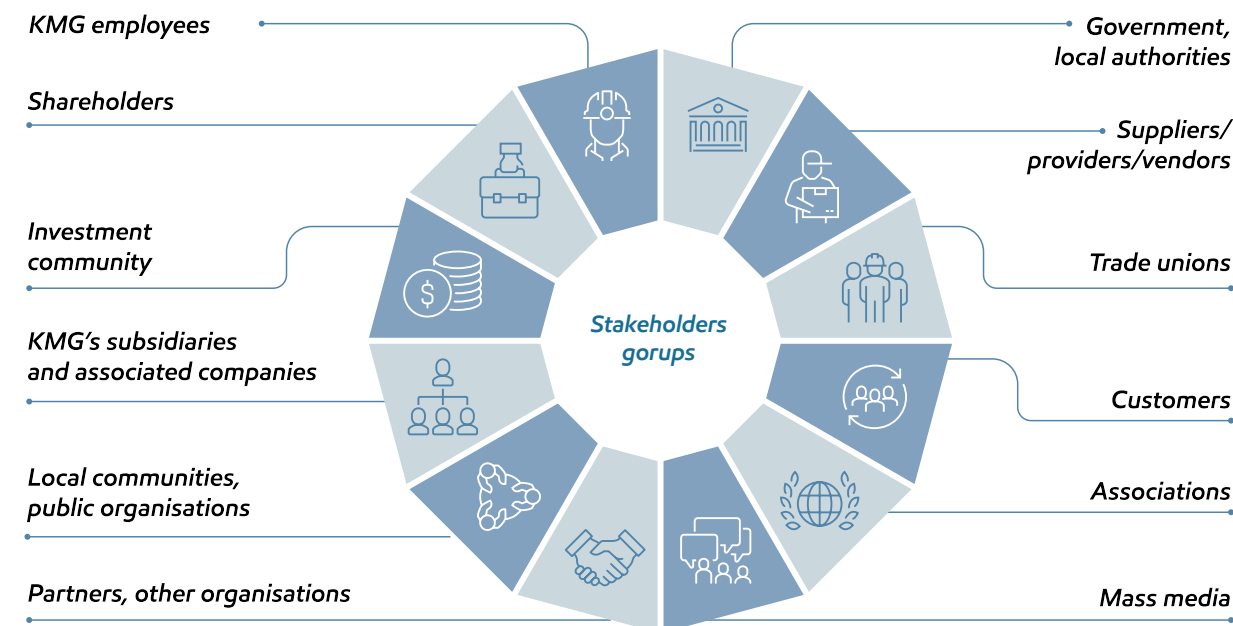
STAKEHOLDER ENGAGEMENT

GRI 102-40, 102-42, 102-43

KMG provides the full operating cycle from HC exploration and production through transportation and refining to distribution of crude oil and oil products both in Kazakhstan and abroad, and represents state interests in

the oil and gas sector. Having a complicated structure and various activities, KMG is interacting with a wide range of stakeholders.

Our key stakeholder groups:








Definition of Stakeholders
GRI 102-42, 102-43

KMG is constantly making efforts to build up a dialogue, long-term cooperation and relations management with its stakeholders.

KMG has an approved Stakeholder Map, which takes into account risks and rankings (based on direct or indirect dependence), obligations, the situation (with a special focus on higher-risk areas), influence, and different prospects. To ensure effective achievement of the goals, Stakeholder Engagement Plans are developed.

When defining stakeholders and stakeholder engagement, KMG applies the best stakeholder engagement practices, including international standards, such as AA1000SES Stakeholder Engagement Standard.

Stakeholder engagement methods include:

Engagement level	Engagement methods
<div>  <div> Consultations: <ul style="list-style-type: none"> ✓ Bilateral interaction; Stakeholders answer questions of the Fund and organisations </div> </div>	<ul style="list-style-type: none"> • Questionnaires • Focus groups • Meetings with stakeholders • Public meetings • Workshops • Feedback by communication means • Advisory boards
<div>  <div> Negotiations </div> </div>	<ul style="list-style-type: none"> • Collective negotiations based on social partnership principles
<div>  <div> Involvement: <ul style="list-style-type: none"> ✓ Bilateral or multilateral interaction; Build-up of expertise and knowledge on all sides; the stakeholders and organisations act independently </div> </div>	<ul style="list-style-type: none"> • Multilateral fora • Advisory panels • Consensus achievement procedure • Joint decision-making procedure • Focus groups • Feedback mechanisms
<div>  <div> Cooperation: <ul style="list-style-type: none"> ✓ Bilateral or multilateral interaction; joint build-up of expertise and knowledge, making decisions and taking measures </div> </div>	<ul style="list-style-type: none"> • Joint projects • Joint ventures • Partnership • Joint stakeholders' initiatives
<div>  <div> Authorisation: <ul style="list-style-type: none"> ✓ Stakeholders, if applicable, participate in management </div> </div>	<ul style="list-style-type: none"> • Integration of stakeholder engagement in management, strategy, and operations

IDENTIFICATION OF MATERIAL TOPICS OF THE REPORT
GRI 102-46, 102-47

To assess and disclose material topics, the Report analysed information on both external and internal stakeholders. Based on the results of the procedures performed, the materiality matrix was constructed.

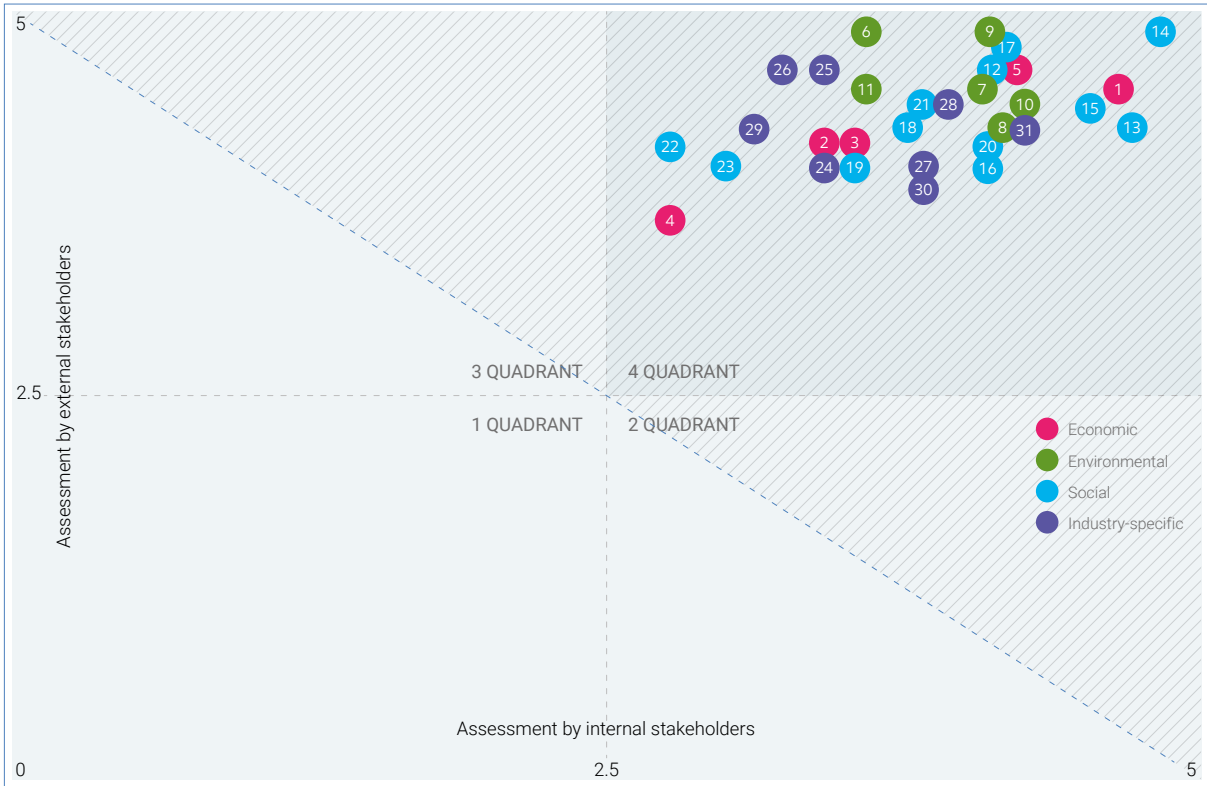
The results of internal and external indicators on the horizontal and vertical axes of the matrix, respectively,

were used to construct the matrix. The rating scale used in the matrix ranges from 1 to 5 points. Accordingly, the same range from 1 to 5 was used to determine the materiality value.

Online stakeholder survey was prepared on the basis of SurveyMonkey platform.

31 topics were identified as material topics.

Distribution of weights in the assessment structure of material topics



This matrix is divided into 4 conditional zones (quadrants) according to the level of importance of the topics as presented below.

- **Quadrant 4:** most important topics (assessment by external and internal stakeholders > 2.5);
 - **Quadrant 3:** topics important for external stakeholders, but less important for internal stakeholders (assessment by external stakeholders > 2.5, and assessment by internal stakeholders < 2.5);
 - **Quadrant 2:** topics important for internal stakeholders, but less important for external stakeholders (assessment by external stakeholders < 2.5, and assessment by internal stakeholders > 2.5);
 - **Quadrant 1:** least important topics (assessment by external and internal stakeholders < 2.5).

List of Material Topics GRI 102-47

Economic		
1	GRI-201	Economic efficiency (e.g. revenue, profits)
2	GRI-202	Market presence (e.g. rate of remuneration in the regions, local content at the executive level)
3	GRI-203	Indirect economic effects (e.g. investments in infrastructure)
4	GRI-204	Procurement practices (e.g. share of local suppliers in expenses)
5	GRI-205	Counteracting corruption (e.g. corruption risk assessment)
Environmental		
6	GRI-302	Energy (e.g. energy consumption, energy saving)
7	GRI-303	Water (e.g. water consumption, impact on water sources)
8	GRI-304	Biodiversity (e.g. conservation of Red Book animal species)
9	GRI-305	Emissions (e.g. greenhouse gas emissions, climate change)
10	GRI-306	Effluents and waste (e.g. sewage waters or waste management)
11	GRI-307	Environmental compliance (e.g. ecological fines or sanctions)
Social		
12	GRI-401	Employment (e.g. labour turnover or employee benefits)
13	GRI-402	Employee-management relations (e.g. employee incentives)
14	GRI-403	Occupational health and safety (e.g. occupational injuries or risk of occupational diseases)
15	GRI-404	Training and education (e.g. employee training or career development)

List of Material Topics (continuation): GRI 102-47

16	GRI-405	Diversity and equal opportunities (e.g. gender equality)
17	GRI-406	Non-discrimination (e.g. dealing with facts of discrimination)
18	GRI-407	Freedom of association and collective bargaining (e.g. violation of such rights and freedoms)
19	GRI-408	Child labour (e.g. use of forced child labour)
20	GRI-409	Forced or compulsory labour (e.g. risks and efforts to eradicate such labour)
21	GRI-410	Security practices (e.g. training of security staff in human rights matters)
22	GRI-413	Local communities (e.g. programmes for engagement with local communities)
23	GRI-417	Marketing and product and service information (e.g. compliance with such requirements)
Industry-specific		
24	OG1	Volume and type of estimated proven reserves and production (oil and gas)
25	OG3	Investments in renewable energy sources (e.g. solar plants or wind farms, renewable energy utilisation capacity)
26	OG4	Monitoring of biodiversity impact in operating regions
27	OG5	Volume and disposal of formation or produced water
28	OG6	Volume of flared and vented hydrocarbons
29	OG7	Amount of drill cuttings (drill mud and slurry)
30	OG8	Benzene, lead and sulphur content in fuels
31	OG13	Process integrity and safety (including spill prevention and emergency preparedness)

INITIATIVES AND MEMBERSHIPS

GRI 102-12, 102-13



The World Bank Initiative "Complete Cessation of Regular Flaring of APG by 2030"

KMG supported this initiative in 2015. It unites governments, oil companies and development organisations that are ready to cooperate to stop the practice of regular APG flaring by no later than 2030. Our goal is to increase the beneficial use and disposal level of APG, to minimise flaring. We submit annual progress reports to the World Bank.



Global Methane Initiative

KMG supports the Global Methane Initiative (GMI) and regularly discloses its environmental activities to all stakeholders in the Sustainability Report. In 2017, as part of its methane emission reduction activities, KMG joined the GMI Project Network, which is a growing community of private sector businesses, financial institutions, and other governmental and non-governmental organisations interested in methane emission reduction projects, and in methane recovery and use. Working with the GMI partner countries, the members of the Project Network can intensify their activities, setting the stage for specific methane projects.



CDP Climate Programme

In 2019, KMG published its first verified Greenhouse Gas Emission Report 2018 as part of the CDP Climate Programme (Carbon Disclosure Project), which includes information about direct and indirect greenhouse gas emissions for all KMG's assets, including its subsidiaries in Romania and Georgia.



Environmental Responsibility Rating of Oil and Gas Companies in Kazakhstan

For three years running, KMG has been the most transparent oil company for environmental issues in the rating of

environmental responsibility of oil and gas companies of Kazakhstan, organised by the World Wildlife Fund of Russia and CREON Group with the support of the Ministry of Energy of the Republic of Kazakhstan. In 2019, the rating expanded its coverage and became Eurasian. It now includes companies from Kazakhstan, Russia, and Azerbaijan, with Uzbekistan and Turkmenistan to join at the next stage. It was also for the first time that, in addition to the upstream operations, the rating also included refining and transportation companies.



More details about the rating methods are available at: <https://wwf.ru/what-we-do/green-economy/ekologicheskii-reyting-neftegazovykh-kompaniy-rf-sovmestnyy-proekt-wwf-i-kreon>



International Organization for Standardization (ISO)

Since 2006, the quality and HSE management systems have been maintained in accordance with ISO 9001, ISO 14001 and OHSAS 18001. Subsidiaries and associated companies with significant levels of energy consumption are certified to ISO 50001.



In 2019, all the Group companies successfully passed supervision audits, which confirmed conformity of the current integrated management systems to the international standards.



Extractive Industries Transparency Initiative (EITI)

It is a global standard that promotes transparency of revenues from oil, gas and mining industries. We comply with the terms of the Memorandum of Understanding of the Initiative and provide reporting on taxes and other payments to the state revenue <http://eiti.geology.gov.kz/en/national-reports>

Membership in Associations



National Chamber of Entrepreneurs of the RoK "Atameken"

KMG and the National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken" entered into an agreement for cooperation in legal matters.

The agreement provides for interaction of the parties in such important legal areas as improvement of legislation, development of joint programmes and projects aimed at raising legal culture, expanding the role of arbitration in resolution of commercial disputes, etc.



Kazakhstan Association of Oil, Gas and Energy Entities "KAZENERGY"

The KMG management is involved in the activities of several committees and working groups of the Association.

The chairmanship in the Coordination Council of KAZENERGY for ecology, social responsibility and transparency opens an opportunity for KMG to promote sustainable development in the oil and gas sector of Kazakhstan.

KMG and Kazakhstan Association of Oil, Gas and Energy Entities "KAZENERGY" entered into a Memorandum of Cooperation.

The Memorandum provides for joint activities in such key legal areas as improvement of the Kazakhstan legislation; development of joint programmes and projects aimed at raising legal culture; cooperation in holding round tables, seminars, conferences on topical issues in the legal field, etc.



The UN Global Compact

Our membership in the UN Global Compact and the annual posting of the Sustainability Report on the UNGC website to show KMG's progress in promoting the principles of the Global Compact and 17 Global Sustainable Development Goals clearly demonstrate our commitment to the principles of sustainable development.



International Association of Oil and Gas Producers (IOGP)

Since 2018, KMG has been a full member of the International Association of Oil and Gas Producers. Our health and safety statistics will be publicly available, and our performance indicators will be compared to those of more than 75 oil and gas companies worldwide. Our strategic goal is to be among the Top 20 companies on this list.



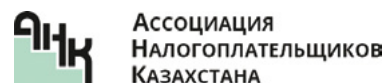
International Association of Scientific, Technical and Business Cooperation in Geophysical Research and Well Work (ARW)



International Association of Oil Transporters (IAOT)

Since 2015, KTO has been a member of the IAOT aimed at improving international oil transportation systems. The Association deals with the matters related to tariff formation, diagnostics and operation of pipelines, transportation and storage of oil.

Association of Taxpayers of Kazakhstan



Union of Machine Builders of Kazakhstan



Kazakhstan Welding Association “KazWeld”


Union of Energy Engineers
of the Republic of Kazakhstan


National Association of Business “IRIS”


Association of Marine Transport Entrepreneurs
of the Republic of Kazakhstan


Union of Oil Service Companies of Kazakhstan



Trans-Caspian International Transport Route



Oil Spill Response Limited (OSRL)



Kazakhstan Bar Association



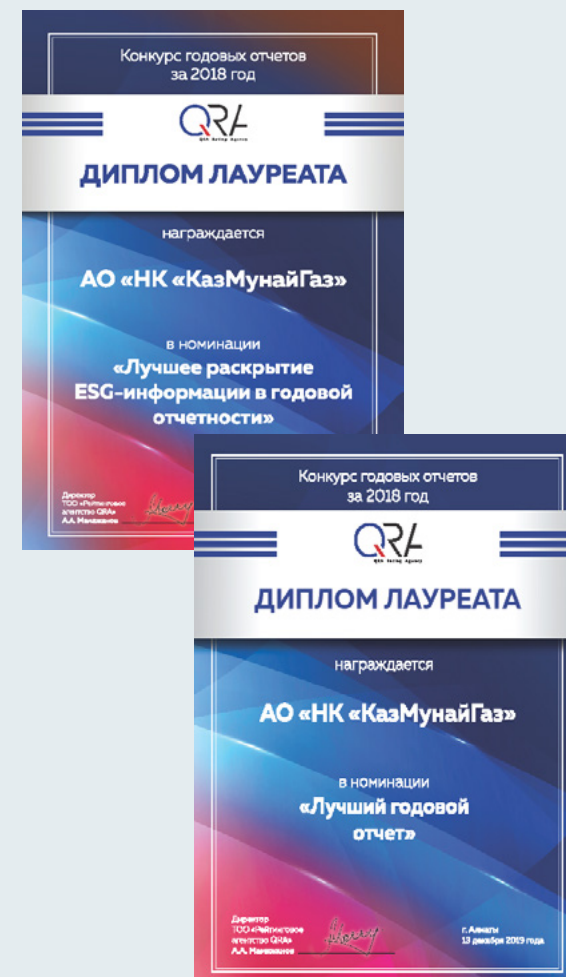
The KMG Sustainability Report 2018 became the best annual report in the Annual Report Competition in Best Annual Report, Best ESG Disclosure in Annual Reporting nominations.

Case study

On 13 December 2019, the ceremony of awarding laureates and nominees of the Annual Report Competition organised by QRA was held. At the 2019 competition, 111 annual reports of the Kazakh companies were assessed including 35 financial, and 69 non-financial organisations.

The annual reports issued in Kazakhstan were analysed to form the long list in the Best Annual Report category. The main emphasis was made on the content, therefore, documents that provided the most complete qualitative disclosure were selected. The short-list of ten reports compiled based on the preliminary analysis was put to the vote of the Expert Commission, which included corporate governance and reporting professionals.

The KMG Sustainability Report was rated first among Kazakh companies as “Best Annual Report” (Annual Report + Sustainability Report), “Best ESG Disclosure in Annual Reporting” (Sustainability Report).

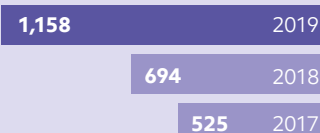


ECONOMIC PERFORMANCE

GRI 102-7, 103-1, 103-2, 103-3

OUR PROGRESS

Profit
1,158
KZT bln



Purchases from
Kazakhstan companies

94%



Share of local content
in procurement

81%



In the course of its operating activities, KMG makes annual substantial contributions to improve social and economic potential of the country and develop locations within the Company footprint.

In 2019, the Company's operational and financial performance demonstrated a sustainable growth. Thus, the net profit of KMG has grown by 67% as compared to the previous reporting period, and amounted to **KZT 1,158 billion** (USD 3,026 million).

Furthermore, as one of the largest taxpayers in the covered geography, KMG makes its contribution to the national budget in form of taxes and other payments. In 2019, the Company paid taxes and made other obligatory payments to the state revenue for the amount of **KZT 1,522 billion** (USD 4 billion).

In addition, the Company employs over **70 thousand people** in the country, providing them with a steady paycheck along with social assistance for them and their families. In 2019, the Company paid **KZT 52 billion** worth of social and pension contributions for its employees.

Participation in domestic manufacturer support programmes and increased local content in procurement remain among the KMG priorities. In 2019, KMG Group procured **KZT 2,004.7 billion** worth of goods, work and services from Kazakh companies, or **94%** of the total procurement. The local content in procurement was **81%**.

The below economic performance figures provide a picture of the Company's contribution to the national economy.

ECONOMIC VALUE GENERATED AND DISTRIBUTED

GRI 201-1, 201-4

Figure	Unit	2017	2018	2019
Generated direct economic value				
Total income	KZT bln	5,451	7,904	7,970
Distributed economic value				
Total expenditures	KZT bln	4,926	7,211	6,586
Undistributed economic value				
Profit	KZT bln	526	694	1,158

Figure	Unit	2017	2018	2019
Other taxes and payments (other than CIT)	KZT bln	914	1,258	12
Income tax paid	KZT bln	113	186	55
Payments to capital providers	KZT bln	275	291	114

Data of the audited KMG financial statements for 2019 prepared in accordance with International Financial Reporting Standards (IFRS).

Capital expenditures include investment projects to maintain the current level of operations as well as other expenses. Upgrade of refineries was completed.

Figure	Unit	2017	2018	2019
CAPEX	KZT bln	669	628	505

KMG does not receive any financial assistance from the government.

Social Assistance for Employees

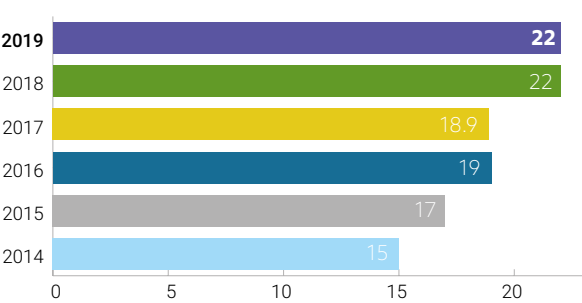
GRI 201-3

In accordance with the national law, retirement savings of citizens are kept by the Unified Pension Savings Fund. Pension savings include the state-guaranteed minimum pension rate, individual pension savings (monthly contribution – 10% of salary) and extra regional increments.

In addition to the social assistance and pension plan provided by the state, the KMG Group has its own pension plan for retirees, which offers a certain financial support for the retired employees.

Some of the oil service businesses within the KMG Group have the early retirement plan for employees approaching the retirement age, which makes it possible to compensate them for mutually agreed termination of employment; employees who have reached the retirement age can be compensated for termination of employment.

Social assistance for the KMG Group employees, KZT bln



In 2019, the KMG Group spent KZT 22 billion on social assistance for its employees, just as in the previous year, including social care for the retirees.

Description	Unit	2017	2018	2019
Social charges and compulsory pension contributions	KZT bln	52	52	52

IMPLEMENTATION OF INVESTMENT PROJECTS

GRI 203-1, 203-2

The most significant investments KMG makes in the national infrastructure are ran through a subsidiary, JSC “KazTransGas” (KTG). KTG is the major gas-energy and gas transportation company in the Republic of Kazakhstan, which promotes interests of the state both on the domestic and global gas markets.

Under the regional gasification programme, KTG continues to bring gas to and upgrade Kazakhstan settlements.

In 2019, among the successfully completed investment projects were:

1. Construction of the Saryarka trunk gas pipeline. Stage I. Kyzylorda – Astana section

The trunk gas pipeline starts in Kyzylorda Region and will allow transporting up to 2.2 billion m³ of gas annually to provide consistent supplies of local natural gas to Nur-Sultan, Karaganda, Temirtau, Zhezkazgan, and along the gas pipeline route. About 2.7 million people from 171 settlements are expected to get connected to the gas supply.

Transition from conventional sources of fuel to natural gas will have beneficial environmental effect on the settlements, reduce polluting air emissions and preserve land and water resources.

2. Upgrading, revamping and greenfield construction of gas distribution systems for settlements in Mangystau Region

The project is intended to upgrade, revamp and construct gas systems in Mangystau Region to provide better and more reliable services, address shortage of gas for consumers.

The project provided 5 settlements with gas: Batyr residential area of Munaily District, villages Zharma and Baskudyk of Mangystau District, Borankol village of Beineu District, 18 streets in Beineu village of Beineu District, 2 auls in Borankol village of Beineu District.

The work completed in 2019 included laying 24.863 km of gas pipelines, installation of 4 package type gas

distribution units, major repair of anti-corrosion coating for Aktau-Fort-Shevchenko HP pipeline between villages.

The project made it possible to construct and upgrade total of 1,347 km of gas pipelines (of which 647 km were new), install 6 automatic gas distribution stations, 34 gas control plants and 45 package type gas distribution units. The project implementation brought in 2.5 thousand of new consumers.

3. Upgrading gas distribution systems in Taraz. The project was aimed at upgrading gas distribution systems in Taraz to make operation of gas distribution systems more safe and reliable.

The project addressed the lack of gas pressure on the consumer side and increased throughput capacity of the gas supply system 1.5 times. In the detached house suburbs of the city 899 km of gas pipelines were constructed; 19,409 standalone gas distribution plants, 149 gas control plants, and 1 package type gas distribution unit were installed. 34.6 thousand consumers from the detached house suburbs and 50 thousand consumers from apartment blocks were connected to the new gas system. For more precise gas metering, detached houses were provided with meters with built-in smart-cards and temperature correction.

4. Construction of booster compressor station (BCS) at TIP-02 between BGR – TBA and Kazakhstan – China trunk gas pipelines

BCS throughput capacity grew from 2 to 3.5 billion m³/year. The project has a strategic impact, because once implemented, it will allow to supply gas to Kazakhstan – China trunk gas pipeline via BGR – TBA trunk gas pipeline to ensure export to China and make uninterrupted gas supplies to Almaty, bypassing Kyrgyz section of the BGR – TBA pipeline.

Along with upgrading gas distribution systems, in 2019, KMG finished the remaining upgrades of refineries. Upgrading the leading Kazakh oil refineries: Atyrau Refinery, Pavlodar Refinery and Shymkent Refinery, improved capacity and yield of raw oil refinery, ensured that quality of petroleum products now meets C-4 and C-5 (Euro-4, Euro-5) standards, made it possible to overcome the shortage domestically, and even export the products.

Investment projects progress in 2019 and new projects:

1. Feasibility study lead to a decision to join efforts with partners and expand capacity of the Beineu – Bozoi – Shymkent trunk gas pipeline to reach 15 billion m³/year.

2. Gasification of Almaty, upgrading, revamping of Almaty gas distribution systems. In 2019, the results of gasification included construction of 265 km of new gas pipelines, revamping 76 km of the existing gas pipelines, installing 21 gas control units.

The project targets to bring gas to residential areas/ detached houses in Almaty (Medeu, Alatau, Zhetysu, Bostandyk, Almaly, Turksib, Nauryzbay Districts), which will improve urban environment, connect about 4.1 thousand of new consumers who will ensure annual average consumption of 15.8 million m³ of gas.

3. The first stage of reversing Kenkiyak – Atyrau oil pipeline section, up to 6 million tonnes per year. The project aims at transportation of up to 6 million tonnes per year of West-Kazakhstan oil to POCR, PKOP and increasing oil exports to China. Year 2019 marked the end of construction and installation for Phase 1 of the project and start of construction of facilities for Phase 2.
4. A decision was made to develop FS for Yertys project at POCR to produce winter diesel grades with the cloud point at –32°C or lower.
5. Proving its commitment to best health, safety and environment (HSE) practices, in 2019, Atyrau Refinery proceeded to design and construct new treatment facilities for the refinery as a part of the Tazalyk project. The treatment facilities will be upgraded in 2 stages: the first mechanical treatment line will be upgraded and revamped in 2019–2021; biotreatment facilities will be revamped and advanced treatment unit will be constructed in 2019–2023.

To build up the export potential, the following investment projects are expected to continue:

1. **Construction of the Beineu – Bozoi – Shymkent trunk gas pipeline, up to 15 billion m³/year**
To date, the trunk gas pipeline has reached the capacity of 13 billion m³/year. In 2020, activities to expand Beineu GMS, Akbulak GMS and Bozoi CS are scheduled to be completed, allowing to bring the gas pipeline capacity up to 15 billion m³/year.
2. **Construction of 4 compressor stations (CS)**
In February 2019, compressor stations Aral, Korkyt-Ata and Turkestan were commissioned in the Bozoi – Shymkent gas pipeline section. Capacity of the Beineu – Bozoi – Shymkent trunk gas pipeline reached 13 billion m³/year.

1A CS is scheduled to be constructed and commissioned in 2020.

PROCUREMENT PRACTICES

GRI 103-1, 103-2, 103-3, 204-1, 102-9, 102-10

One of the procurement principles is to offer equal opportunities to all potential suppliers participating in the procurement.

In 2019, the KMG procurement procedures were governed by the Samruk-Kazyna Rules for Procurement of Goods, Work and Services published at the Samruk-Kazyna website.

According to the current goods procurement system, open bidding or procurement is to be held by Request for Quotation process, only among manufacturers of the procured goods listed in the Holding Manufacturers Register, or only among disabled people employers producing the concerned goods and listed in the Holding Register of Disabled People Employers.

Moreover, the Samruk-Kazyna procurement method governing procurement processes in the KMG businesses, imposes special conditions for procurement of goods used by the Holding subsoil users, who have entered into subsoil use contracts before 1 January 2015, until the earlier of expiration date of such contracts or 1 January 2021. According to the referred special conditions, subsoil users shall (as required by Clause 3 Article 78 of the RoK Subsoil Use Act) purchase goods from Kazakh manufacturers provided that the latter comply with a design document or the RoK technical regulation law.

Procurement process includes:

- Development and approval of annual (long-term) procurement plan
- Selection of suppliers
- Entering into and execution of a procurement contract.

The general scope of goods, work and services procured from the Kazakhstan residents (regardless of nationality of their employees and whether or not they have ST-KZ goods origin certificates) was as follows (KZT bln)

Year	Total	Goods	Work and services
2017	2,257.9	775.1	1,482.8
2018	2,280.8	739.8	1,541.0
2019	2,004.7	462.1	1,542.6

Suppliers for KMG and its SACs are selected in an open tender by Request for Quotation process, and through single source in accordance with the Samruk-Kazyna Goods, Work and Services procurement method.

All procurements are made using the E-Procurement Information System as prescribed by the E-Procurement Instructions.

When selecting a supplier of goods, work, services, it is essential that the procurement procedure is held in strict compliance with the procurement method of the Fund, without any violation which might affect the results. This indicator is included in the KPI Card for the KMG and SAC managers.

The Samruk-Kazyna procurement rules provide that procurement procedure is to be held among qualified potential suppliers, and includes pre-qualification of potential suppliers and creating the database of pre-qualified potential suppliers.

Note, however, that according to the Samruk-Kazyna Procurement Method, one cannot establish requirements by social criteria for potential suppliers. Therefore, setting by KMG of social criteria to select suppliers may be perceived by Samruk-Kazyna as restriction on competition.

However, human rights and social criteria provisions are included in standard KMG contracts for procurement of goods, work and services, and in the approved Code of Business Ethics.

Therefore, in 2019, KZT 2,004.7 billion worth of goods, work and services was procured from the Kazakhstan residents, or 94% of the total procurement scope.

Concurrently, local content* in the procured goods, work and services is calculated under the Unified Local Content Calculation Method for Procurement of Goods, Work and Services by Companies approved by Order No. 260 of

Investment and Development Minister of the Republic of Kazakhstan on 20 April 2018.

The above values reflect consolidated data of all KMG subsidiaries where fifty or more percent of voting shares (participation shares) are directly or indirectly owned or held in trust by KMG, and which are subject to the Samruk-Kazyna Rules for Procurement of Goods, Work and Services.

Total amount of goods, work and services and local content (KZT bln)

Year	Total	LC, %	Goods		Work and services	
			Amount	LC, %	Amount	LC, %
2017	2,553	75	863	79	1,690	73
2018	2,428	79	824	77	1,604	80
2019	2,132	81	473*	63*	1,659	83

Note: excluding oil and gas

* The word “local” means domestic enterprises, which produce goods and have ST-KZ goods origin certificate specifying the local content percentage. Local content in a contract for work/service, except for work/service procured under a subsoil use contract, is calculated based on the share of Kazakh employees’ salaries in the total payroll.



The Supplier Open Day came around Mangistaumunaygas JSC where the active and potential suppliers of the commodities, the providers of the works and services, the domestic commodity producers, and the representatives from the Akimat of Mangistau oblast and the regional businessmen chamber 'Atameken' had been invited to.

The priority has been given to the domestic commodity producers and the commodity producers of the Holding as the measures to provide support to the Kazakhstan commodity producer at the purchases and to the programs 'Supporting the new productions' and 'Res simplifies economy' at concluding the contracts.

ANTI-CORRUPTION MANAGEMENT

GRI 102-25, 103-1, 103-2, 103-3, 205-1, 205-2, 205-3, 406-1, 410-1

The anti-corruption policy is established and implemented by the Company on the basis of corruption risks assessment. In order to reduce corruption risks efficiently and successfully, anti-corruption procedures should be adjusted to specific needs of the Company, as they directly depend on such distinctive features as size, structure and geography of operations.

The Republic of Kazakhstan scored 34 points out of 100 according to the Transparency International Corruption Perceptions Index. KMG's line of business suggests having active interactions with certain Ministries and Departments of the Republic of Kazakhstan and foreign officials, since KMG have a presence in other countries (Russia, Romania, Georgia, UAE, Netherlands, Bulgaria, etc.), implying acceptance of operational risk including such activities as sponsorship, political contributions, obtaining licenses, permits, other approvals from state authorities, and fines for violation of environmental law, etc.

Among the KMG SACs, there are certain jointly controlled and joint companies with foreign partners doing business as required by their local regulatory bodies, and SACs registered and located in other countries. In some SACs operating outside Kazakhstan, a foreign state owns SAC jointly with KMG or may influence the SAC business in the region, which involves a risk of corrupted relationships with partners.

In 2019, KMG and certain SACs passed external independent compliance risk audit under the UN Global Compact methods, which included interviews with more than 130 employees of KMG units to identify areas of major violations, and with business units of SACs within the project perimeter (JSC Embamunaygas, JSC KazTransGas, JSC KazTransOil, JSC Intergas Central Asia, LLP Atyrau Refinery, LLP Pavlodar Oil Chemistry Refinery), representatives/sponsors of LLP Kazmortransflot, LLP Zhambyl Petroleum, KMG International N.V.

According to Principle 3 of the Bribery Act Guidance of the UK Ministry of Justice, external corruption risks

for KMG were classified into 5 categories, and an external company assessed them as high.

Thus, the assessment was followed by generation of a Compliance Risk Map (primary risks were associated with the company's liaison with state authorities, procurement activities, selection of counterparties with conflicting interests and HR risks), and a KMG Corruption Risk Minimisation Plan, which included certain measures, in particular:

- Regular anti-corruption training for all employees of CC and SACs, including the Board of Directors, top management, middle management and other employees.
- Introduction of the basic compliance procedures and policies, such as Anti-Corruption Policy, Proactive Reporting Policy, Conflicting Interests Policy and Code of Conduct.
- Introduction of a centralised hot-line administered by a third party company.
- Implementing a formalised, documented and risk-based approach to due diligence of counterparties.
- Implementing the Conflicting Interests Declaration Procedure for employees and officials.

As part of the Compliance Risk Minimisation Plan, a regular anti-corruption training programme is being developed and held for all employees of CC and SACs, including the Board of Directors, top management, middle management and other employees.

Consequently, in Q4 2019, 180 middle management staff members were trained in Code of Business Ethics and Conflict of Interests.

It should be noted that today, each newly hired employee is required to read the Code of Business Ethics, and this practice is expected to be used for the Anti-Corruption Policy as well. This is applicable to the Company's business partners as well, since all standard contracts with counterparties entered into by the Company

include an anti-corruption clause, according to which counterparties undertake to follow Kazakhstan anti-corruption law and report any suspected or actual violations of the anti-corruption law and procurement rules to the customer's hot line.

One of the efficient tools KMG has in place to control how well the Company and its employees follow legal and ethical anti-corruption, anti-bribery and money laundering standards as a part of the Control Action Plan in accordance with the Proactive Reporting Policy, is the centralised hot-line administered by an independent company which ensures that all received reports are handled by responsible units within KMG, including Compliance Function (hot-line contact details are available on the KMG website in the national, Russian and English languages. The same is published on relevant SAC websites.) Thereupon, in 2019, the hot-line received 42 reports (*concerning bribery, corruption or ineffective use of money including procurement and supplies, theft or stealing, improper acceptance of gifts or other benefits by employees*), of which 6 were confirmed (*procurement and supplies*). Disciplinary measures were imposed on those at fault, and corrective action plans were developed.

According to the 2019 hot line reports, in 3 cases the employees at fault were held accountable, one criminal case was initiated and closed against two employees of LLP KMG EP-Catering. No contracts with business partners were terminated for corruption-related violations.

With regard to conflicts of interests, the Company pays special attention as violations associated with conflicting interests may lead to reputational damage or financial losses for the KMG Group. Currently, the Policy for Settlement of Conflicts of Interest of the KMG and SAC Employees and Officials has been developed and approved in accordance with the Kazakhstan laws and best global anti-corruption practices. This Policy is a core item of any anti-corruption plan regardless of jurisdiction; it provides general concepts for conflict of interest management, schemes for settlement and prevention of conflicts of

interests, examples of conflicts of interests, conflicts of interest declaration, etc.

The Policy is expected to be applicable to subsidiaries and associated companies as well.

In addition, as part of implementation of the Compliance Risk Minimisation Plan the procedure for declaration of conflicts of interests by employees and officials is introduced and the Rules are approved for selecting and hiring employees, according to which the Fund group officials are to be checked for affiliation to job candidates and managers of the Fund group, in accordance with the Anti-Corruption Act, Joint Stock Companies Act, and Limited and Additional Liability Partnership Act.

When addressing the anti-corruption policy of the Company, one cannot forget about safeguarding sponsored and donated funds. Thus, in accordance with the Anti-Corruption Policy, KMG does not provide charity and sponsor support to the state authorities, commercial and non-commercial organisations, their representatives or other entities. KMG may provide a charity and sponsor support where it is approved by the Compliance Function and only by:

- Transferring the funds to Samruk-Kazyna Trust, the Social Projects Development Fund
- Giving obsolete assets for charity
- Providing assistance to low-income families when addressed to by local executive authorities.

An exception can be made when instructed by Samruk-Kazyna, which is the majority shareholder, to provide assistance for specific needs followed by a detailed report on intended expenditure.

In conclusion, it is worth mentioning the Memorandum entered into by JSC Samruk-Kazyna and Anti-Corruption Agency for cooperation to foster zero tolerance to corruption in any form and creating anti-corruption culture to guarantee that all anti-corruption activities in the Company are completed properly and efficiently.

ENVIRONMENTAL RESPONSIBILITY AND SAFETY AT THE WORKPLACE



Principle 7. Environment: Businesses should support a precautionary approach to environmental challenges

Principle 8. Environment: Businesses should undertake initiatives to promote greater environmental responsibility

Principle 9. Environment: Businesses should encourage the development and diffusion of environmentally friendly technologies



OUR PROGRESS

Environmental fees and costs

18.8
billion tenge



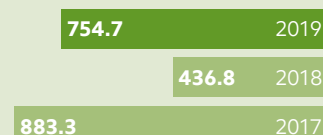
Level of beneficial use of raw gas

97%



Energy saving

754.7
thousand GJ



OUR APPROACH TO THE MANAGEMENT

GRI 103-1, 103-2, 103-3

HSE management goals are directly related to the Company Development Strategy. The KMG-2028 strategy includes strategic initiatives to improve environmental liability. Environmental priorities of the Company include management of greenhouse gases and reduction of flaring, water resource management, production waste management, land reclamation and increasing energy efficiency.

Based on the Strategy priorities, in 2019, the Company approved the Environmental Policy. Management of KMG and its subsidiaries and associated companies exercises zero tolerance to losses and damage due to environmental pollution. For instance, it is the first time that the Policy addresses such environmental aspects as climate, biodiversity, commitments to apply additional risk assessment for environmentally valuable sites, reclamation of polluted land, ensuring integrity of pipelines.

In 2015, KMG supported the World Bank's GGFR initiative intended to achieve zero regular associated petroleum gas (APG) flaring by 2030. As part of implementation

of the above initiative, in 2019, KMG approved the Emissions Management Policy. The Policy consists of eight key principles, of which six directly concern climate change, and is aimed at zero regular flaring.

The Group implements the KMG Safety and Environment Improvement Roadmap 2020, which includes basic

strategic environment and sustainability initiatives. Each year, the Company builds new disposal facilities, upgrades the existing units, invests in construction of pipelines and infrastructure, e.g. construction of the gas treatment unit package, Saryarka trunk gas pipeline.

Key Indicators of HSE Performance

HSE Management System

Health, safety and environment management system in KMG is based on best international practices and recommendations of the International Association of Oil & Gas Producers: IOGP, ISO 14000 and ISO 45001. The System consists of 10 areas and is supported by fundamental principles of leadership, achievement of goals, risk management and continuous improvement.

Since 2006, the quality, environment, health and safety management system as required by ISO 9001, ISO 14001 and OHSAS 18001 has been implemented in the Company's subsidiaries and associated companies. The entities with substantial energy consumption levels are ISO 50001 certified. Management systems are regularly verified to be effective by independent auditors.

To improve safety management, subsidiaries and associated companies of KMG are scheduled to certify their health and safety management systems under ISO 45001:2018, which supersedes OHSAS 18001:2007 by 2021.

The Company has three levels of HSE management system

- 1. KMG Board of Directors
- 2. HSE Committee at the KMG Management Board level

Contractors Coordination

The Company is committed to improvement of the criteria for selection of potential suppliers to guarantee high quality of work and complete transparency of the whole service cycle.

Corporate HSE contractor’s coordination standard in the KMG Group is an element of the Management System and includes requirements for contracts, including HSE

- 3. EHS Committees of subsidiaries and associated companies.

Since 2019, the Health, Safety and Environment Committee has been active at Samruk-Kazyna level.

The HSE reports are presented monthly at the KMG Board of Directors meetings, detailed information reports are submitted to meetings of the HSE and Sustainable Development Committee of the KMG Board of Directors.

agreements, HSE requirements and penalties for violation of such requirements, pre-mobilisation audit to ensure that contractor’s machinery and equipment, personnel are ready, assessment of the contractor’s HSE performance. Moreover, the Company regularly holds forums, meetings with potential service providers to discuss future partnership and HSE requirements applicable in KMG.

WORKPLACE SAFETY

GRI 103-1, 103-2, 103-3, 403-2

The KMG Group Health and Safety Policy is based on leadership and top management commitment to health and safety, and is intended to get each employee involved in development of the safety culture. Management of the Company and its subsidiaries and associated companies exercises zero tolerance to losses and damage due to accidents and incidents, abuse of alcohol, drugs, psychotropic and their equivalents, road traffic accidents. The Company’s commitment is to follow the national law alongside requirements of international and national standards.

The first SPE (Society of Petroleum Engineers) Caspian HSE Symposium included in the official Forum programme sponsored by KMG and supported by IOGP (International Association of Oil & Gas Producers) was held in September 2019 in Nur-Sultan as a part of the Kazakhstan Energy Week 2019. The Symposium was dedicated to health, safety, environment and social responsibility. Today, HSE in KMG goes hand in hand with increase in efficiency,

cost cutting, increased performance, profitability improvement, team motivation and social responsibility of the environment all oil and gas companies operate in. Having come a challenging way of formation and growth, we have finally moved from being a company, which bases its operations on the law only to become a proactive company, which applies best international and industrial HSE practices.

Getting to Zero was the topic of the Symposium, and concentrated on creating value/zero incident approach, active introduction of innovations and learning lessons in the developing business environment. We have explored how our industry may respond to and affect the emerging technical and social challenges in a reliable and sustainable manner. Moreover, we have studied opportunities offered by digitalisation and automation, and how our industry may use benefits and integrate innovations like these to supplement HSE, rather than to compromise it.

The raised topics also included rational use of environmental resources and sustainable development: management of water resources, waste handling, emissions management, community investments and longevity of social projects, human welfare, and how national oil companies should stand their ground to hold their rightful place in the energy mix.

The Symposium also addressed absolute leadership and safety culture, standards and norms, which form thinking, attitude and behaviour of employees. Workplace safety culture is defined by “how we work when we are not being watched”. We covered the definition of human factor as a new cause-effect factor for the industry, which sparked interest and raised many questions from the majority of attendees.


The Symposium brought together over 300 local, regional and international experts and practitioners from the Upstream, Midstream and Downstream sectors to share best practices, progressive approaches and innovative solutions to enhance HSE performance.

Pilot project “Near Miss Reporting/Qorgau Card” was launched in 2019 and focused on detection and correction of unsafe behaviour. The Near Miss Reporting Programme

will be aimed to define unsafe working conditions. This Programme will involve employees of all levels and will enable them to communicate their concerns, challenges and suggestions.

Review of the Land Transport Safety Management System revealed three improvement areas: training and qualification of drivers, vehicle monitoring system, GPS and journey management system. Resolution of the KMG Modernisation Board of 23 October 2019 approved initiation of Journey Management project under KMG Digital Transformation Programme to improve transport safety and enforce procedural framework, establish consistent requirements in accordance with the KMG Transport Safety Policy.

The Project will be focused on increasing transport safety by creating safe driving culture based on best international practices, and implementing state-of-art digital solutions and process automation. The Project will be implemented in 2020–2022. The Project will allow establishing consistent requirements for journey safety management for all land transportation, introduce centralised monitoring of the main metrics and use vehicles efficiently through implementation of analytical reports and corporate indicators



Getting to Zero are not just words, it is a particular, clear and tangible goal that we all, as representatives of the oil and gas sector, are facing today. This is what we all need to work on, each in his/her own company, yet together. This is what we need to improve continuously and always search for new methods. All to achieve the ultimate workplace safety. Because the priority of human life and health is higher than any performance figures.

Caring about safety of employees starts out small: from improving working conditions and workplaces. KazMunayGas strives for meeting the highest safety standards; we do our best to make this culture wax in size and strength.

A. Aidarbayev

Chairman of the Management Board JSC NC “KazMunayGas”
at the 1st HSE Symposium, Nur-Sultan, 24.09.2019

Key Indicators in 2019

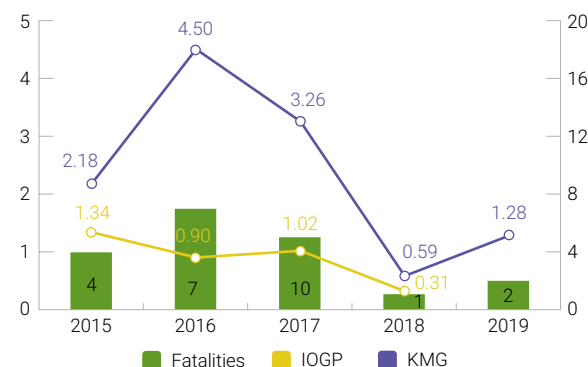
Life and health of our people is our priority, that is why we will never stop working on our goal to achieve zero accidents, i.e. 100% safety. In the past 5 years, we have achieved considerable improvements in our health and safety performance. Our employees note how safe working conditions are created and how the highest standards are introduced to protect themselves, their colleagues and people around. However, we still have room for improvement. To our great regret, in the second half of 2019, we lost two of our employees through a road traffic accident and fire.

- Injury rate: 0.31 (compared to 0.32 in 2018)
- Violations of the Golden Rules reduced by 23% as compared to 2018 (47/36)
- Arm and hand injuries reduced by 57% as compared to 2018 (21/9)
- The KMG CC audit plan was fulfilled (15 out of 15 SACs and facilities)
- Ten corporate HSE guidelines were approved.

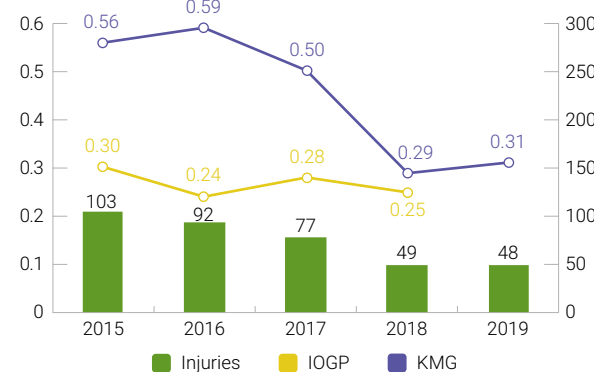
2019 versus 2018

Key indicators	2018	2019	Changes
Occupational fatalities	1	2	+1
Non-occupational fatalities	21	13	-8
Lost time accidents	48	46	-2
Major lost time accidents	9	8	-1
Total RTA	66	44	-22
Major + catastrophic RTA	11	13	+2
Driving injuries	9	10	+1
Violations of the Golden Rules	47	36	-9
Fires	12	10	-2

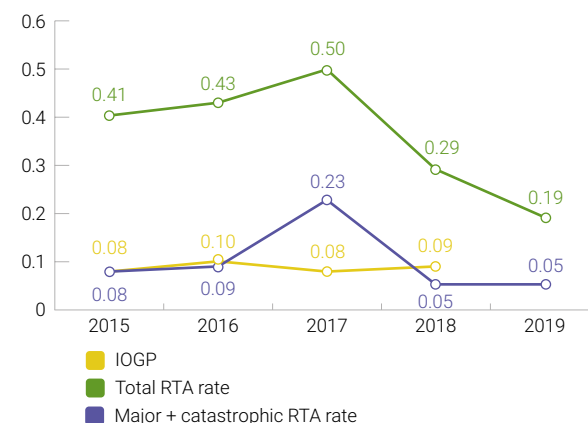
Fatality rate (per 100 mln m/hr)



Injury rate (per 1 mln m/hr)



Road traffic accident rate



OCCUPATIONAL HEALTH AND WORKPLACE HYGIENE

GRI 103-1, 103-2, 103-3, 403-1, 403-3, 403-4

KMG and its SACs manage occupational health and workplace hygiene issues in compliance with the Kazakhstan laws: RK Labour Code, Health Code, Sanitary Rules and Instructions as well as international requirements for occupational health and workplace hygiene.

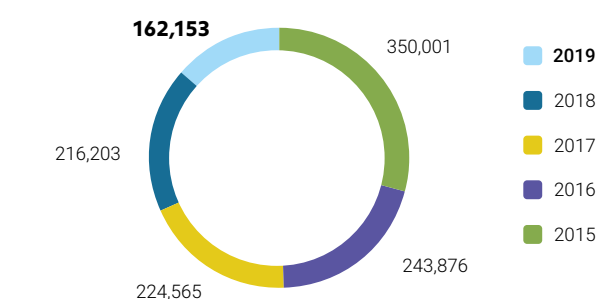
In 2019, the number of sickness absence days of SAC employees was 162,153, which is 54,050 days or 24.9% less than in 2018. The non-occupational death rate for SAC employees decreased by 8 or 38.0% compared to 2018.

In 2019, KMG's "Heart Attack and Stroke Prevention" corporate health campaign was developed and is being implemented. The campaign aims at preventing and reducing the heart disease-related death rate among employees. Implementation of the "10 Steps to Improve Health" initiative, "KMG Group Emergency First Aid Regulations" and "KMG Group Occupational Health and Workplace Hygiene Corporate Standard" is being controlled and monitored. The Standard is primarily aimed at establishing uniform requirements for occupational health and workplace hygiene management that are based on the employee health risk assessment.

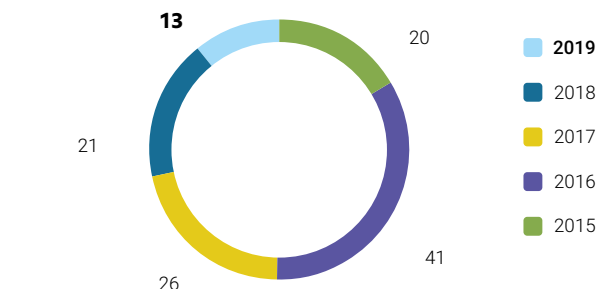
To ensure improvement and efficiency of the occupational health and workplace hygiene management, the following activities were carried out:

- Comprehensive audits of SACs with the involvement of SAC specialists included into the KMG occupational health and workplace hygiene functional group, for sharing experience purposes.
- Emergency first aid drills at EMG, KGM, KTO and Atyrau Refinery with the involvement of a specialised healthcare provider and government emergency response agencies.
- A training (seminar) for the SAC occupational health and workplace hygiene specialists in "Occupational Pathology and Workplace Conditions Compliance Certification" (Atyrau) was organised and conducted.

Number of sickness absence days



Number of non injury-related fatalities



As part of implementation of the KMG Safety and Environment Improvement Roadmap 2020 as approved by the Resolution of the Management Board dated 27.09.2016 (Minutes No. 39), the KMG corporate health improvement programmes aimed first of all at reducing the burden of disease and non-occupational death rate among employees are being gradually implemented.





Activities in the following priority areas are scheduled for 2020:

1. Introducing the key corporate document — KMG Group Occupational Health and Workplace Hygiene Corporate Standard, including tools to assess the current level of the management system, inter alia, to assess risks, equipment and facilities at first aid stations, preparedness for emergency medical response. Such tools will serve as a basis for developing management system improvement measures.

2. Conducting audits at SACs to control and monitor occupational health and workplace hygiene.

3. Organising an emergency first aid drill within the KMG Group at the premises of MMG, ICA, POGR, KBM.

Organising and conducting a training (seminar) for the SAC occupational health and workplace hygiene specialists.

INDUSTRIAL SAFETY

OG13

In 2019, a benchmark of the Tier 1 Process Safety Event Rate (PSER) was performed for KMG's process safety against international oil producers that are members of the International Association of Oil & Gas Producers (IOGP). This rate for the IOGP Group is 0.17, which is much lower than KMG's rate for the Exploration and Production business line being 1.76.

In the meantime, in 2019, the volume of oil spills for Exploration and Production increased by 15% compared to the previous year and amounted to 646 tonnes, while the last year's figure was 741 tonnes. These are the results of continuing implementation of the Exploration and

Production SACs field pipeline reliability improvement programmes aimed at worn-out pipeline replacement and pipeline corrosion protection through inhibition. In 2019, 3 man-made non-fatal accidents occurred at the Company's production facilities. By their nature, these accidents are classified as well out-of-control with subsequent gas and water ingress, and in one case ignition took place.

On 13 March 2019, man-made gas and water ingress occurred in the process of well construction on a problem site of Kalamkas Field. From 13 to 24 March, specialists were engaged in well flushing with weighted drilling mud

as well as remedial cementing to eliminate gas springs. On 25 March, in spite of the efforts taken, the gas and water blow-out source combusted. On 28 March 2019, the gas spring ignition source extinguished spontaneously. No fatalities or injuries were reported. The associated water spill area was about 1.5 km². The distance to the Caspian Sea protection dyke is 4.5 km, which prevents associated water spilling into the sea. The population was not affected, as the field is remote from settlements (the nearest Shebir village is more than 70 km away). Government authorities collected out of schedule the air and soil samples at the border of the field sanitary protection zone and sea water samples from

the Caspian Sea near the field. No excess of maximum permissible concentrations of pollutants was found in the samples collected.

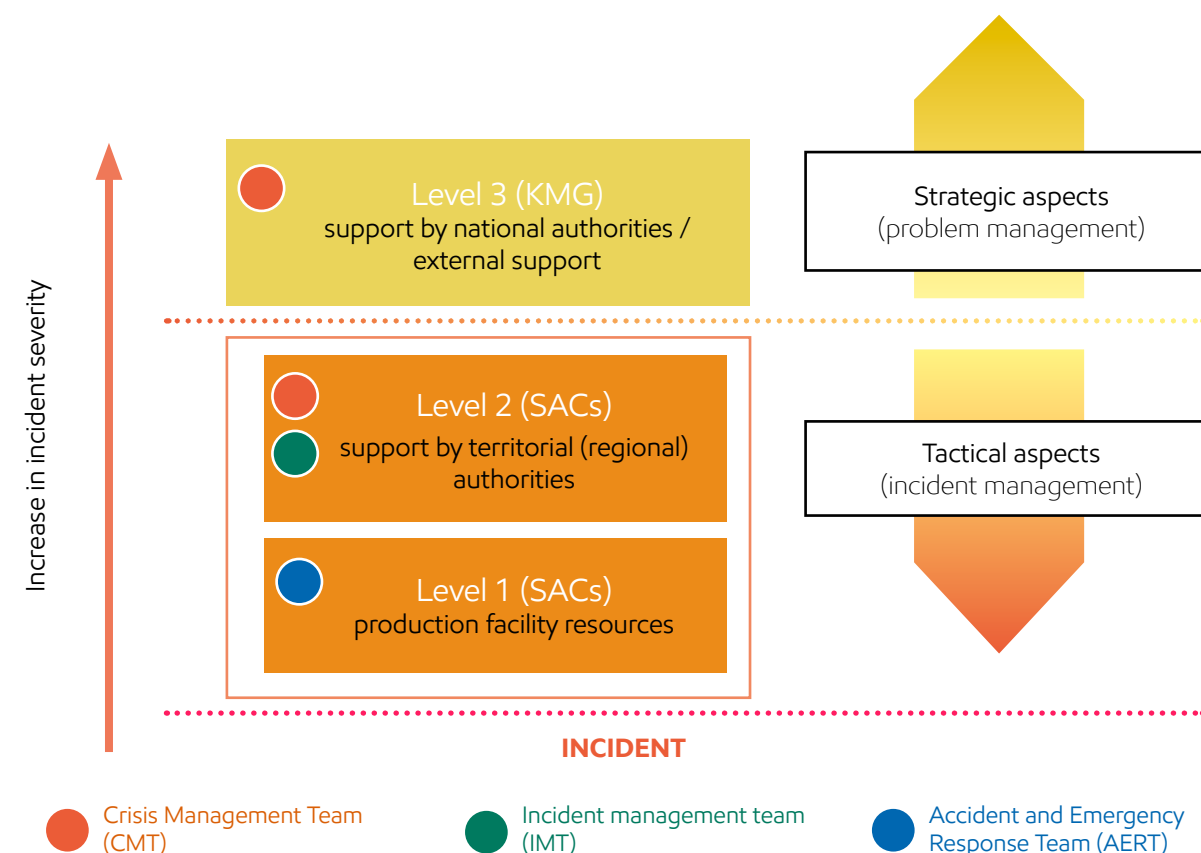
In August and October 2019, two cases of gas and water ingress and gas ingress with subsequent underground equipment blowout occurred in Atyrau region.

The Company performed a range of recovery operations. The analysis of the lessons learnt enabled elaboration of a plan of remedial actions to ensure the quality and safety of further well drilling.

Emergency (Crisis) Response Preparedness

In order to ensure prompt response, prevent the escalation of possible crisis situations, minimise the severity of consequences and probable loss, if any, the Crisis Management System was introduced. The KazMunayGas Group employs a three-level management system that ensures the escalation of incident response from the level

of a production facility and subsidiary up to the level of strategic crisis management by the corporate centre. In 2019, the first drill was held by the Crisis Management Team. In-house training in the crisis management system is conducted within SACs.



ENVIRONMENTAL PERFORMANCE

GRI 102-11, 103-1, 103-2, 103-3

We are aware of our responsibility to the society for the efficient use of natural resources and preservation of favourable environmental conditions within our footprint to take extensive measures aimed at reducing and minimising our environmental impact.

KMG ranked first in the Eurasian Environmental Transparency Rating of Oil and Gas Companies 2019 organised by the World Wide Fund for Nature (WWF) of Russia and the CREON Group in partnership with the United Nations Environment Programme (UNEP), CREON Capital and the National Rating Agency (NRA). By taking the lead for the third year in a row, the Company confirmed its title of Kazakhstan's most environmentally transparent and responsible company.

The purpose of the rating is to promote reduced environmental load, effective use of hydrocarbon resources, and socially responsible business practices.

From 2019, the rating extended its coverage and became a Eurasian one, comprising companies of Russia, Kazakhstan and Azerbaijan. Uzbekistan and Turkmenistan are to be included at the next stage. The rating covered 14 Kazakh oil and gas companies with their volumes of hydrocarbon production exceeding half a million tonnes.

Beyond that, a separate survey was conducted among KMG's 17 subsidiaries (with a share of no less than 50% and compliant with other rating requirements). Moreover, the rating included not only upstream assets, but also companies engaged in refining and transportation with JSC Intergas Central Asia and JSC Embamunaygas taking the lead.



"The Company is consistent in improving its environmental performance. The activities taken to increase the beneficial use of associated petroleum gas allowed to reduce significantly pollutant and greenhouse gas emissions into the air, activities to dispose of waste, including historical waste, and to reclaim contaminated lands are being implemented. The programme activities being implemented and planned will promote the reduction in water consumption from surface water sources and improvement of the waste water qualitative composition. A desalination plant is under construction in Mangystau region. A Memorandum of Understanding and Cooperation was signed with the Zhanaozen Akimat for the construction of a desalination plant near the Kenderly recreation area. Integrated waste water treatment at ultra-filtration and reverse osmosis plants enables the Refineries to save up to 1.5 million m³ of fresh water per year, which was earlier taken from the municipal water supply systems. Therefore, KMG contributes to preserving favourable environmental conditions within its footprint," says Kairat Saktaganov, Managing Director, Health, Safety and Environment.

Top-priority Environmental Projects

- Liquidation of historical contamination as well as liquidation of negative environmental impact sources (idle wells, waste water collectors, landfills and other production facilities).
- Reduction in environmental emissions by improving process solutions, for example, replacing heating oil with heating/natural gas used as fuel in process furnaces, using new generation additives, planting and developing the territories of production facilities, replacing equipment, extending gas refining capacities, constructing gas refining plants, etc.
- Reduction in pollutant emissions: Tazalyq project: upgrade of waste water treatment facilities of Atyrau Refinery and remediation of Tukhlaya Balka evaporation ponds.
- Overhaul of the cooling tower to increase the volume of fresh technical water by 3,000 m³; improvement of the performance of treatment facilities.

Within the framework of the NAMA climatic project, KTGO also plans to further increase the share of gas motor vehicles and specialised machinery within its own fleet as part of the "Transition of Motor Vehicles from Traditional Fuel (RON Petrol, Diesel Fuel) to CNG (Fleet Upgrade)". From 2020 to 2024, the share of gas vehicles (Euro 3 class and higher) is expected to grow up to 35 percent following the fleet structure upgrade. Improvement of the fuel consumption structure and vehicle class by upgrading (purchasing new) 16 vehicles using LPG and 46 vehicles using CNG will significantly reduce hazardous substance emissions by KTGO vehicles. In 2018, the volume of hazardous substance emissions from vehicles was 17,962 tonnes, while in 2024, after implementation of the scheduled activities that will require some KZT 600 million for the entire five-year period; these emissions could be reduced to 17,144 tonnes/year or by 4.6% accordingly.

In accordance with the precautionary principle (Principle 15 of the Rio Declaration on Environment and Development adopted by the United Nations in 1992) as well as requirements of our management system and requirements of the RoK laws, an environmental impact assessment (EIA) is conducted prior to implementation of each project to identify environmental and other effects of managerial and business decision choices, elaborate recommendations for environmental enhancement, prevent the destruction, degradation, damage and depletion of natural environmental systems and natural resources. Further, public hearings with the participation of stakeholders'

representatives — administrative, government and controlling authorities, research organisations, public associations, local communities, mass media — are conducted at the designing stage of each project. We ensure access to draft EIAs for all stakeholders, accept and keep record of comments and suggestions. All draft EIAs of the KMG Group are subject to the state environmental expert review and are available to the public concerned on the Company's official website and on the websites of local authorities throughout the entire life cycle of the project. In 2018–2019, 77 meetings with the local community and public organisations were held, including 27 meetings in 2019 and 50 in 2018. Following the public hearings, appropriate measures are taken with account of the recommendations and opinions of the stakeholders.

To effectively manage environmental risks, the Company is permanently improving its approaches to environmental management and allocates necessary resources for environmental protection.

Environmental costs include taxes on permitted emissions, cost of environmental activities, insurance, compensatory environmental measures, investments to prevent environmental impact, etc. We increased the budget for historical waste treatment and contaminated land remediation. Investments in waste treatment increased 3 times since 2015 and make up over a third of all environmental costs. At the same time, a reduction in air pollutant emission fees is observed. Environmental costs amounted to KZT 18.8 billion in 2019, which is KZT 2.4 billion more than in 2018.

Dynamics of environmental fees and costs, KZT bln



Use of Energy Resources and Energy Efficiency

GRI 103-1, 103-2, 103-3

The continuation of energy efficiency activities is seen by our Company as one of the environmental protection and productivity enhancement tasks. The Corporate Centre collects and analyses energy consumption and energy efficiency data, monitors the progress and identifies areas for improvement, performs a benchmarking against the previous period and the performance of peers (IOGP).

The Company's activities in the field of energy conservation and energy efficiency are based on the methodology of ISO 50001 Energy Management Systems, which is the best generally recognised international practice for system management in this area.

From 2017 on, KMG employs the Road Map 2017–2020 for Energy Conservation and Energy Efficiency for KMG Subsidiaries and Associated Companies,

including Jointly-Controlled Entities and Joint Ventures. The objectives of the Road Map for Energy Conservation include:

- Increasing responsibility of the top management, introducing energy efficiency KPIs for managers in charge of energy conservation and energy efficiency
- Ensuring the efficient use of energy resources
- Reducing the payment burden by increasing the energy efficiency of energy conservation activities
- Ensuring the energy efficiency while procuring construction, reconstruction, overhaul of energy equipment
- Raising private investments for increasing energy efficiency, including under the terms of performance contracts (agreements)
- Improving the energy efficiency compliance and index monitoring system
- Complying with the legislative requirements for energy conservation and energy efficiency.

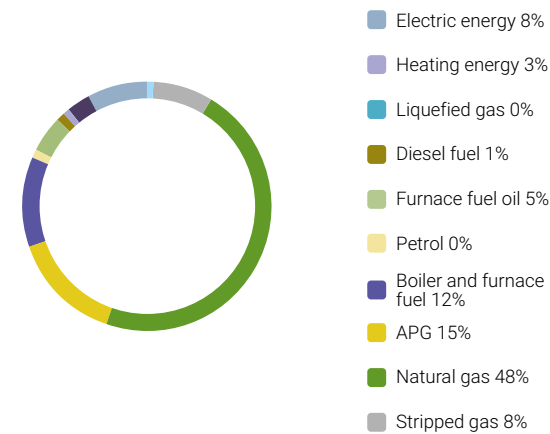


Energy Consumption

GRI 302-1

A total of 182.8 million GJ of fuel and energy resources were consumed in the reporting year — a 9% increase compared to 2018, of which 12.7 million GJ of electric energy, 4.7 million GJ of heating energy, 1.7 million GJ of motor fuel, 163.7 GJ of boiler and furnace fuel were consumed. The energy consumption volume is distributed among three business processes — Oil and Gas Production, Oil and Gas Transportation, and Oil and Gas Refining.

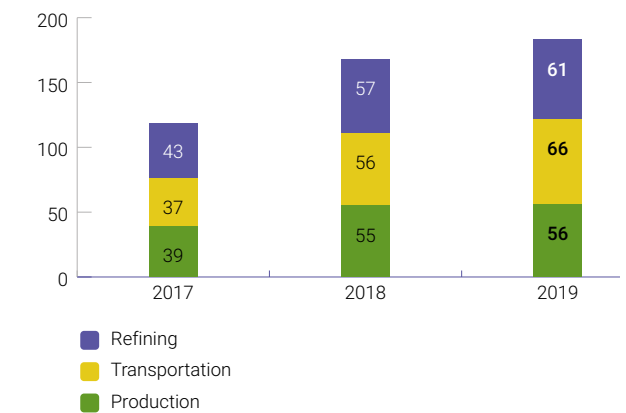
Energy consumption by types, %



The increase in energy consumption compared to 2018 is first due to the expansion of operations and commissioning of new processing units to increase the oil refining efficiency and natural and associated gas consumption for own needs.

In 2019, own generated energy for the KMG Group amounted to 642.8 million kW of electric energy and 3,850.6 thousand Gcal of heating energy.

Share of energy consumption by business lines, million GJ



Energy Consumption Outside the Organisation

GRI 302-2

We are currently keeping record of energy consumption within the organisation only, so the Report does not reflect the energy consumption outside the organisation.

Reduction in Energy Consumption

GRI 302-4

Though energy consumption generally grows within the KMG Group due to the increased oil refining efficiency and increased water-cut, we pay much attention to improving processes and increasing their energy efficiency. Saving fuel and energy resources is one of the KPIs of the Road Map for Energy Conservation and Energy Efficiency within the KMG Group. The Road Map is developed to ensure the efficient use of energy resources, reduce the payment burden resulting from the increased energy efficiency, and enhance management involvement in energy efficiency issues as well as to comply with legislative requirements for energy conservation and energy

efficiency. It should be noted that relevant activities being carried out cover our SACs that are included into the State Energy Register in Kazakhstan. For example, 14 KMG SACs, including oil and gas production, transportation and refining assets are included in the Register.

The main strategic development areas of energy conservation and energy efficiency of the Group are upgrading process equipment, introducing energy saving technologies, optimising heating energy generation and consumption as well as developing own generation sources, including those with the use of raw gas.

In 2019, 69 energy conservation and energy efficiency activities were implemented, the planned annual saving of fuel and energy resources is 0.8 million GJ, which in kind is 11.3 million kW of electric energy, 91.3 thous. Gcal of heating energy, 8,508 thous. m³ of natural gas.

This year, the energy audit of JSC Embamunaygas and JSC Karazhanbasmunay has been started, bidding procedures for 2020 energy audits of JSC Ozenmunaygas, JSC Mangistaumunaygas, LLP Kazakhturkmunay, LLP Kazakhoil Aktobe, LLP Pavlodar Refinery, LLP PetroKazakhstan Oil Products and JSC Intergas Central Asia are in place. Following the energy audits, energy conservation and energy efficiency activities to be implemented within the next 5 years will be suggested.

The refineries continue studying the current refinery development level compared to the best global refineries

Renewable Energy Resources

OG3

Renewable energy sources (hereinafter — RES) introduced in KazTransGas subsidiaries and associated companies during previous years perform effectively: Waterkotte geothermal pumps; single-crystal solar panels (batteries); closed cycle vapour turbogenerators.

The total volume of renewable energy generated (produced) in 2019 by the KMG Group broken down by sources:

using the methodology of HSB Solomon Associates LLC (hereinafter — Solomon). The Solomon study is aimed at identifying the key indicators — Solomon indices — of the refineries on a comparable basis, i.e. how efficiently the existing capacities are used. The efficiency indicators are designed to compare refineries similar in size and configuration and are better to be used for prompt comparisons, enabling to compare the performance (both production and economic) of a refinery with the performance of other refineries in various groups.

Further, the upstream assets plan to introduce fiscal and technical electric energy metering as part of the Continuous Production Improvement System projects. The completion of this project will cut electric energy costs through the arrangement of reliable technical metering, efficient electric energy distribution and consumption.

- Geothermal energy generated by heating pumps — 623.808 Gcal
- Electric energy generated by solar panels — 96,377 kW-hour in total (7,884 kW-hour + 88,493 kW-hour)
- Electric energy generated by closed cycle vapour turbogenerators (Rankine cycle) — 240,900 kW-hour.

Energy Intensity

GRI 302-3

In 2019, the Group average specific energy consumption for hydrocarbons production was 2.4 GJ per tonne of produced RWC (2.38 GJ in 2018), which is still 60% higher compared to the figure of the International Association of Oil & Gas Producers being 1.5 GJ per tonne of produced hydrocarbons in 2018. Growth of specific energy consumption for oil production is first due to the increased water-cut at mature fields, since the increased water-cut increases the specific density of produced liquid

and, accordingly, the consumed energy for mechanical production methods.

In 2019, the Refinery average specific energy consumption for Oil Refining was 3.7 GJ per tonne (3.5 GJ in 2018). This is 19% higher than that of the European refineries, which is first due to the severe climatic conditions at the Refineries' location.

Use of Water Resources

GRI 103-1, 103-2, 103-3

Water is an integral part of all KMG production processes. In its operations, the Company endeavours to reduce water consumption, increase the efficient use of water resources, build up water reuse and recycling, improve the quality of waste water and minimise the impact on natural water bodies.

The KMG Group's water use activities are consolidated in the Corporate Centre, where the Company's overall impact on the country's water resources is analysed. The Corporate Centre also analyses achievements, problems, risks and identifies areas for improvement, objectives and tasks for further activities, performs

a benchmarking of the water consumption dynamics and spacing.

In 2018, the Company adopted the corporate water resources management standard (hereinafter — the Standard) that will be gradually introduced in the Group during subsequent years. The Standard sets out KMG's key water use principles — 8 Water Principles, systematises the water management approach of KMG's subsidiaries and associated companies as well as helps increase the commitment of the Company's managers and employees to saving fresh water.

LLP PetroKazakhstan Oil Products

The completed upgrade of treatment facilities has improved the efficiency of industrial waste water treatment, for oil products and suspended substances — from 76% to 98%, which decreases the environmental burden through the reduction in environmental emissions.

Extra waste water treatment stages were added to the ultra-filtration and reverse osmosis plants. The treated waste water is used in the recycling water supply system and meets the regulatory requirements. Integrated waste water treatment at the ultra-filtration and reverse osmosis plants enables to save up to 1.5 million m³ of fresh water per year, which was earlier taken from the municipal water supply systems.

In 2019, the volume of returned treated waste water and reused industrial waste water amounted to 882,721 thous. m³, including 645,430 thous. m³ returned to the fire fighting

system. Fresh water is saved for KZT 184 million. After integrated treatment at the ultra-filtration and reverse osmosis plants, 237,291 thous. m³ of treated waste water were used to make up the recycling water supply unit, which enabled to save the equivalent volume of fresh technical water.

LLP Atyrau Refinery

One of the key environmental protection activities currently implemented by Atyrau Refinery is the Tazalyq project comprising:

1. Reconstruction of mechanical treatment facilities, 2019–2022
2. Reconstruction of biological treatment facilities and construction of a post-treating unit, 2019–2023
3. Reconstruction of Atyrau Refinery evaporation ponds, 2020–2022. Remediation of disturbed lands and construction of an underground pipeline to replace the open channel are planned.

Upgrade of the treatment facilities will help reduce water withdrawal from the Ural River through the use of a multistage waste water treatment system, which will remove up to 99% of pollutants from waste water and, accordingly, increase many times the water reuse and return up to 50% of treated waste water to operations. This project will enable to stop the operation of evaporation ponds, eliminate the impact on ground water, flora, fauna and the air in Atyrau. The project is to be completed at the end of 2023.



Construction of Desalination Plants

A desalination plant is planned to be constructed near the Kenderly recreation area in Mangystau region. The capacity is expected to be 50 thousand m³ of water per day. Currently, Zhanaozen is supplied with drinking water from a distance of 2,000 km by transportation of Volga water from the Kigach River.

As is known, the problem of water supply in Mangystau region is very urgent, as the region is located in the semi-desert area with limited water resources. Apart from oil and gas producing companies, the Astrakhan — Mangyshlak water pipeline provides Volga water to the population, industrial facilities, utility and government-funded organisations, agricultural producers. However, water consumption volumes grow as the population grows and new enterprises come into being, therefore the water pipeline capacities are insufficient, despite improvements in the drinking water supply system.

Besides, KMG provides the region with water not only through the pipeline but through the desalination plants as

well. Currently, a desalination plant is under construction at Karazhanbas Field, which will help release at least 17 thous. m³ of Volga water per day.

Conducting its operations in the region and realising its responsibility, the KMG Group is interested in gradual social and economic development of Mangystau region. The construction of desalination plants will have a positive effect on the population of not only Mangystau region but of Atyrau region as well.

In 2019, KBM started construction-and-assembly works for the desalination plant. The plant is planned to be commissioned in December 2020. The desalination plant is designed to treat and dispose of reservoir water and supply with technical water in order to increase the reservoir recovery at Karazhanbas Field by steam injection into the reservoir. This is going to be Kazakhstan's first plant powered by foreign technologies and foreign investments.

Water Footprint

GRI 303-1, 303-2, 303-3, 306-1, 065

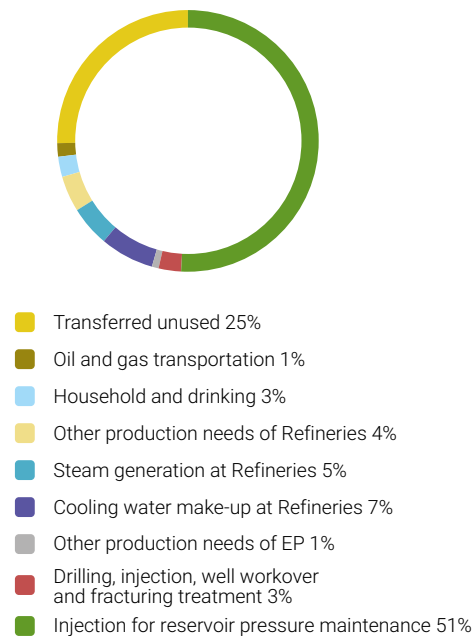
The total water withdrawal of the KMG Group in 2019 amounted to 93.609 million m³ and remained at the same level (2018: 93.660 million m³).

Water withdrawal for Upstream Operations has grown since 2018 because more sea water is taken to maintain reservoir pressure, and more water is consumed for production.

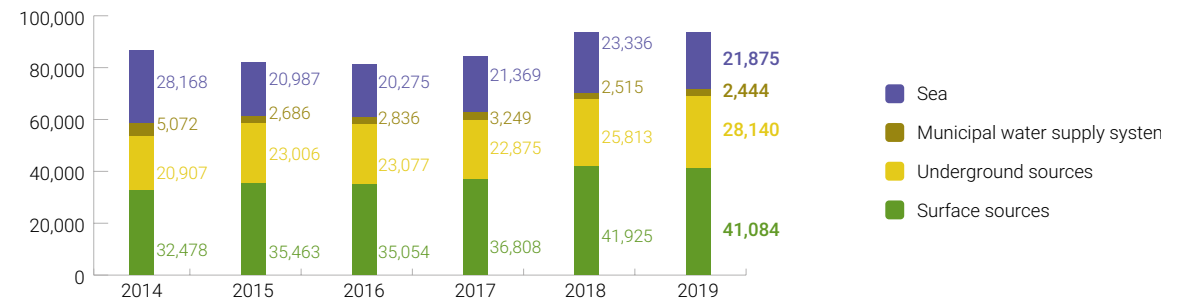
Midstream water withdrawal has grown since 2018 as a result of refinery upgrades that were completed, and consequential increase in oil refining capacities and depth.

In 2019, the Group discharged 10.980 million m³ of waste water (10.847 million m³ in 2018). Waste water from KMG entities is mainly sent to (and end up in) various dedicated receivers: collection ponds, evaporation ponds and filtration beds. These facilities are engineering structures intended to treat waste water naturally and avoid environment pollution. Entities that have no own reservoirs have their waste water treated and disposed of by special companies. Discharged water quality standards established by the environmental law are achieved by mechanical and biological waste water treatment.

Use of water resources by types of operations within the KMG Group in 2019 — 93.6 mln m³



Water withdrawal for the KMG Group by sources, thous. m³



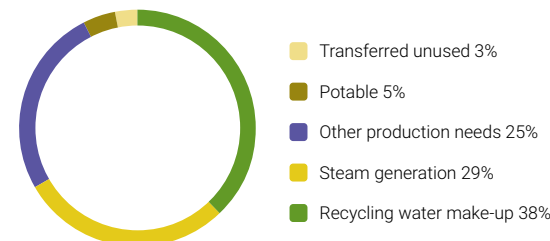
Retreated water is reused to wash vehicles, suppress dust and make up fire fighting systems. Considerable portion of treated waste water is only reused by refineries, thus, 3.2 million m³ of treated waste water was reused in 2019 (4.1 million m³ in 2018); the water was mainly used to make up recycling water supply units. KMG plants reused 19% of water, which is below the level achieved in 2018 by 7% (of Midstream water withdrawal).

Volume of water reused in 2019 dropped against 2018 due to generally lower water consumption by units of POOR.

Circulation volumes in recycling water supply systems of KMG Refineries

	2015	2016	2017	2018	2019
Recycling water, mln m ³	293.2	320.8	331.9	360.1	424.1

Water resources used by Midstream operations in 2019, 16.2 mln m³



AR reused less water because less waste water was used to make up cooling towers as the treated waste water at biotreatment facility outlet contained salt, and completely stopped using treated waste water to irrigate sanitary protection zones, as the sanitary protection zone covered alkali soils and was naturally saline.

After the advanced treatment unit of the biotreatment plant is upgraded in 2023, 50% of treated waste water is planned to be reused.

In 2019, the recycling water supply systems of KMG Refineries used (circulated) total of 463 million m³ of water (399 million m³ in 2018).

Recycled water circulation in 2019 increased against 2018 as the result of new units being commissioned after refineries upgrade.

Oil production generates large volumes of so-called produced associated water: water-oil emulsion is drawn to surface, which is then separated into water and oil by gravity. After settling in this manner, water is injected to the reservoir.

Out of 129.1 million m³ of associated water produced in 2019, 99% was re-injected to maintain reservoir pressure, and only 1 % was re-injected in absorbing wells. The fact that volumes of produced associated water are substantial and gradually increase suggests that oil reservoirs are depleting (watered out). In 2019, 47.763 million m³

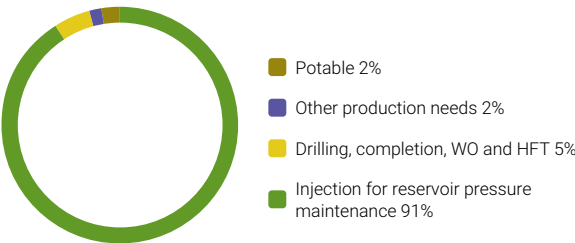
of water from other sources (19.4 million m³ of sea water, 6.5 million m³ of Volga water and 21.8 of underground water) was additionally injected to maintain reservoir pressure.

Water injected to reservoir to maintain reservoir pressure

	2015	2016	2017	2018	2019
Produced associated water, mln m ³	121.9	123.2	124.4	124.4	129.2

The Company has a considerable impact on water bodies in the west of Kazakhstan (Ural River, Kigach River,

Water resources used by types of operations for Exploration and Production in 2019, 52.4 mln m³



Kokzhide Sands, Pyatimarskoe Reservoir), which have special environmental, economical, historical and cultural, recreational value. Regular monitoring is implemented to prevent adverse impact on susceptible ecosystems.

Conservation of Biodiversity and Environmental Monitoring

GRI 103-1, 103-2, 103-3, 304-1, 304-4, 306-5, OG4

We understand that biodiversity is the key to environmental well-being.

According to UN GC Principles 7 and 8: “Businesses should support a precautionary approach to environmental challenges” and “Businesses should undertake initiatives to promote greater environmental responsibility.” Further, SDG 14 and SDG 15 aim to “conserve marine and terrestrial ecosystems.” Accepting responsibility and demonstrating its commitment to the UN GC and SDGs, KMG works on conserving biodiversity within the Company footprint and minimising effects of its operations on flora and fauna.

Biodiversity management is based on the following key principles:

- Identification and assessment of environmental and social risks and impact. To achieve this, when planning our future activities we evaluate potential impact on biodiversity.
- According to international practice, to monitor changes in environmental situation in the contract territories during exploration and development of oil fields, and to evaluate and specify potential damage to biodiversity, regular environmental monitoring focusing on specially protected natural sites and conservation areas.
- Implementation of precautionary and preventive activities and measures to reduce impact, and, where residual impacts remain, remedial activities to compensate for consequences of adverse impacts.
- Continuous improvement of HSE management system.

KMG Upstream SACs which operate onshore continuously monitor flora and fauna. The following studies take place to collect data on condition of natural sites:

- Floristic studies
- Ornithological studies
- Observations of land mammals.

Vegetation is monitored by periodic description of phytocenoses including species composition, abundance, general and individual projective cover of soil, arrangement, phenological development and general condition of species. The areas of focus:

- Rare, endemic and relict plants
- Presence of species stimulated for development by economic activity
- Signs of transformation or degradation of vegetation.

Environmental features of habitat with various man-made impacts, including pollution, are also described.

Fauna monitoring defines the following fauna categories: common species, predominating species, endemic and rare species recorded in the Red Book of Kazakhstan; potentially endangered and vulnerable species; migratory, non-migratory and nesting birds. Recorded and noted are bird nests, how animals are spread across the observed area of a field. Fauna observation evaluates habitable conditions, reproduction opportunities, food reserves, the presence and nature of the mammals’ shelters, birds and reptiles, amphibians.



Golden eagle

Photo M. Pestov

Close attention is paid to establishing species composition, number of rare and endangered faunal and floral forms listed in the Red Book of Kazakhstan and IUCN.

On 12 August 2018, during the Fifth Caspian Summit in Aktau, the Republic of Azerbaijan, the Islamic Republic of Iran, the Republic of Kazakhstan, the Russian Federation and Turkmenistan signed the Convention on the Legal Status of the Caspian Sea (hereinafter – the Convention), which was ratified by the Republic of Kazakhstan on 8 February 2019. In accordance with the Convention, all Caspian bordering countries strive for creating favourable conditions to develop mutually

beneficial economic cooperation in the Caspian Sea region. Considering that exploration and production of hydrocarbons is an important part of economic development of the Caspian bordering countries, and promotes better human welfare, conserving environmental balance and unique Caspian Sea ecosystem becomes of special importance. Among other things, the Convention prioritises environmental issues, more specifically, it obliges all Caspian bordering countries to “protect and conserve ecological system of the Caspian Sea and all its components.” According to the Convention, “ecosystem of the Caspian Sea is interacting components of air, water and biological organisms, including human beings, within the Caspian Sea and parts of the land affected by the proximity of the Sea.”

As part of ensuring compliance with the Kazakhstan environmental law and guided by the particular importance of the Caspian Sea, oil operations in the Kazakhstan sector of the Caspian Sea provide for baseline environmental studies including such components and parameters of the environment as bottom sediments, benthos, phytoplankton, zooplankton, marine vegetation, ichthyofauna and so on.

KMG also manages potential risks of adverse impact on biodiversity from accidents, and provides for activities to conserve animals as part of their Oil and Oil Products Spill Response Plans.

In our offshore operations, we strictly adhere to the following principles:

- Strict compliance with design solutions,
- Zero discharges — all wastes and waste water are removed to land
- Fish protection devices for all floating crafts, no bilge water
- Operations are prohibited during spawning season from 1 April till 15 July
- Fishing using industrial vessels is prohibited
- Well testing and raw hydrocarbons combustion are prohibited at night
- Special usage conditions.

Protected Natural Areas within Our Footprint and Affected Species of Flora and Fauna

North Caspian republican conservation area

North Caspian is the most productive part of the Caspian Sea. This part of the sea is rich with bioresources. There are 25 species of main commercial fish species, of which the most valued are sturgeons with 70–80% of the global reserve living in the sea basin.

Eastern area of the North Caspian with deltas of Volga (within Kazakhstan) and Ural is a part of the State Conservation Area in the North Caspian. Wetlands of the North Caspian, particularly deltas of Volga, Ural and Emba, and the adjacent coast and the sea itself are essential for Eurasia and support millions of water birds

and semiaquatic birds during nesting, moulting, seasonal migrations and wintering. One of the largest Eurasian flyways, the Siberia — Black Sea — Mediterranean Sea flyway, crosses the North Caspian.

According to the baseline studies, more than 70 bird species (including 5 rare species listed in the Red Book of Kazakhstan) migrate through open areas of the North-East Caspian 20–60 km away from the shore. Little egret, spoonbills, pelicans, whooper swan, ferruginous duck and great black-headed gull are nesting near the shore. Swampphen, white-tailed eagle and osprey are also observed flying.

Land cenoses are nesting grounds for 5 species listed in the Red Book of Kazakhstan. Steppe eagle is the most common one. As for rare birds, avocets, oystercatcher, little egret may be observed in these areas.



The only large marine mammal (pinnipeds) of the Caspian Sea is Caspian seal (*Phoca caspica*). It is an endemic mammal species. Seals are spread all across the Caspian Sea, although they vary in number in the North part depending on a season. Seasonal distribution of animals across the sea area is based on three main phases of the annual cycle: reproduction, moulting and feeding. Reproduction grounds are in the North Caspian,

which freezes in winter. During feeding period from April till September, seals mainly stay in the Middle and South Caspian. In summer, only a few animals (about 30,000) remain in the North Caspian, the majority of population move to the deeper and colder South Caspian. They migrate to the North shallow waters in the late autumn, where water starts to freeze. The majority of population gathers in the North Caspian in October — November.

This area is essential to conserve biodiversity in Kazakhstan and the entire Eurasian continent and it needs to be continuously monitored and timely protected. From the very beginning of its operations in the North Caspian, KMG has focused on protection of environment of the region.

Republican Novinsky State Natural (Faunal) Reserve was established to create better conditions for reproduction of flora and fauna, including species listed in the Red Book of Kazakhstan. Protection status: a reserve.

Zhambyl is in the northern part of the Caspian Sea. The contract territory is within the Caspian Sea conservation area, and a part of it covers Novinsky Reserve, although industrial sites do not affect environmentally sensitive areas. This area has restrictions for production operations during the most environmentally sensitive period. Over the period under studies, there were no recorded abnormalities in natural conditions, environmental situation or unnatural factors, which would cause concerns or require closer attention.

Isatay is in the northern part of the Caspian Sea, 45 km north of the coast of Bozashy Peninsula, in Mangystau Region.

Dead Kultuk (Ustyurt) is the habitat of the most characteristic Caspian species: flamingo, which was common in the north-east in the past, and is still using this part of the sea, moulting and summer birds near Komsomolets bay and Dead Kultuk shor and Kaidak.



Flamingo (*Phoenicopterus roseus*) is a locally nesting, decreasing species. It is the only specimen of its species in Kazakhstan fauna. Until now, the main nesting grounds in Kazakhstan included Tengiz Lake, Chelkarteniz Lake and north-eastern coast of the Caspian Sea.

Komsomolets bay, Dead Kultuk and Kaidak shors are still regularly used by thousands of birds to spend summer and moult. Birds from Central Kazakhstan fly through these areas and enlarge the local non-nesting population in April and August-September. Up to 35 thousand birds migrate through Komsomolets bay each year.

Mangystau Region. Mangystau Region has a vast system of designated nature conservation areas including Ustyurt State Nature Reserve and republican Kenderli-Kayasan Conservation Area, as well as 8 reserves and 1 regional natural park. Blotched snake (*Elaphe sauromates*) is a reptile listed in the Red Book of Kazakhstan (2010) and inhabiting Mangystau Region. Afghan tortoise is a common, well spread species, which is quite numerous in local areas of Mangystau Region, nevertheless,

according to the Red List of International Union for Conservation of Nature (IUCN) it is a vulnerable species.

Republican **Kenderli-Kayasan Conservation Area** was established to preserve habitat and natural reproduction grounds of chlamydotis and saker falcon. Established status: a conservation area, reserve/nature reserve, controlled area.

Ustyurt State Nature Reserve has the highest category of republican designated nature conservation areas. Ustyurt State Nature Reserve (USNR) was founded with the main goal of preserving the natural state of unique natural complexes, historical monuments, flora and fauna of Kazakhstan deserts. The Reserve is the main habitat of several species listed in the Red Book of Kazakhstan and/or International IUCN Red List: goitered gazelle, Ustyurt mountain sheep (urial), caracal, honey badger, saker falcon, golden eagle, Eurasian eagle-owl, white scavenger vulture, chlamydotis, etc. According to the leading experts, the USNR meets the criteria of a UNESCO World Heritage Site and may be honoured as one in future to prove the highest level of recognition internationally.

In 2018, for the first time in the entire USNR history the observations located a living Persian leopard. Formerly, leopard was only known in Kazakhstan because it was killed by human 3 times, including twice in Mangystau Region in 2007 and 2015. Leopards sometimes get to Mangystau from the neighbouring Turkmenistan, and considering the adequate food reserves (mountain sheep and goitered gazelle), they might possibly form a local population if they were not hunted by human and if the habitats were properly protected. There is at least 600 km between the Ustyurt Reserve to Kopetdag in Turkmenistan, where the leopard is known to live for a fact.



It should also be noted that leopard is not currently on the Kazakhstan fauna lists or in the Red Book of Kazakhstan. The USNR employees have already addressed the Forestry and Wildlife Committee of the Kazakhstan Ministry of Agriculture with the suggestion to immediately record the Persian leopards in the Red Book of Kazakhstan to ensure the necessary legal status for the species efficient protection.

Over the last decades, certain species of mammals that are new for the region were found: desert long-eared bat in West Ustyurt, lesser mouse-eared bat and common noctule in North Ustyurt, honey badger in South-Western Ustyurt, golden jackal in Mangyshlak plains and Karagiye Depression, raccoon dog. Striped hyena was encountered in West Ustyurt and signs of Indian crested porcupine were observed, which has not been recorded in the area for more than 40 years.

Kansu is in Karakiya District of Mangystau Region, partially lays within Kenderli-Kayasan conservation area and borders Ustyurt State Natural Reserve (2 km of buffer zone from the site boundaries). No geologic exploration work was carried out on the site in 2016. Due to high geological, environmental risks and non-profitability, KMG made a decision to exit the project. In 2019, the procedure for return of the contract territory to the government started.

Samtyr. Since 2018, KMG holds a 50% participation interest in LLP Samtyr, Mangystau Region. It lays within South-Ustyurt sedimentary basin in the vicinity of Uzen, Shakhpaty, Dzhel fields.

Kokzhide-Kumzhargan, Local State Nature Reserve. This reserve accommodates two sites of the republican nature reserve fund: Kokzhide Sands and Kokzhide Groundwater, which are included in the List of Republican and International Geological Sites of the State Nature Reserve Fund.

Urikhtau, Alibekmola and Kozhasai fields are located in Mugalzhar District of Aktobe Region, Kazakhstan. North-western part of the contract territory within Urikhtau Field

lays within the Kokzhide Sands, the fields also border Kozhide-Kumzhargan Local State Nature Reserve. To avoid groundwater pollution, environment is being regularly monitored both within the Group operations footprint and near the Kokzhide Sands adjoining the contract territory.

Karazhanbas Field is in the north-western part of Buzachi Peninsula, within Caspian Depression, in the territory bordering the Caspian Sea on the west. The field’s west borders the State Nature Conservation Area of the North Caspian. Industrial environmental monitoring includes bi-annual flora and fauna monitoring.

West Kazakhstan Region. Rozhkovskoe Field is a part of Fedorovsky block, which lies within the northern flank of the Caspian Depression. Boundaries of Fedorovsky block were determined by a geological allotment of 1,291.37 m². A prospective element of this exploration block is Chinarevskoe crystal base emergence, which exposed Rozhkovskoe Gas Condensate Field and local subsalt structures, which could bear oil and gas.

Geologic exploration resulted in location of Rozhkovskoe Field among structures of Fedorovsky block, and in 2015, Contract for Gas and Condensate Production at Rozhkovskoe Field No. 4130 UVS-ME was signed.

Nine kilometres from Rozhkovskoe Field there is Kirsanovsky State Nature Reserve.

Kirsanovsky Republican State (Integrated) Nature Reserve was established by Resolution of KazSSR Council of Ministers dated 17 February 1986 No. 69, Resolution of the Kazakhstan Government dated 27 June 2001 No. 877 and Resolution of the Kazakhstan Government dated 19 July 2005 No. 746. It is permanently valid. The Nature Reserve was established to conserve and reproduce rare and endangered flora and fauna species, preserve integrity of the entire natural complex. It occupies 61 thousand ha in the Ural River flood plain, from Eltyshovka River and low reaches of Utva River in the north, to Ozernoe and Kabyl-Tyube villages in the south. This territory is currently a part of Zelenovsky, Burlinsky and Terektinsky districts.

Production sites within and near designated nature conservation areas

Type DNCA	Within the area	Adjacent borders (a part of territory)	Outside (within a 1–10 km vicinity)
Category IUCN I–IV	0	0	Kansu Samtyr
Category IUCN V–VI	Zhambyl Satpayev Isatay Dead Kultuk (Ustyurt)	Zhambyl Urikhtau	Alibekmola Kozhasai Karazhanbas Rozhkovskoe
World heritage sites	—	—	—
Ramsar lands	—	—	—

The main mission of Kirsanovsky Nature Reserve is to acclimatise and re-acclimatise beavers. The Nature Reserve area which spreads across the Ural valley is predominated by river valley landscapes with flood-plain forests and oxbow lakes overgrown with shrubs, cereal, grass and reed meadows. Multiple water birds are nesting here. The Nature Reserve is the only Kazakhstan habitat of small colonies of beavers, which proves its national economic significance.

The area is within a tectonic deflection between Obshchy Syrt and Poduralskoe Plateau. In its centre, there is a modern Ural River plain 3–7 km wide, upland fringes enlarge the valley to 10 km. Right bank of the plain adjoins Rubezhinsko-Yanvartsevskie Sands formed by deltaic deposits of the Khvalyn Sea.

Fauna of the Ural River plain mostly consists of eurychoric species: Holarctic, Palaearctic, Mediterranean species which are the considerable percentage.

There are over 2,000 insect species in the concerned area, including 29 species listed in the Red Book of Kazakhstan, 15 rare and small-numbered species; 26 fish species including 4 rare ones (Acipenser, Acipenser stellatus, Huso huso, Acipenser nudiiventris); 7 amphibians, 2 small-numbered species (Bombina bombina and Pelobates fuscus); 26 reptiles including 2 rare species (Coluber and Zootoca vivipara); about 65 species of birds (3 rare species: Pandion haliaetus, Haliaeetus albicilla Linnaeus, Bubo bubo); 23 species of mammals including 4 species recorded in the Red Book of Rare and Endangered Animals of the Republic of Kazakhstan (Desmana moschata Linnaeus, Martes martes Linnaeus, Mustela lutreola Linnaeus, Alces alces Linnaeus).

In 2019, the baseline environmental studies (Isatay), well drilling and testing (Zhambyl) took place in the sites within the North Caspian state nature conservation area. There are currently no significant man-made effects in these regions, which would restrict free movement of wild animals and birds within their habitats. During drilling operations, the following activities have environmental impacts: drilling rig installation, well drilling and testing, navigation. Among impact factors are increased concentrations of suspended solids in water during offshore construction, disturbance of natural structure of bottom deposits due to intensive navigation among other things, physical effects of noise. **GRI 304-2**

LLP Zhambyl Petroleum compensates for damage to fish reserves by purchasing young sturgeons from fish farms and releasing them into Ural River. This effort is supported by LLP Kazakh Research Institute of Fishery, which studies food reserves of sturgeons, purchases and releases young fish into Ural River. In 2019, about KZT 7.5 million was spent for these activities.



Photo M. Pestov

Bubo bubo chicks

Construction of an appraisal well in East Urikhtau Field and an appraisal directional well in South Urikhtau Field has started in Urikhtau, which shares borders with designated nature conservation lands. Groundwater impact factor is the well drilling which may pollute groundwater. Pollutants may also enter groundwater with infiltrating precipitations from the surface of industrial and domestic waste accumulations, oil-contaminated areas, oil and produced water storage areas. In this respect, KMG implements certain measures to protect groundwater and prevent it from being polluted, littered or depleted. Well design isolates groundwater reservoir by running a casing down to 80–85 m, and regular observations are performed over occurrence, level and quality of groundwater in currently and potentially polluted areas.

Another impact factor of industrial development of the territory on biodiversity is power transmission lines, which pose major danger for birds. The network of overhead power lines is constantly expanding and invades natural bird habitats, often causing their mass death. This is of special concern for predatory birds living in forest-free steppes and semi-deserts where overhead line pylons are the most attractive for the birds to sit on.

In 2019, KMG continued its efforts to prevent death of rare birds on overhead lines. JSC Embamunaygas installed bird protection devices on insulators of overhead line pylons; branches of JSC ICA install bird protection devices on insulators of cross arms and hooks of overhead lines as they break, and bird-protection devices are also installed during major repairs and construction of overhead power lines. In October 2019, JSC ICA supported the initiative of LLP Dostyk Advisory and took part in an expedition to study the adverse effect that overhead lines have on bird population in Atyray Region. In 2019, in its facilities Umirzak-SPN 112 km (30 km) and Zhetybai-SPN 112 km 65–112 km (57 km), JSC KazTransOil repaired 6 kW

overhead lines and used self-supporting insulated conductors which fully prevent death of birds when they sit on overhead power lines.

To improve knowledge and awareness of the KMG Group employees, and to promote careful attitude towards natural resources, corporate newspaper Munaily Meken published article titled Care for Nature is our Common Responsibility. In addition, in order to raise environmental responsibility and enhance transparency of oil & gas companies, information about environmental performance, including biodiversity and monitoring results, was published on the KMG and SAC websites.

Prevention of Spills on Waters

GRI 306-3

LLP Zhambyl Petroleum had no offshore drilling operations in 2019. Offshore operation concepts are described in the Biodiversity section.

Climate Change and Air Quality

GRI 103-1, 103-2, 103-3, 305-1, 305-2, 305-4, 305-5, 305-6, 305-7

We make it our highest priority to minimise our impact on environment through compliance with environmental law, rational use of natural resources and continuous improvement of our environmental activities. Our priorities include careful and rational use of natural resources, minimisation of environmental risks. Target Programmes are intended to reduce raw gas flaring, develop green energy based on renewable energy resources and generally increase energy efficiency.

The KMG Corporate Centre manages activities of subsidiaries and associated companies with regard to greenhouse gas and pollutant atmospheric emissions, monitors that all permits for activities are obtained in due time, such as emissions permit, greenhouse gas quota, raw gas flaring permit.

Atmospheric impact minimisation programmes include raw gas development and refining programmes for production sector, oil refineries upgrade programme, application of the latest available technologies in the construction of new transportation facilities, etc. Gradual implementation of these programmes will result in reduced pollutant and greenhouse gas emissions into the air, increased benefits from using raw gas.



Each of us can contribute to conservation of biodiversity in our country by following simple rules:

- Do not litter streets and nature
- Care for environment
- Do not engage in illegal hunting and fishing
- Focus on conservation of biodiversity when planning environmental activities
- Report violations of environmental law by legal entities and individuals to authorized officers and to hse@kmg.kz;
- Record red-book listed animals and plants in an area by taking photos and tagging locations, and send to hse@kmg.kz;
- Participate in campaigns and programmes to preserve biodiversity in Kazakhstan
- Send your initiatives, ideas and projects to hse@kmg.kz.

In 2019, the KMG Group approved the Emissions Management Policy, which defines atmospheric impact minimisation philosophy:

1. Operating in strict compliance with the law and other Company commitments
2. Following the established pollutant emission standards and emission limits, greenhouse gas quotas
3. Clearly allocated functions and duties, increased competence, training and awareness
4. Regular recording, inventory checks and monitoring of emissions
5. Ending regular flaring of raw gas during hydrocarbon production operations
6. Activities to reduce greenhouse gas emissions and carbon footprint
7. Management of carbon assets
8. Continuous improvement of emissions management activities.

We comply with the national laws, best international standards, provisions of corporate HSE documents and other corporate documents, identify and assess environmental risks, ensure that our environmental activities are transparent and open.

We are still working on improvement of our facilities' operations to reduce the atmospheric impact. We take

active part in improvement of regulatory framework of the country, hold meetings of Emissions Management Work Group, participate in climate change forums, conferences, enhance our knowledge and skills to improve our abilities in emissions reduction strategy.

- KMG's Long-Term Development Strategy defines the following climatic priorities:
- Managing greenhouse gas emissions
 - Reducing regular flaring of associated petroleum gas

- Improving performance in emissions intensity per volume of production and increasing energy efficiency.

We are committed to increase oil and natural gas production to meet the world's growing demand for energy, that is why we primarily focus on activities to minimise adverse impact our operations have on the environment through compliance with the environmental law, rational use of natural resources and continuous improvement of our environmental activities.

TRANSITION TO LOW CARBON DEVELOPMENT

GRI 102-15, 103-1, 103-2, 103-3, 201-2

As a party to UN GC, we recognise the importance of activities to prevent climate change, and are determined to make our contribution to achieve SDG 13: Climate Action. Our responses to climate change and climate change adaptation are reflected in our strategic documents and corporate policy.

The year 2019 marked the first time that we took part in The Carbon Disclosure Project (CDP) initiative, which is an international association of investors disclosing information about greenhouse gas emissions and climate change risks, and started working on evaluating the total carbon footprint of the commercial yield, from wellhead to a final consumer, under Climatic Programme. In 2020, we want to extend our reporting also to the CDP Water Disclosure Project. Our climate change priorities: reducing green gas emissions, increasing effective use

of associated petroleum gas, increasing energy efficiency and energy saving, etc.

Corporate risk management system is the key element of the corporate management system and is aimed at timely identification, assessment, monitoring and mitigation of potential risk events which may have adverse effect on strategic and operational goals. The Company accepts climate change risks and is committed to make its contribution to sustainable future with minimised environmental impact and greenhouse gas emissions at every stage of its operations. In 2019, the Corporate Risk Register was expanded to include a new climate change risk. We quarterly report on HSE risks to the Board of Directors.

Climate change risks	Low-carbon economy transition risks	Political and regulatory risks (e.g. introduction of carbon price fixing/increasing mechanisms to reduce greenhouse gas emissions; the country's transition to quota allocation by specific emission factors only resulting in some companies having shortage of quotas; reducing power consumption to reduce emissions; making energy efficient decisions; reinforcing efficiency enhancement measures and promoting more sustainable land use methods).
		Market risk (risk of change in supply and demand for certain climate-related goods, products and services).
		Technological risk (development and use of new technologies such as RES, energy efficient technologies, BATs, carbon capture and sequestration technologies, etc.).
		Reputational risks associated with a changed perception of the Company by stakeholders because of its contribution to transition to low-carbon economy, or avoiding such transition.
	Physical climate change risks	Short-term risks caused by extreme weather events such as cyclones, hurricanes, floods.
		Systematic (chronic) risks caused by long-term climatic model changes (e.g. abnormally high temperatures for long periods, increased sea level and flooding of onshore wells).

Greenhouse Gas Emissions



On 29 July 2019, KMG for the first time published a verified Greenhouse Gas Emissions Report 2018 under the CDP's (Carbon Disclosure Project) Climate Program. The Report comprises data on the volumes of direct and indirect greenhouse gas emissions for all KMG assets, including subsidiaries in Romania and Georgia

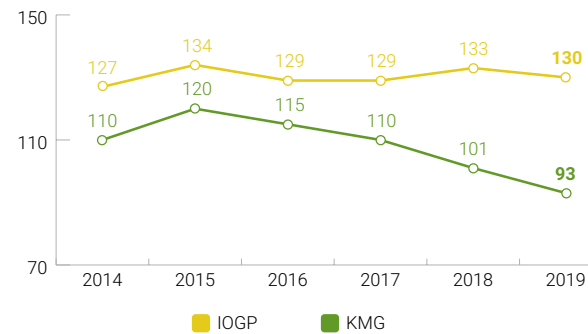


"We are pleased to publish KMG's first ever report under the CDP's Climate Programme. In view of the fact that the whole world is focused on solving the climate change problem, KMG is committed to managing climate risks by

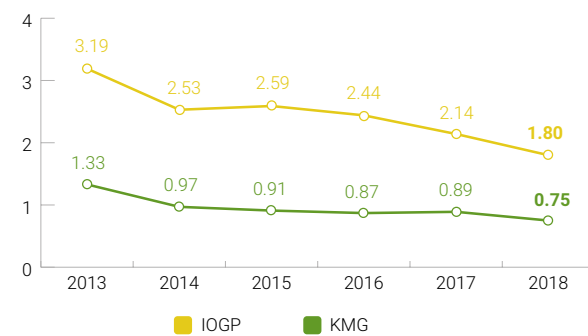
reducing emissions, setting up a programme of energy efficient investments, assessing the progress of such programme and sharing best experience with other global companies. The CDP report will enable us to measure and manage our environmental impact more effectively," notes Vincent Spinelli, Managing Director, Health, Safety and Environment at KMG.

The carbon dioxide (CO₂), methane (CH₄), and nitrogen oxide (N₂O) figures are factored in. Information on greenhouse gas emissions of the KMG Group for 2019 will be disclosed in the CDP report in Q3 2020.

CO₂ emission rate for Production (t / 1,000 t)



CH₄ emission rate for Production (t / 1,000 t)



On 26 November 2019, the first KMG Forum on Greenhouse Gas Emissions Control (Climate Session) was held in Nur-Sultan. Attended by about one hundred representatives of various industry



KMG Forum on Greenhouse Gas Emissions Control (Climate Session)

players, the Forum became a venue for a constructive dialogue of professionals, a platform for sharing experience and knowledge. The lively discussions held during the Forum were devoted to the challenges of managing KMG greenhouse gas emissions, expected changes in greenhouse gas emissions regulations,

Air Quality

We conduct operational environmental monitoring and take measures to reduce air pollutant emissions generated by the operations and processes. As part of the operational environmental monitoring programmes, observations of air emissions are made in the designated sampling points and measurements are taken to assess the potential impact. The bulk of pollutant emissions is generated by heating gas burned in boilers, process furnaces and compressors, gas turbine plants, compressor stations, gas flaring, etc.

The permitted volume of all pollutant emissions within the Group amounted to 264 thous. tonnes in 2019 (269 thous. tonnes in 2018). A slight reduction in emissions is seen.

Gross air pollutant emissions within the KMG Group, thous. t

	2017	2018	2019
Total air pollutant emissions, including:	256.3	269.3	264.8
NO _x emissions	13.8	16.7	18.5
SO _x emissions	14.8	13.9	12.3
other pollutant emissions	277.7	238.7	234.0

The volume of pollutant emissions for the Production business line is reduced by 10% compared to 2018, and by 27% compared to 2017 due to the increased beneficial use of raw gas and, respectively, reduced gas flaring. The Oil Refining business line sees a 5% reduction in emissions compared to 2018. The Transportation business line sees an increase in emissions due to the commissioning of new sources and growth of gas exports.

trading in quotas, KMG's reporting under the CDP's Climate Programme, etc.

A reduced rate of greenhouse gas emissions is observed for the Production business line due to gas flaring reduction activities.

The completed projects for upgrade of the oil refineries enabled better environmental performance of fuel produced by the refineries through the manufacture of C4 oil products of the European quality standards in compliance with the Customs Union Technical Regulations.

A 13% reduction in sulphur oxide/dioxide (SO_x) as compared to 2018 is due to a reduction in gas flaring in the upstream operations. An increase in NO_x emissions in 2019 is due to growth of gas export and commissioning of new plants at the enterprises.

At this point, we do not make direct, real-time measurements using, for example, gas analysers, however, in accordance with the new Environmental



Case study

In order to avoid loss of oil products as a result of evaporation, all the CASPI BITUM charging stock tanks are interconnected by gas equalising lines with gas phase withdrawal to the vapour recovery unit (VRU).

Specific pollutant emissions within the KMG Group

	2017	2018	2019
RWS production, t / 1,000 TOE of produced raw hydrocarbons	2.35	1.93	1.7
Oil refining, t / 1,000 t of refined oil	3.3	3.3	3.1
Oil transportation, t / 1,000 of transported oil	0.5	0.5	0.5
Gas transportation, t / 1,000 TOE of transported gas	1.2	1.4	1.5

Code, the authorised environmental body plans a company-wide switch to automated monitoring of pollutant emissions by installing sensors / gas analysers at emission sources of Category 1 natural resources sites. Currently, some organisations are developing

design documentation for switching to online monitoring of pollutant emissions.

In its operations, the Company does not emit persistent organic pollutants.

Beneficial Use of Raw Gas

066

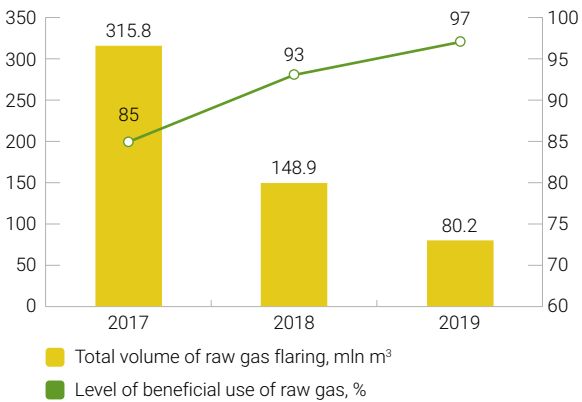
This section reflects data on upstream companies where processes related to production and beneficial use of raw gas are in place.

One of the most important tasks in reducing greenhouse gas emissions is to increase the beneficial use and utilisation of associated petroleum gas, minimising gas flaring. In 2019, 97% of associated petroleum gas was utilised, the rate of gas flaring was 2.95 tonnes per 1,000 tonnes of produced RWC (11 in 2017, 6 in 2018), which is almost 51% lower than KMG's rate for 2018 and lower than IOGP's rate (International Association of Oil & Gas Producers) — 10.5.

In 2015, KMG supported the World Bank's "Zero Regular APG Flaring by 2030" initiative.

The Company does not re-inject APG into reservoir.

Volume of raw gas flaring



The construction of infrastructure and advanced capacities for raw gas utilisation enable a full-scale development of upstream assets and a considerable reduction in greenhouse gas emissions into the atmosphere.

Volume of raw gas flaring

	2017	2018	2019
Total volume of raw gas flaring, mln m³	315.8	148.9	80.2
Level of beneficial use of raw gas, %	85	93	97
Rate of raw gas flaring, t / 1,000 t of produced RWC	11	6	2.95

Waste Management

GRI 103-1, 103-2, 103-3, 306-2, 304-3, 306-4

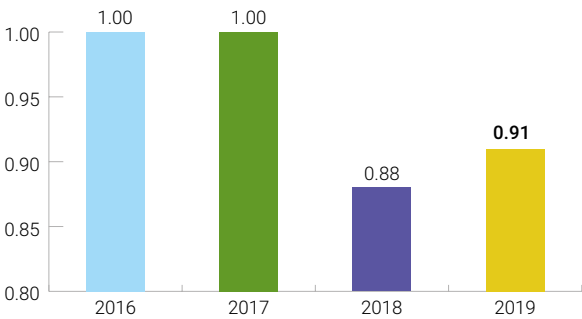
KMG's operations inevitably involve generation of considerable volumes of hazardous waste. In order to minimise the impact of waste on the environment, KMG continually plans and implements waste management activities. Such activities comprise accounting for generated and accumulated waste (including that of contractors), gradual reduction in waste generation volumes, safe storage of waste until it is reused or treated, KMG allocates significant funds to treat the waste generated and accumulated across all its contract territories.

The waste management performance is regularly reviewed and assessed within the KMG Group, advanced methods and modern technologies of waste management are considered so as to be implemented at production facilities.

The critical task that KMG faces today is the liquidation of historical contamination and clean-up of oil-contaminated areas. In this regard, studies were conducted to take inventory of historical contamination; plans to liquidate all historical contamination were developed subject to the specifics of each field, region, and climatic conditions. In addition, on 6 August 2019, a Memorandum of Environmental Cooperation was signed between the Kazakhstan Ministry of Ecology, Geology and Natural Resources and KMG, which is aimed at disposal/ treatment of waste stored in the unorganised sludge collectors (OMG) and clean-up of oil-contaminated lands in Mangystau Region.

In order to increase control and effectively organise oily waste liquidation and oil-contaminated land clean-up operations, the entities of the KMG Group have established a working group that included KMG's top management as well.

Ratio of the area of contaminated lands at the year-end to that at the beginning of the year, ha/ha



**In 2019, inventory of "historical" oil-contaminated areas of JSC Mangistaunaygas fields was taken. A total of 675 oil-contaminated sites with the overall contaminated area of 45.09 ha were revealed.*

On 2 October 2019, the KMG Historical Waste Disposal and Treatment Technologies Forum was held in Aktau. The Forum was attended by over 30 companies that provide such services. The objective of this event was to meet with Kazakhstan's providers of oily waste treatment/ disposal services and to explain them the requirements for the quality, scope and timing of services for the KMG historical waste treatment/disposal so as to help them assess their capabilities and decide on the use of new technologies.

— *CC* —

In order to minimise the impact of waste on the environment, KMG continually plans and implements waste management activities. Such activities comprise accounting for generated and accumulated waste (including that of contractors), gradual reduction in waste generation volumes, safe storage of waste until it is reused or treated, KMG allocates significant funds to treat the waste generated and accumulated across all its contract territories

The Forum also presented a category-based procurement strategy — Waste Disposal (historical contamination), which will further serve as a basis for the procedure for procuring historical contamination disposal and oil-contaminated area clean-up services.

The overall weight of waste in circulation for 2019 was 997.2 thous. tonnes, including waste classified as "hazardous" — 972,3 thous. tonnes, and "non-hazardous" — 24.9 thous. tonnes, accordingly.

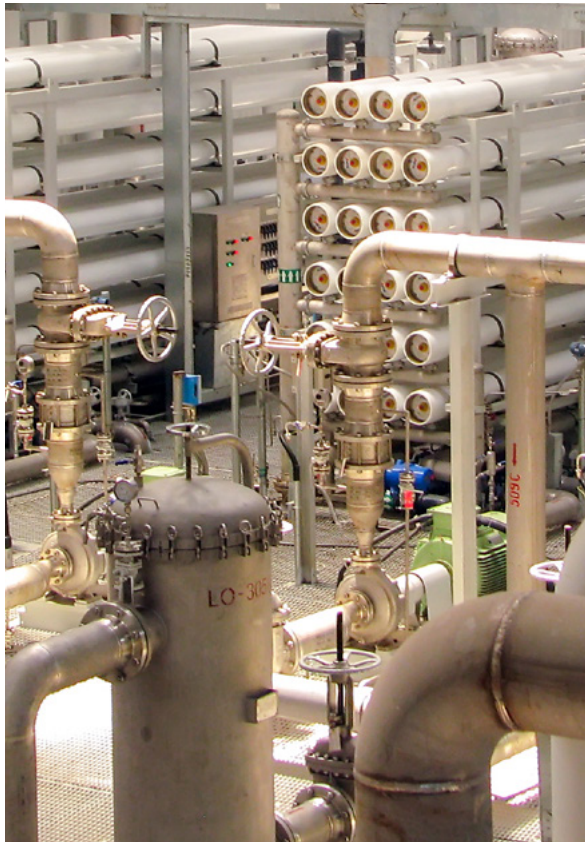
Fifty-eight percent of waste is handed over for contract-based treatment by specialised companies, 39% of waste is treated by biological method, other significant waste handling methods include recycling, placing on the landfill and reuse. Three hundred and twenty-five thousand tonnes of historical waste and oil-contaminated lands were treated out of the bulk of hazardous waste.

In 2019, JSC Embamunaygas reclaimed historically oil-contaminated lands and cleaned up 35 ha of oil-contaminated lands (125 thousand tonnes of oil-contaminated soil), 200 thousand tonnes of oil-contaminated soil from unorganised sludge collectors were treated in the premises of JSC Ozenmunaygas.

Nine out of 11 landfills for oily waste storage were fully cleaned up and liquidated at JSC Mangistaumunaygas production facilities by the end of 2019, the solid domestic waste landfill is in the process of liquidation, which is planned to be completed in 2020.

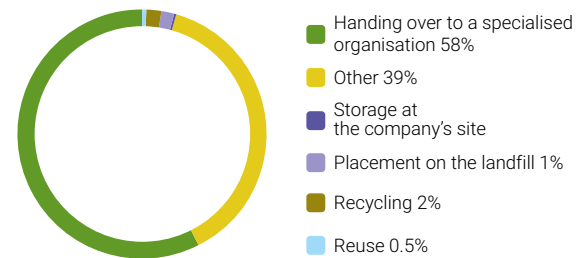
PKOP

As part of the upgrade of treatment facilities, an oily sludge treatment unit was built and commissioned. Oily sludge treatment on the decanter plant is arranged with a three-phase distribution of oily sludge and with trapped oil products being returned to the process. This activity enables prevention of the accumulation of oil products in the company's sludge collectors, which also improves the environmental situation.

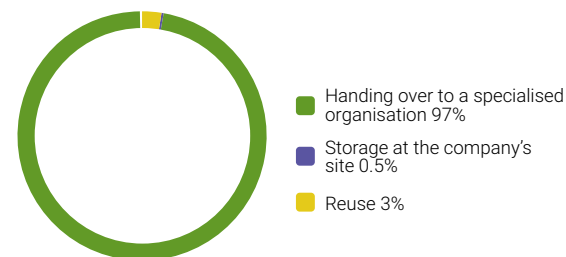


In 2019, JSC "KazTransOil" reclaimed 1.775 ha of disturbed lands (historical contamination) at section 984–985 km and 1,016.3 km of the Uzen — Atyrau — Samara trunk oil pipeline of Uralsk LODS, the volume of treated oil-contaminated soil amounted to 38,238.9 tonnes. **GRI 304-3**

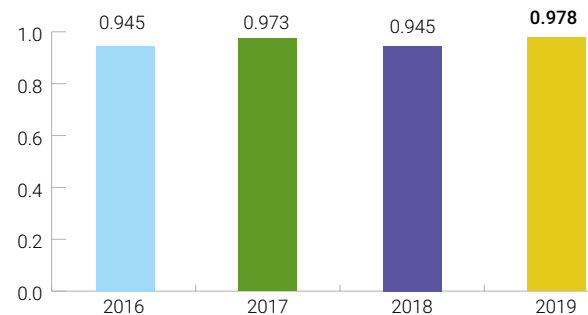
Hazardous waste in 2019 by types of handline



Non-hazardous waste in 2019 by types of handling



Ratio of disposed to newly generated waste, t/t

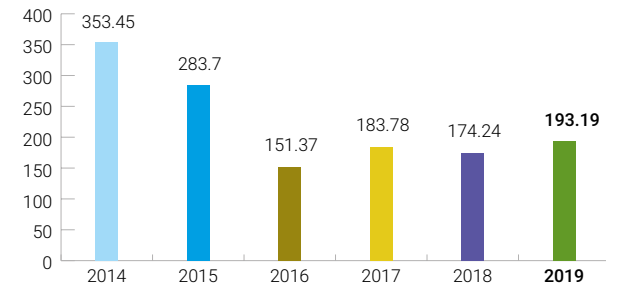


Generation of Drilling Waste

GRI 103-1, 103-2, 103-3, 307-1

In 2019, KMG's upstream companies generated 193.19 thousand tonnes of drilling waste (11% more than in 2018), including: 59.24 thousand tonnes — waste drilling mud; 133.948 thousand tonnes — drilling sludge. All drilling waste generated by the KMG Group's upstream companies are handed over for disposal by specialised organisations. The methods of further waste disposal used by these companies include inertisation, thermal method, chemical method, biological remediation and burial on specialised landfills.

Overall generation of drilling waste within KMG, thous. tonnes



	Onshore projects		Offshore projects	
	Waste drilling mud, thous. tonnes	Drilling sludge, thous. tonnes	Waste drilling mud, thous. tonnes	Drilling sludge, thous. tonnes
2014	116.501	236.954	0.905	0.879
2015	83.079	200.62	1.144	1.104
2016	44.242	107.13	0	0
2017	49.499	134.279	0.991	1.06
2018	37.05	137.19	1.36	0.81
2019	59.24	133.948	0	0

COMPLIANCE WITH REQUIREMENTS

GRI 103-1, 103-2, 103-3, 307-1

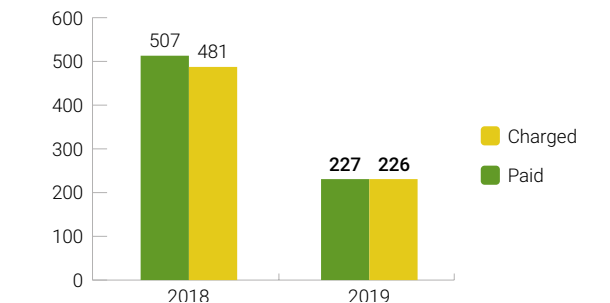
We are committed to conduct our operations within the framework of the Kazakhstan laws and take appropriate measures to prevent any damage to the environment.

The Company will keep on identifying non-compliances with the RoK environmental law at its production facilities, defining problems and managing risks in order to take measures for preventing any non-compliances with legislative requirements.

These bar plots show the amounts of penalties charged and paid, except for sour gas flaring without permission (presented separately).

By court order, the penalties charged were recalculated for the entire period of sour gas flaring without permission

Penalties charged and paid, except for EMG sour gas flaring, mln tenge



from 34.4 to 8.7 bln tenge. The penalty amount was disputed and reduced by 25.7 bln tenge.

HSE TRAINING

GRI 404-2

The safety of operations, personal safety of employees and environmental safety directly depend on the competence of employees. The safety culture aimed at achieving one hundred percent safety rests on the high qualification, awareness and professionalism of the staff. Thus, ensuring the competence of employees becomes essential for development process.

The average number of academic hours per employee trained in HSE within the KMG Group is 17.

Over 34 thousand employees were trained for free in occupational health and safety, industrial and fire safety as well as safe driving under the training model introduced within the KMG Group – “70/20/10 – on-the-job/in-house/out-of-house training” on the basis of own 6 Training Centres.

JSC Ozenmunaygas (Zhanaozen), JSC “KazTransOil” (Aktau), JSC Intergas Central Asia (Atyrau, Shymkent), LLP Pavlodar Oil Chemistry Refinery (Pavlodar) and LLP Oil Services Company (Aktau) have their own training centres.

Year	Number of employees trained
2017	61,140*
2018	114,971**
2019	130,615

* the summary data contain no information on EP and its SACs (except for LLP JV Kazgermunai) due to its confidential nature.

** the summary data cover all EP SACs.

In addition to their own teaching staff, the centres engage line managers and highly skilled specialists from among operations personnel, who have long record of service in operations, to provide training and professional development for personnel.

Mentoring and internal coaching programmes with the involvement of experienced employees are implemented, master classes and trainings are conducted, various contests among advanced employees are held, which enables to improve internal communications and encourage people to be the best in their professions.

Training under the NEBOSH international programme was conducted within the KMG Group, training certificates were issued. Twenty employees were trained under this programme.

Seventy-eight employees of KMG’s Corporate Centre were trained in HSE. Further, 7 employees completed certification training under the NEBOSH programme, 3 employees – under the IOSH programme, and 3 employees – under the IEMA programme.

Thus, KMG is committed to improve the safety culture in compliance with international standards and to ensure the effective functioning of the HSE management system.

In general, the dynamic growth of figures shows that HSE training remains in demand within the KMG Group.

Considering the specifics of the Kazakhstan oil and gas sector as well as mandatory requirements of the RoK

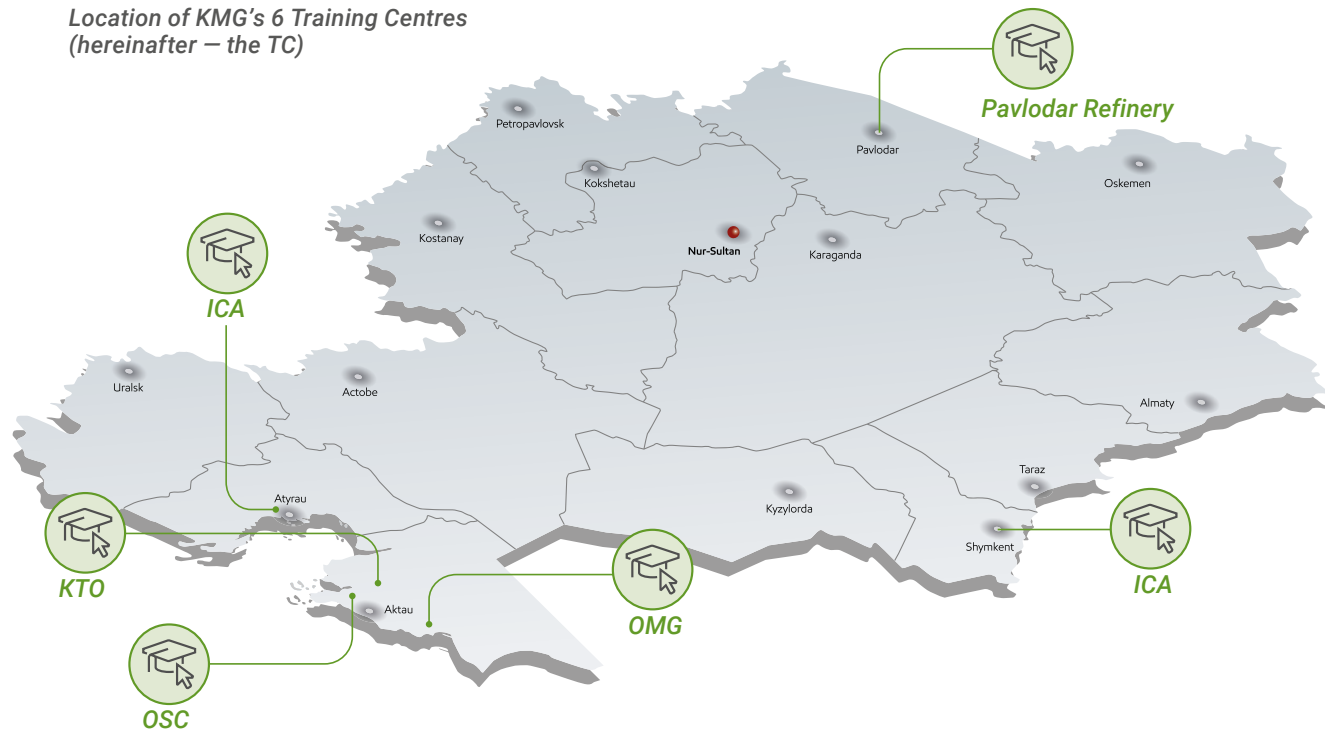
HSE training within the KMG Group broken down by the main business lines:

Business line	Number of employees	Amount in thous. tenge
Production	61,088	589,882
Transportation	27,931	381,826
Refining	8,031	64,835
Service	33,487	137,772
KMG CC	78	5,562

laws for compulsory learning, training and professional development of personnel in general, more priority is given to occupational health and safety, industrial and fire safety.



Location of KMG’s 6 Training Centres (hereinafter – the TC)



SOCIAL RESPONSIBILITY

Principle 1. Human Rights. Businesses should support and respect the protection of internationally proclaimed human rights

Principle 2. Human Rights. Businesses should make sure that they are not complicit in human rights abuses

Principle 3. Labour. Businesses should uphold the freedom of association and the effective recognition of the right to collective

Principle 4. Labour. Businesses should uphold the elimination of all forms of forced and compulsory labour.

Principle 5. Labour. Businesses should uphold the effective abolition of child labour.

Principle 6. Labour. Businesses should uphold the elimination of discrimination in respect of employment and occupation.



OUR PROGRESS

Staff turnover rate for the KMG Group

7%

7 2019

13 2018

14 2017

Social assistance to employees

22

billion tenge

22 2019

22 2018

19 2017

Social Stability Index

72%

EMPLOYMENT

GRI 102-7, 102-8, 103-1, 103-2, 103-3, 401-1, 404-3

As one of the country's major employers, we are a socially oriented company that relies on the principles of partnership relations with employees and trade unions.

We are focused on:

- Promoting productive employment.
- Providing decent jobs and working conditions.
- Observing labour and human rights.
- Doing business in good faith and not tolerating corruption.
- Promoting development of the society and the regions where we operate.

In 2019, the High-Performance Culture initiative was launched within the framework of the KMG Transformation Programme.

The main objectives of the initiative are:

- Improving the Company's corporate culture.
- Increasing the quality of leadership skills among managers.
- Increasing the HR performance.

In this regard, three activities (lines) within the High-Performance Culture initiative were developed:

- Corporate culture.
- Leadership.
- HR competencies.

The following activities were carried out within Corporate Culture:

- Diagnostics of the social stability index and the level of industrial relations.
- Diagnostics of the corporate culture, corporate values and the model of personal and business competencies.

The diagnostics was performed through focus group discussions, interviews, online surveys and questioning. Two inquiries involved some 4,600 participants.

The completed activities are expected to show the findings on the social stability index and the level of industrial relations as well as corporate values, the current condition

of the corporate culture and the model of personal and business competencies.

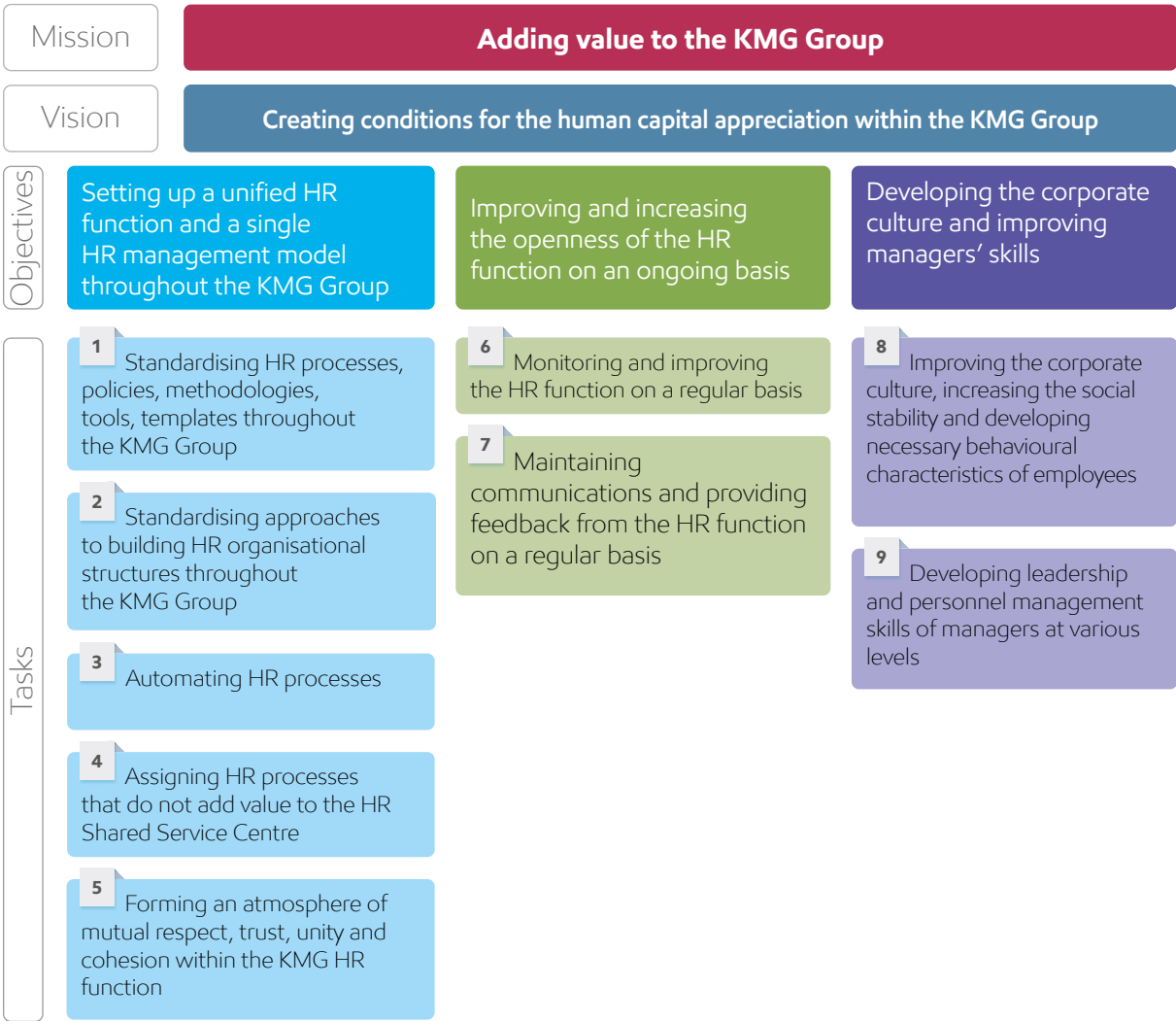
The concept of our HR policy is aimed at creating conditions for adding value to the human capital within the KMG Group.

This strategic goal is to be achieved on the basis of three main objectives of the HR function:

1. Setting up a unified HR function and a single HR management model throughout the KMG Group.
2. Improving and increasing the openness of the HR function on an ongoing basis.
3. Developing the corporate culture and improving managers' skills.

Each objective includes the list of specific tasks that constitute the key areas of the HR policy.

HR management development concept



- The HR policy concept relies on the following key principles:
1. Balance between the interests of employees and the Company.
 2. Uniform HR policy for the whole KMG Group.
 3. Shifting the administrative supporting role of HR to a strategic one for business.
 4. Creating added value for business.
 5. Optimal organisational structure and staff size.
 6. Manpower planning based on business demands and labour market conditions.

7. Continuous improvement of learning and advanced training programmes.
8. Building a self-learning entity based on a 70-20-10 model.
9. Responsibility of managers for personnel management.
10. Creating the culture of staff engagement in the joint achievement of strategic goals.
11. Creating conditions for the employee incentives.
12. Preventing law violations.

The KMG Group employs over 70 thousand people in the country. At the end of 2019, the actual number of employees within the KMG Group was 70,938 people, outsourced employees – 4,168 people.

Considering that the Company's operations are fraught with hard, hazardous and harmful working conditions, the share of male employees is 82%, female employees – 18%.

Employees by gender for 2015–2019, %

years	2015	2016	2017	2018	2019
Male	74.8	79.0	80.8	81.2	82
Female	25.2	21.0	19.2	18.8	18

The share of operations personnel in the total staff is 90%, of office and management personnel – 10% (in 2018 – 90% and 10%, in 2017 – 89% and 11%, accordingly).

Employees by gender and category for the reporting period, %

Categories of employees	Male	Female	Share of employees of each category in the total staff, %
Managers	11.5	10.6	11.3
Specialists	16.6	48.8	22.3
Workers	71.9	40.6	66.4

As for age categories, the major share of employees is in the group aged 31 to 50 – 59.2%, including male employees – 81.5%, female employees – 18.5%.

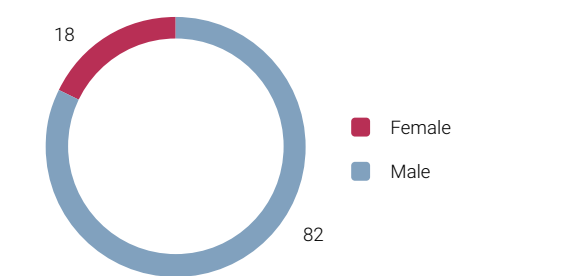
The number of employees aged above 50 is 27.3% of the total staff, including male employees – 83%, female employees – 17%.

The share of youth aged under 30 is 13.5% in the total staff, including male employees – 85%, female employees – 15%.

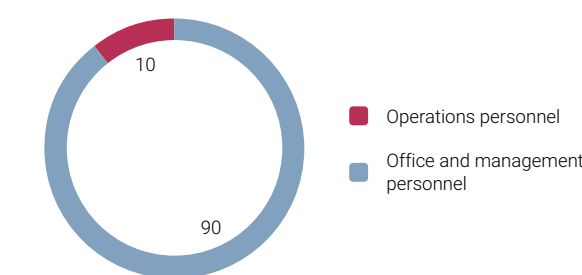
Employees by age groups for 2016–2019, %

Age	2016	2017	2018	2019
under 30	23	17.5	16.7	13.5
31 to 50	54	58	58.3	59.2
above 50	23	24.5	25	27.3

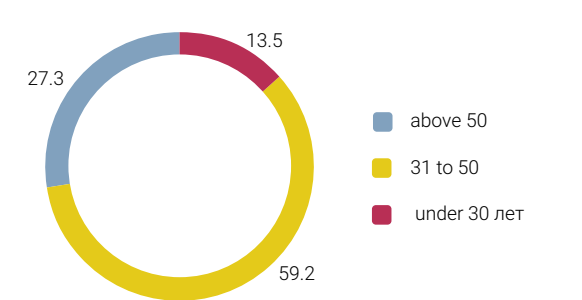
Employees by gender for the reporting period, %



Employees by category for the reporting period, %

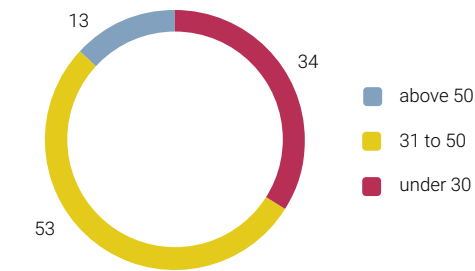


Employees by age groups for the reporting period, %



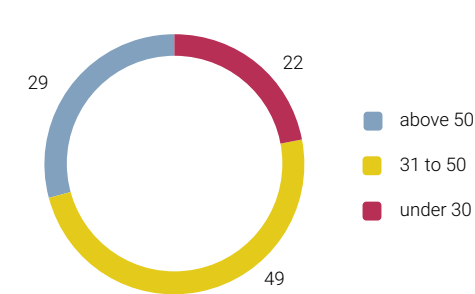
The number of newly hired employees in 2019 is 5,094 people or 7% of the average staff number.

Newly hired employees by age groups for the reporting period, %



The number of employees who left employment during the reporting period is 4,325 people, including those aged under 30 – 22% (18.2% in 2018, 20.4% in 2017),

Employees who left employment during the reporting period by age category, %



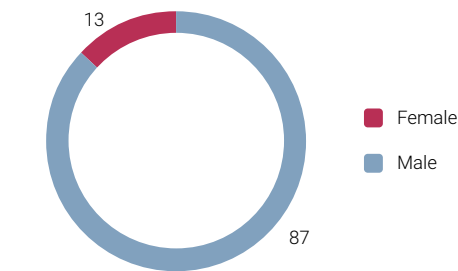
The staff turnover rate* for the KMG Group was 7%, which is 6% less compared to the previous year.

The performance of 48% of all Company employees was assessed during the reporting period.

Newly hired employees for 2014–2019, %

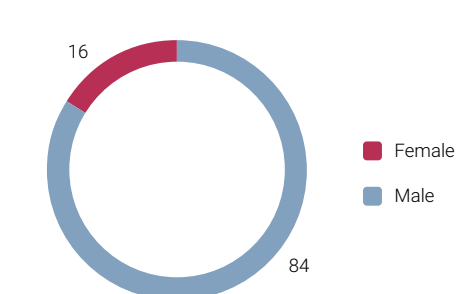
years	2014	2015	2016	2017	2018	2019
% of hired employees	15.3	23.9	20.7	9.4	12.5	7

Newly hired employees by gender for the reporting period, %



31 to 50 – 49% (55% in 2018, 46.4% in 2017), above 50 – 29% (27.7% in 2018, 23.5% in 2017).

Employees who left employment during the reporting period, by gender, %



years	2015	2016	2017	2018	2019
The staff turnover rate for the KMG Group	11.1	13.8	14	13	7

* Staff turnover rate = A/B × 100, where A is the number of employees who left employment voluntarily, as agreed between the parties or through the employee’s fault at the end of the reporting period; B is the average staff number for the reporting period.

EQUAL OPPORTUNITIES AND OUR MARKET PRESENCE

GRI 103-1, 103-2, 103-3, 202-1, 202-2, 405-1, 405-2

Our approach to personnel encouragement provides for decent remuneration, transparency and observance of employee rights. All changes in the remuneration system are made with due regard to opinions and suggestions of stakeholders.

There are no differences in the basic salary and in the bonus system depending on the gender in the KMG Group. The level of salary in the KMG Group companies is tied to a position rather than an employee, i.e. male and female employees occupying similar positions receive equal salaries and other payments provided by the company’s remuneration rules.

The payroll system for the supreme management body and top managers is focused on the performance, incentives, increase in labour productivity and efficiency, and includes the elements of short-term benefits based on the achievement of KPIs. In accordance with the best world practices, the top managers’ performance reflects the economic, environmental and social objectives of the Group.

Exploration and Production companies have a Uniform Payroll System (UPS) in place. The system is to provide a uniform procedure for paying remuneration in all business units and boost employees’ interest in performance results. This system stipulates a number of conditions under which employees are provided

compensations, benefits and rewards. One of such criteria is the Regional Coefficient – a ratio of relative increase in salary in order to compensate for extra expenses and increased labour input due to working in regions with severe weather conditions. The highest coefficient is applicable to Mangystau and Atyrau Regions.

The ratio of starting salary rate in the Group to the minimum salary set by the national legislation in 2019 is within the range from 6:1 to 8:1 (in 2018 and 2017 from 6:1 to 8:1, in 2016 – from 5:1 to 10:1, respectively).

The share of top managers who are hired from among the local population within our footprint is 86% (in 2018 – 85%, in 2017 – 72%, in 2016 – 89%).

The share of top management members is 11.3% in the total staff, including female managers – 16.5% (17% in 2018), male managers – 83.5% (83% in 2018).

The incentive system will be further improved as part of the High-Performance Culture initiative through the introduction of the Leadership programme and the Mentorship programme. These programmes imply an ongoing assessment and perfection of leadership skills as well as coaching, training and mentoring skills for further development of direct subordinates and increase of the motivation of colleagues.

OBSERVANCE OF HUMAN RIGHTS AND SOCIAL ASSISTANCE

GRI 102-41, 103-1, 103-2, 103-3, 401-2, 401-3, 402-1, 407-1, 408-1, 409-1

The Company strictly complies with the requirements and does not violate the RoK labour law, which states that no one may be subjected to any discrimination in the exercise of their labour rights on the grounds of origin, social, official status and material position, gender, race, nationality, language, religious beliefs, convictions, place of residence, age, physical disability or affiliation with public associations. No facts of discrimination were recorded during the reporting period.

We do not use child labour or forced labour, we acknowledge the equal rights of all employees, irrespective of their race, religion and gender.

Each employee of the Company has equal opportunities in exercising their labour rights and freedoms. Moreover, the Company is actively engaged in negotiations with employees for signing or amending the collective bargaining agreement, strictly observes the time limits for negotiations and ensures the functioning of appropriate commissions, provides information necessary to conduct negotiations, strictly fulfils the terms and conditions of the collective bargaining agreement.

In accordance with the labour law, any employee has the right to participate through their representatives in collective negotiations and drafting of the collective bargaining agreement as well as to review the signed collective bargaining agreement.

The Company's activities imply no restrictions of the rights to freedom of association or holding collective negotiations by types of activities or on an area basis. Being a corporate citizen, we fully support this right and create a favourable environment for the exercise of employees' rights to freedom of association.

Many production enterprises of the KMG Group have collective bargaining agreements in place.

For the purpose of harmonisation, a model form of the collective bargaining agreement has been drafted, which establishes the uniform principles to arrange for remuneration, social assistance, working conditions, rest and work hours, etc. The model form of the collective bargaining agreement sets forth a step-wise algorithm

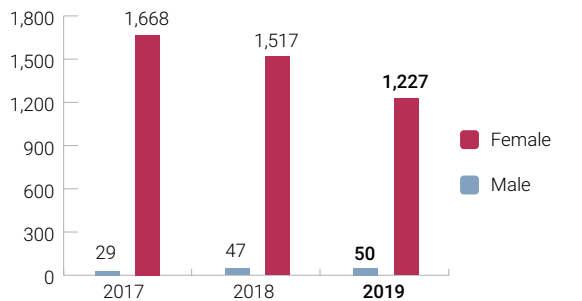
for solving collective labour disputes, if any. The model requirements for drafting collective bargaining agreements within the KMG Group enable building labour relations with the legal framework, preventing improper increase or decrease in employee benefits, recommending consistent actions in addressing labour disputes in order to prevent conflicts and relieve tensions.

KMG's 36 production enterprises have collective bargaining agreements in place. In 2019, the collective bargaining agreements covered 58,710 employees of the KMG Group (in 2018 and 2017 – 58,838, in 2016 – 58,658, in 2015 – 54,197).

The collective bargaining agreements of KMG's enterprises provide for **35 forms of social assistance** for employees and their family members as well as retirees.

KMG provides its employees with a guaranteed social package which includes various types of social benefits and compensations: material assistance for health improvement to annual leave, maternity benefits, monthly payments to employees on leave for childcare until children reach the age of 1.5, compensation for termination of employment in case of impossibility to transfer to another job, due to full loss of ability to work, disability, one-time payment in case of death of the employee for funeral, one-time payment to the family of the employee who died as a result of a job-related accident. The Company also provides social securities for voluntary medical insurance in case of illness and organisation of rest for employees' children in children's health camps in Kazakhstan.

Employees on childcare leave

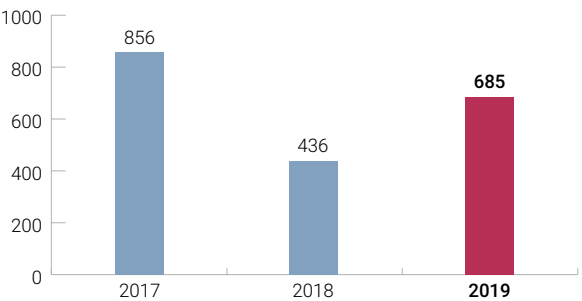


The number of employees being on unpaid childcare leave as of the end of the reporting period was 1,277 people, with the share of female employees being 96%, male – 4%.

The number of women on maternity leave for the reporting period is 685.

Furthermore, employees are provided with historically formed social assistance. These forms of social assistance are set forth in collective bargaining agreements or internal regulatory documents of the enterprise. Such payments include payments for the anniversary date, marriage, short-term marriage leave, paid leaves for childbirth, death of relatives, for medical care and surgeries in case the costs exceed the insurance limit, to disabled workers, disabled children, large and low-income families of employees and many other.

Women on maternity leave



In case of any change in the working conditions, the Company notifies the employee in writing within fifteen calendar days. The minimum period of notification of considerable changes in the Company's operations is 4 weeks.

Social assistance cost structure, %

Voluntary health insurance of employees and their family members in case of illness	22%
Financial assistance for childbirth, childcare, child education, to large families	18%
Organisation of summer vacations for children and extra payment for employee vacations	17%
Social assistance to retirees	7%
Financial assistance for medical care / surgery in case the insurance limit is exceeded	2%
Assistance for purchasing school supplies by 1 September	3%
Financial assistance dedicated to the Day of Disabled Persons to employees who have a spouse/child with lifelong disabilities	2%
Other types of social assistance	29%

Trade Unions

The Company interacts with trade unions on the social partnership basis as established by the labour law at the industrial and regional levels. At the industrial level, basic interaction parameters (social securities, labour organisation, principles of remuneration, employment, gender and youth policy, occupational health and safety, prevention and resolution of labour conflicts, etc.) are set forth in the Sectoral Agreement in Oil & Gas, Oil Refining and Petrochemical Industries of Kazakhstan for 2020–2022, which was developed with the active involvement of representatives of KMG and its enterprises.

The KMG Group has 40 trade union committees with account of local trade unions that protect the interests of over 55 thousand employees.

At the regional level, regional committees for social partnership operate. Apart from regional employment and occupational health issues, these commissions deal with specific collective labour disputes. All KMG companies have functioning grievance committees.

Social Stability

According to the Social Stability Index (SSI) survey conducted by the Social Engagement and Communications Centre of JSC Samruk-Kazyna, KMG's SSI in 2019 was 72%, which is above the average.

According to the SSI survey, action plans for ensuring social stability are developed and updated for all alarm zones within KMG and specific SACs.



KMG's action plan for ensuring social stability cover the identified problems in entities' operations that affect the social well-being of employees (internal communications, food quality, domestic conditions, provision with PPE, training, career growth, etc.).

A manager engagement and satisfaction survey was conducted in the KMG Group companies, with the result of 62% for the reporting period.

Since 2016, all KMG production enterprises have been introducing internal communication tools, according to which performance assessment meetings of CEOs with

the staff are consistently held twice a year, meetings of line managers of KMG SACs with the staff and meetings of managers with the trade union are held on a quarterly basis, each employee is capable to contact the management with questions and to timely receive an answer, over 80 performance assessment meetings of CEOs with the staff were held in 2019.

Besides, for the purpose of setting up and maintaining effective mechanisms of direct communications between employers and employees within SACs, timely notification of employees of the objectives and tasks of SAC operations, bringing the current situation in the entity to the notice of employees, forming the positive image of the entity with employees, monitoring the parameters of the social and psychological climate in labour teams, SACs hold meetings of line managers with business unit, site, team, shop employees, unscheduled meetings of the management with the staff to discuss issues that require operational-decision making, the CEOs of SACs receive employees to address their personal issues.

Each SAC has the CEO blog, corporate information site, monitors for video announcements to bring internal corporate information to the staff. Information stands are used to bring prompt announcements and messages to the notice of employees. Employee questioning is conducted annually at SACs to identify issues of concern.

Meetings of the management with the SAC trade union are held to solve urgent issues related to the performance of the collective bargaining agreement, labour discipline, staff appeals handling, occupational health and safety issues, provision of social benefits and compensations and other socially important issues at the enterprise.

The internal communication system was updated in 2019, and new types of feedback are being implemented, such as a meeting of the KMG management with the KMG SAC management, a meeting of the KMG SAC CEO with young employees. The KMG Corporate Centre is introducing such types of internal communications as a general meeting of the KMG staff members, news announcement, corporate newspaper, video materials, and internal portal.

STAFF DEVELOPMENT

GRI 103-1, 103-2, 103-3, 404-1, 404-2

As part of development of potential, KMG gives a high profile to the development of human resources, among both operations and office personnel.

KMG provides personnel training and development, implements new approaches and programmes for the development of employees of the KMG Group on an annual basis.

Since 2019, the training concept within the KMG Group is focused on developing operations staff — both managers, engineers and technicians, and skilled workers. The Corporate Centre jointly with KMG Engineering, which is the professional competency development centre for the KMG Group, compiled and approved development programmes for industrial jobs, such as Development Engineer (the programme for 25 employees of production companies, such as JSC Ozenmunaygas, JSC Karazhanbasmunay, JSC Mangistaumunaygas, LLP KMG Engineering, LLP Kazakhoil Aktobe and LLP Kazakhturkmunay, was launched in 2019). The Chief Geologist and Chief Process Engineer programmes are being compiled. These programmes are modular, which in turn impacts on the number of training hours per employee.

Projects for introducing the Lean Production system are being implemented within the KMG Group, training programmes for introducing lean production processes are being delivered for subsidiaries and associated companies.

Furthermore, the key line of professional competency development and training is the upgrade of refineries, which in turn induces the need for professional development of employees in this area. Thus, modular training for Pavlodar Refinery employees in IBM Maxima and process management was delivered in 2019. A programme of offsite training in process management was implemented for Pavlodar Refinery, Atyrau Refinery and CASPI BITUM employees in the Petromidia plant (Romania).

A programme for the development of Manager Leadership Competencies and HR Competencies within the KMG Group is under development.

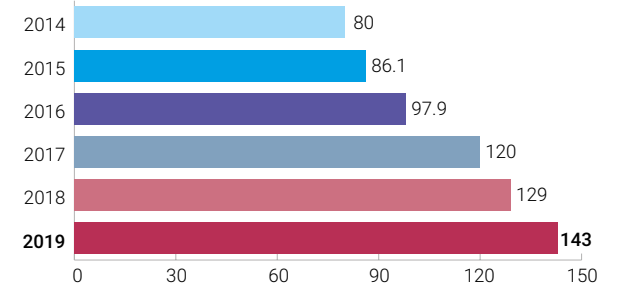
However, training under compulsory professional development programmes and courses remains the main area of training.

KMG also arranges internships by the invitation of partner companies — JCCP, JOGMEC — for the development of KMG Group employees. These companies annually enrol 10–15 KMG Group employees for training in various areas from production, exploration, refining and marketing to HR and finance management. Training takes from two weeks to two months on the average jointly with representatives of various countries in related areas, which enables sharing experience and knowledge as well.



In cooperation with General Electric, employees are sent for training under the Oil and Gas Processes programme to GE Oil & Gas University (Florence, Italy). Seven KMG Group employees have been trained in this area during the cooperation since 2015. The length of training is 5 months.

Total number of employees trained, by years, thous. persons



In 2019, KMG trained 143 thousand persons for the total of 6.5 bln tenge, which is 11% more compared to the last year. The training courses taken are counted towards the number of persons trained (for example, if 1 employee took two training courses, the number of persons trained is 2). The increase in the number of persons trained and expenses is due to the launch and implementation of the above said programmes.

Out of the employees trained, 13% are female, 87% are male. However, female employee training expenses make 21% of the total amount of costs, with the average cost of training for female employees being 73 thous. tenge, male — 41 thous. tenge.

Seven percent of persons trained are office and management personnel, 93% are operations personnel. The high percent of operations personnel trained is due to the compulsory training of employees engaged at hazardous production facilities in accordance with the RoK laws.

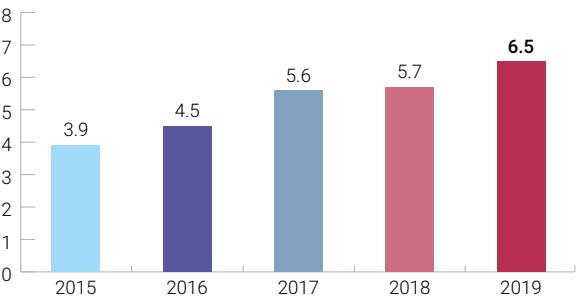
The annual average number of academic hours per employee is 17.6 (15 hours in 2018, 16.1 hours in 2017), including per male employee — 18 hours (14.9 hours in 2018, 15.8 hours in 2017), per female employee — 15.1 hours (15.6 hours in 2018, 18.3 hours in 2017).

At the same time, it should be noted that employees are trained and developed irrespective of their gender and position taken.

KMG cooperates with universities and annually accepts some 25–30 students for pre graduation and production internship.

KMG also actively participates in talented youth development projects initiated by Samruk-Kazyna Fund — Zhas Orken and Digital Summer. During the lifetime of the Zhas Orken project, 15 participants were accepted for rotation within the KMG Group, 3 programme graduates from the first batch of the Project were employed by the KMG Group. About 20 participants of the project were accepted for summer internship within the KMG Group under the Digital Summer project, 4 young specialists were employed in 2019 following the internship.

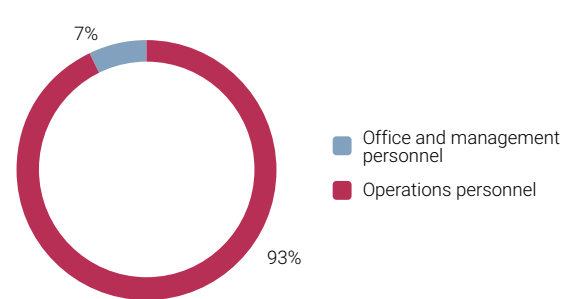
Personnel development costs, bln tenge



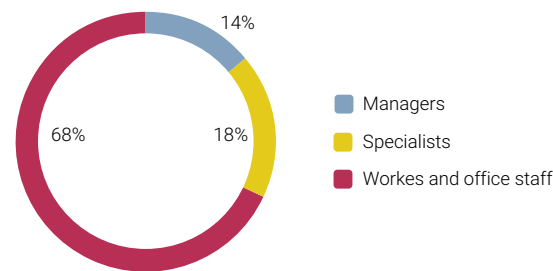
Number of employees trained, by gender, %

years	2015	2016	2017	2018	2019
Male	86.5	88	86	85	87
Female	13.5	12	14	15	13

Number of employees trained, by category, %



Annual average number of academic hours per employee trained, by category, %



OUR COMMUNITIES

GRI 103-1, 103-2, 413-1, 413-2, 203-1

The subsoil use contracts of KMG subsidiaries provide for the allocation of significant funds for the development of the region where they operate and social assistance to populations in need. The companies transfer funds to local executive authorities, who distribute the funds considering the needs of local communities. In 2019, the KMG Group allocated some 7.6 bln tenge under the subsoil use contracts for the development of regions, in particular:

JSC Ozenmunaygas allocated 1.2 bln tenge to the social programmes fund for the development of the Mangystau Region infrastructure.

JSC Embamunaygas allocated over 131 mln tenge for the construction of a secondary school for 424 pupils in the Village of Mukyr, Kyzylkoga District, Atyrau Region, in 2019.

JSC Mangistaumunaygas provided 3.4 bln tenge as a financial support for the social and economic development of the region and development of the Mangystau Region infrastructure.

LLP MNC KazMunayTeniz contributed 388 mln tenge for the reconstruction of the Atazholy motor road in Mangystau Region.

LLP Pavlodar Refinery allocated 447 mln tenge to support specific sports and sports events in Pavlodar.

LLP JV Kazgermunai funded 1,465 mln tenge for the construction of the Youth Service Centre in Kyzylorda, the contribution is counted towards the social and economic development for 2018–2019.

LLP Kazakhoil Aktobe allocated 120 mln tenge for the Aktobe Region and infrastructure development.

Beyond that, pursuant to the instructions of the Kazakhstan Government, the KMG Group allocated 22.8 bln tenge for the Turkestan City infrastructure development (construction of a stadium for 7,000 seats, congress hall and amphitheatre for 1,000 seats),

particularly, KMG — 14 bln tenge, JSC “KazTransOil” — 2.2 bln tenge, JSC “KazTransGas” — 5.7 bln tenge.

In 2016, the Board of Directors of JSC Samruk-Kazyna approved the Fund Charity Policy and the Fund Charity Programme, according to which KMG and its subsidiaries are not allowed to plan and provide sponsor and charity support on their own.

According to the Charity Policy, all charity activities of the Fund Group are conducted by Social Projects Development Fund “Samruk-Kazyna Trust”.

- The priority areas of the Fund are:
- Assisting people, communities in the social and healthcare sector.
 - Developing media, cultural community, developing the human potential.
 - Strengthening labour relations, inter-ethnic relations, investments in sustainable development of the society.
 - Implementation of the regional program of social investments in the regions where the Fund group operates.
 - Enhancing the reputation and promotion of the image of the Fund and / or the group of the Fund.

Social Projects Development Fund “Samruk-Kazyna Trust” implements charity projects and programmes aimed at solving issues of social importance for the population on behalf of the entire Samruk-Kazyna Group. The Fund’s activities are conducted under the auspices of government authorities, the Kazakhstan Government and public and social policy experts. Administrators of the Corporate Fund’s charity projects are selected on bidding basis from among non-governmental organisations.



For more details about the Fund’s activities, please follow the link:
<http://sk-trust.kz/ru/about>



History Case

Based on the joint decision of the Group's labour teams and trade unions, the KMG Group has introduced new tools for consolidating the Group's labour teams – KMG-level corporate activities.

For 20 years, the production enterprises of the KMG Group have been holding a traditional professional excellence contest – Best in Profession, which is designed not only to improve the image of vocational professions but the level of specialists' skills as well. On an annual basis, the enterprises of the KMG Group offer their employees the opportunities to share experience, meet their colleagues, permanently improve their professional level. Since 2016, the Contest has been held at the level of KMG and has increased in scale combining all contests into one.

During the previous years, the Contest was held at the production premises of KMG's subsidiaries.

In 2019, the Contest format was changed, the event is now organised in the form of a forum of vocational professions. In order to bring this event up to the international level and to ensure exchange of experience among representatives of vocational professions, master classes in 16 vocational professions with the involvement of 191 representatives from 26 production enterprises of the KMG Group were held at the production premises of PJSC Tatneft.

The master classes were devoted to such professions as operators of oil and gas production, well survey, reservoir pressure maintenance, oil treatment, process units; oilfield equipment and instrumentation technicians; laboratory assistants, electric gas welders, electricians, car drivers, pump truck motor mechanics, turners, process pump and compressor operators.



History Case

The traditional summer sports and athletic contest involving KMG's subsidiaries was held in Shymkent in 2019. Over 3,000 athletes from 48 subsidiaries took part in qualifying rounds. Three hundred and fifty people from 26 subsidiaries of KMG made it into the final.



History Case

Since 2014, the KMG Group has been actively implementing the youth policy. The Youth Boards have been set up at KMG and in 45 KMG SACs. Devoting special attention to the development of the HR potential, development of the leadership skills of young employees, KMG is successfully implementing its own youth programmes. Establishment and functioning of the Young Professionals Boards at the KMG Group's enterprises, annual forums and training workshops, Best in Profession industrial contests, charity activities and volunteer clean-up events at historical facilities within the KazMunayGas footprint – a non-exhaustive list of what is being done to involve the youth in company management.

Once again, a youth forum called "NON-Conference" was held for young professionals of the KMG Group in 2019. The prefix "NON" of the forum title is primarily designed to strengthen horizontal links, share knowledge and experience between the youth of the corporate centre and subsidiaries. The NON-Conference enables the activists of the KMG youth movement to "break conventions", to clear up the issues of importance for young people in an informal setting – how to be successful, grow as a personality, develop as a professional and, what is particularly important for KMG, how to contribute to the company improvement.

The forum was attended by 178 young professionals of 42 companies of the KMG Group from all the regions of Kazakhstan.

Well-known young Kazakhstanis – honours to the nation and examples to follow – were invited to act as speakers and business trainers at the forum. The speeches of agemates who made real progress in major international corporations – Azat Murzabayev

(Suleyman Demirel University, worked for Twitter, US), Alibek Datbayev (Team Lead at Booking.com, the Netherlands) and many others – were of great interest for NON-Conference participants.

The master class for developing leadership skills was delivered by Marat Zhylynbayev, a prominent Kazakhstan super marathon runner – the first and only athlete ever who ran alone the total distance of over 160 thousand kilometres in the largest deserts of Asia, Africa, Australia and America.



The "NON-Conference" programme also included sessions symbolically* called in Kazakh "NE habar?" (What's up?), "NE zat?" (What?), "NE aitasyn?" (What do you say?), training sessions in financial literacy, rules of conduct in social networks and communications, own success stories of the forum participants were discussed.

* "NON-Conference" in Russian is "NEkonferentsiya". In turn, "NE" in Kazakh means "What".



APPENDICES

APPENDIX 1. REPORTING LIMITS, CHANGES, NOTES

GRI 102-45, 102-46, 102-48, 102-49

Reporting Limits

The Report covers KMG subsidiaries and associated companies where fifty or more percent of voting shares (participation shares) are directly or indirectly owned or held in trust by KMG as well as legal entities whose operations KMG has the right to control.

The list of legal entities included in the consolidated financial statements comprises the following entities:

JSC “Exploration Production KMG”,
JSC “KazTransGas”,
JSC “KazTransOil”,
LLP “Atyrau Refinery”,
LLP “Pavlodar Refinery”,
LLP “KazMunayGas Onimderi”,
LLP “KazMunayTeniz”,
LLP “KazMunayGas-Service”,
KMG International N.V.,
LLP “KMG Karachaganak”,
LLP “Kazmortransflot”,
LLP “KMG Drilling & Services”,
Cooperative KazMunayGas PKI U.A.

Use of Energy Resources and Energy Efficiency section covers 14 SACs, which fully represent the Group’s energy-consuming enterprises.

Oil and Gas Production:

JSC “Ozenmunaygas”,
JSC “Embamunaygas”,
JSC JV “Kazgermunai”,
JSC “Karazhanbasmunay”,
LLP “KazGPP”,
JSC “Mangistaumunaygas”,
LLP “Kazakhturkmunay”,
LLP “Kazakhoil Aktobe”.

Oil and Gas Transportation:

JSC NMSC “Kazmortransflot”,
JSC “KazTransGas”,
JSC “KazTransOil”.

Oil and Gas Refining:

LLP “Atyrau Refinery”,
LLP “Pavlodar Refinery”,
LLP “PetroKazakhstan Oil Products”.

Use of Water Resources section covers:

LLP “Kazakhoil Aktobe”,
LLP “Kazakhturkmunay”,
JSC “Mangistaumunaygas”,
JSC “Embamunaygas”,
JSC “Ozenmunaygas”,
JSC JV “Kazgermunai”,
JSC “Karazhanbasmunay”,
LLP “KazGPP”,
LLP “Urikhtau Operating”,
JSC “KazTransOil”,
JSC “KazTransGas”,
JSC NMSC “Kazmortransflot”,
LLP “Pavlodar Refinery”,
LLP “Atyrau Refinery”,
LLP “PetroKazakhstan Oil Products”,
LLP JV CASPI BITUM,
LLP Zhambyl Petroleum,
LLP “Ozenmunayservice”,
LLP “Oil Construction Company”,
LLP “Oil Services Company” — these subsidiaries and associated companies are KMG’s main operating assets and have a significant impact on the use of water resources of Kazakhstan.

Climate Change and Air Quality section covers the following subsidiaries and associated companies of KMG:

LLP “Kazakhoil Aktobe”,
LLP “Kazakhturkmunay”,
JSC “Mangistaumunaygas”,
JSC “Embamunaygas”,
JSC “Ozenmunaygas”,

JSC JV “Kazgermunai”,
JSC “Karazhanbasmunay”,
LLP “KazGPP”,
JSC “KazTransGas”,
JSC “KazTransOil”,
LLP “Pavlodar Refinery”,
LLP “Atyrau Refinery”,
LLP “PetroKazakhstan Oil Products”,
LLP JV “CASPI BITUM” and oil service entities.

Beneficial Use of Raw Gas section covers the following subsidiaries and associated companies of KMG:

LLP “Kazakhoil Aktobe”,
LLP “Kazakhturkmunay”,
JSC “Mangistaumunaygas”,
JSC “Embamunaygas”,
JSC “Ozenmunaygas”,
JSC JV “Kazgermunai”,
JSC “Karazhanbasmunay”.

Waste Management section covers:

LLP “Kazakhoil Aktobe”,
LLP “Kazakhturkmunay”,
JSC “Mangistaumunaygas”,
JSC “Embamunaygas”,
JSC “Ozenmunaygas”,
JSC JV “Kazgermunai”,
JSC “Karazhanbasmunay”,
LLP “KazGPP”,
LLP “Urikhtau Operating”,
JSC “KazTransOil”,
JSC “KazTransGas”,

JSC NMSC “Kazmortransflot”,
LLP “Pavlodar Refinery”,
LLP “Atyrau Refinery”,
LLP “PetroKazakhstan Oil Products”,
LLP JV “CASPI BITUM”,
LLP “Zhambyl Petroleum”,
LLP “Ozenmunayservice”,
LLP “Oil Construction Company”,
LLP “Oil Services Company”.

Environmental Costs section covers:

JSC “Ozenmunaygas”,
JSC “Embamunaygas”,
JSC “Karazhanbasmunay”,
JSC JV “Kazgermunai”,
LLP “KazGPP”,
LLP “Ozenmunayservice”,
LLP “Ural Oil and Gas”,
LLP “TulparMunayService”,
LLP “Kazakhturkmunay”,
LLP “Kazakhoil Aktobe”,
JSC “Mangistaunmunaygas”,
JSC “KazTransOil”,
JSC “KazTransGas”,
JSC MNC “KazMunayTeniz”,
JSC NMSC “Kazmortransflot”,
LLP “Oil Construction Company”,
LLP “Oil Services Company”,
LLP “Satpayev Operating”,
LLP “Urikhtau Operating”,
LLP “KMG Systems & Services”,
LLP “Atyrau Refinery”,
LLP “Pavlodar Refinery”,
LLP “PetroKazakhstan Oil Products”,
LLP JV “CASPI BITUM”.

HSE Training section covers:

KMG Corporate Centre.

Production:

JSC “Ozenmunaygas”,
JSC “Embamunaygas”,
JSC “Karazhanbasmunay”,
JSC JV “Kazgermunai”,
LLP “Zhambyl Petroleum”,
LLP “N Operating Company”,
LLP “UTTiOS”,
LLP “UDTV”,
LLP “Argymak Trans Service”,
LLP “KenKurylysService”,
LLP “EP-Catering”,
LLP “KazGPP”,
LLP “Ozenmunayservice”,
LLP “Ural Oil and Gas”,
LLP “TulparMunayService”,
LLP “Kazakhturkmunay”,
LLP “Kazakhoil Aktobe”,
JSC “Mangistaunmunaygas”,
JSC MNC “KazMunayTeniz” (including all business units),
LLP “Urikhtau Operating”.

Transportation:

JSC “KazTransOil”,
JSC “Intergas Central Asia”,
LLP “KTG-Aimak”,
LLP “KTG-Onimderi”,
LLP “Beineu-Bozoi-Shymkent Gas Pipeline”,
LLP “Amangeldy Gas”,
LLP “Asia Gas Pipeline”,
LLP NMSC “Kazmortransflot”,
LLP “KMG Systems & Services”.

Refining:

LLP “Atyrau Refinery”,
LLP “Pavlodar Refinery”,
LLP “PetroKazakhstan Oil Products”,
LLP JV “CASPI BITUM”.

Service:

LLP “Teniz Service”,
LLP “KMG Drilling & Services”,
LLP “KMG Security”,
LLP “Oil Construction Company”,
LLP “Oil Services Company”,
LLP “Mangystauenergomunay”,
LLP “MunayTelecom”,
LLP “Oil Transportation Company”,
LLP “KMG-Engineering” (including branches).

Updates, Assumptions and Description of the Data
Collection, Consolidation and Calculation Methodology

The data in the Report may slightly differ from the data presented in the consolidated financial statements (CFS) since the estimates are rounded. In such cases, the data presented in the relevant CFS posted on KMG’s website are true and final. Due to different calculation methodologies and approaches to information disclosure in the Report, the data given may slightly differ from the data published earlier.

The Report reflects the actual number of the Company employees, the earlier Reports for 2017 presented the staff number.

In 2019, the Company revised its approach to calculation of the actual number of employees (the calculation includes employees of the companies with a participation share of 50% and more; earlier the calculation included employees of the companies with a participation share of 20% and more). The data for the previous periods were also recalculated.

APPENDIX 2.
ENVIRONMENTAL INDICATORS

	Production			Transportation			Refining		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Greenhouse gas (GHG) emissions									
Direct GHG emissions (CO ₂ , mln tonnes)	2.7	2.5	2.3	1.6	2.4	2.7	4.2	4.4	4.8
GHG emission intensity (tonnes of CO ₂ per 1,000 tonnes of RWC)	110	101	93	—	—	—	221	216	229
APG flaring									
Flaring (CO ₂ , mln tonnes)	0.7	0.3	0.2	—	—	—	—	—	—
Flared gas per unit of produced RWC (tonnes per 1,000 tonnes of produced RWC)	11.0	6.0	2.95	—	—	—	—	—	—
Flaring (bln m³)	0.3	0.15	0.08	—	—	—	—	—	—
Energy intensity									
Energy consumption (mln GJ)	39.1	55.2	55.5	37.4	55.6	66.0	43.0	56.8	61.3
Pollutant emissions									
Sulphur oxides (SO _x) (thousand tonnes of SO ₂)	7.8	6.7	4.8	0.2	0.2	0.2	6.8	6.5	7.2
Nitrogen oxides (NO _x) (thous. tonnes of NO ₂)	5.9	4.8	5.3	3.5	5.5	6.2	3.9	5.9	6.9
Water									
Total water withdrawal (mln m³)	49.4	52.2	52.4	30.9	33.5	24.9	12.2	16.2	16.2
Water discharge (mln m³)	1.1	1.1	0.9	1.4	1.0	1.0	6.5	8.8	9.2
Waste									
Hazardous (thous. tonnes)	273	220.6	846.4	8.9	2.9	46.6	41.2	39.1	62.2
Non-hazardous (thous. tonnes)	2.7	5.9	12.6	3.4	5.2	4.9	6.6	8.0	7.3
Total waste (thous. tonnes)	276	226.5	859	12.3	8.1	51.5	47.8	47.1	69.5
* of them drill cuttings, onshore (thous. tonnes)	186	174.2	193.2	—	—	—	—	—	—
* of them drill cuttings, offshore (thous. tonnes)	2.05	2.2	0	—	—	—	—	—	—

Environmental costs *

Costs		2016		2017		2018		2019	
		KZT mln	USD mln	KZT mln	USD mln	KZT mln	USD mln	KZT mln	USD mln
1	Costs associated with waste, emissions, pollutant discharge handling and other measures, total	6,682.8	19.5	10,929.4	33.5	11,844.6	34.3	14,847.3	38.79
1.1	Waste treatment and disposal	2,330.6	6.8	5,285.1	16.2	5,833.9	16.9	9,733.2	25.43
1.2	Purification of emissions and pollutant discharges	3,778.3	11.0	5,398.4	16.5	4,531.5	13.1	3,177.6	8.3
1.3	Costs of development and approval of GHG emission documents	52.6	0.15	91.5	0.3	104.4	0.3	101.9	0.27
1.4	Environmental liability insurance	365.5	1.1	97.2	0.3	58.6	0.2	118.2	0.31
1.5	Costs of elimination of environmental damage, including spill response costs	152.1	0.45	1.3	0.004	1,278.8	3.7	1,460.7	3.8
1.6	Costs of environmental compensatory measures	n/a	n/a	55.8	0.17	34.3	0.1	255.7	0.7
2	Investments in prevention of environmental impact and environmental management, total	1,394.7	4.08	1,398.7	4.3	1,035.8	3	1,198.1	3.1
2.1	Employee training and education	246.3	0.7	76.4	0.2	58.6	0.17	18.8	0.5
2.2	External certification and environmental management system development	41.3	0.11	50.0	0.16	47.8	0.14	43.4	0.1
2.3	General environmental management activities	2.1	0.006	3.7	0.01	2.6	0.008	196.7	0.5
2.4	Research and development	263.1	0.76	839	2.6	548.5	1.6	366.0	1.0
2.5	Additional expenses on introduction of cleaner technologies	0.0	0.0	0	0	158.4	0.5	123.5	0.3
2.6	Additional expenses on "green purchasing"	6.1	0.01	68.7	0.2	2.3	0.007	360.3	0.9
2.7	Other environmental management costs	835.6	2.5	360	1.1	217.6	0.6	89.4	0.2

* Disaggregated indicators may differ slightly from aggregate indicators due to rounding to decimal places

Environmental payments (regulatory)

	2016		2017		2018		2019	
	KZT million	USD	KZT million	USD	KZT million	USD	KZT million	USD
Air emissions from APG flaring	4,325	12,655.8	3,886	11,917.2	1,998	5,795.2	1,054	2,752.9
Air emissions (other than APG flaring)	1,064	3,113.5	1,217	3,733.9	1,258	3,633.5	1,584	4,138.8
Water pollution	40	117.0	43	131.1	30	97.9	63	164.7
Waste disposal	412	1,205.6	178	547.2	258	749.0	131	342.4

Location and scope of operations in respect of key biodiversity zones GRI 304-1

Site	Location	Key biodiversity areas (KBA)	Location in relation to KBA	Contract territory (sq. km)	Impact mitigation plan
Kansu	Karakiya District of Mangystau Region	Kenderli-Kayasan Nature Conservation Area and Ustyurt Nature Reserve	Located in the nature conservation area and near the reserve	4,374.6	Decision is made to exit the Project
Samtyr	South-west of Mangystau Region	Kenderli-Kayasan Nature Conservation Area and Ustyurt Nature Reserve	Located close to the nature reserve	10,396.9	Exploratory design stage
Urictau	Mugalzhar District of Aktobe Region	Kozhide-Kumzhargan Local State Nature Reserve	Covers part of the territory	239.9	Hydrogeologocal monitoring
Alibekmola and Kozhasai	Mugalzhar District of Aktobe Region	Kokzhide Sands Kokzhide underground water	Located in close proximity	156.5	Hydrogeologocal monitoring
Zhambyl	Kazakhstan Sector of the Caspian Sea, Atyrau District	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea, Novinsky nature reserve	Located in the nature conservation area and covers part of the territory	1,935.2	Regular environmental monitoring, restrictions on offshore oil operations
Isatay	Central part of Kazakhstan Sector of the Caspian Sea, North Mangystau Region	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea	Located in the nature conservation area	1,060.0	Seasonal baseline environmental studies, regular environmental monitoring
Satpayev	North-west of Kazakhstan Sector of the Caspian Sea, Atyrau District	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea	Located in the nature conservation area	1,481.0	Procedures to return the territory and surrender the Contract have started

APPENDIX 3.

GRI CONTENT INDEX

GRI 102-55

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the English version of the report.



GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 101 Foundation 2016					
General disclosures					
GRI 102: General Disclosures 2016					
	102-1 Name of the organisation	2, 20			
	102-2 Activities, brands, products, and services	4, 6, 8, 10, 12, 14, 20, 21			
	102-3 Location of headquarters	118			
	102-4 Location of operations	21			
	102-5 Ownership and legal form	20			
	102-6 Markets served	21			9
	102-7 Scale of the organisation	4, 6, 8, 10, 12, 14, 20, 21, 22			9
	102-8 Information on employees and other workers	12, 88			8
	102-9 Supply chain	10, 20, 22, 52			12
	102-10 Significant changes to the organisation and its supply chain	16, 18, 32, 52			9, 12
	102-11 Precautionary Principle or approach	64		7	14, 15
	102-12 External initiatives	44			17
	102-13 Membership in associations	45			17
	102-14 Statement from senior decision-maker	16, 17, 18, 19			
	102-15 Key impacts, risks, and opportunities	79, AR*			9
	102-16 Values, principles, standards, and norms of behaviour	24, 37		1, 2, 4	5, 10, 16
	102-17 Mechanisms for advice and concerns about ethics	37		2, 6, 10	5, 10, 16
	102-18 Governance structure	25			16
	102-19 Delegating authority	25			

* AR — Annual Report | 2019 https://www.kmg.kz/uploads/reports/KMG_AR_2019_ENG_30.04_1451.pdf

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 102: General Disclosures 2016	102-20 Executive-level responsibility for economic, environmental, and social topics	26			
	102-21 Consulting stakeholders on economic, environmental, and social topics	26			
	102-22 Composition of the highest governance body and its committees	28			
	102-23 Chair of the highest governance body	28			
	102-24 Nominating and selecting the highest governance body	29			
	102-25 Conflicts of interests	54			
	102-26 Role of highest governance body in setting purpose, values, and strategy	29			
	102-27 Collective knowledge of highest governance body	30			
	102-28 Evaluating the highest governance body's performance	30			
	102-29 Identifying and managing economic, environmental, and social impacts	30		7	
	102-30 Effectiveness of risk management processes	30, AR			
	102-31 Review of economic, environmental, and social topics	26, 27			
	102-32 Highest governance body's role in sustainability reporting	2, 26, 27			
	102-33 Communicating critical concerns	26, 27			
	102-34 Nature and total number of critical concerns	26, 27			
	102-35 Remuneration policies	AR			
	102-36 Process for determining remuneration	AR			
	102-37 Stakeholders' involvement in remuneration	AR			
	102-38 Annual total compensation ratio	AR			
	102-39 Percentage increase in annual total compensation ratio	AR			

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 102: General Disclosures 2016	102-40 List of stakeholder groups	39			17
	102-41 Collective bargaining agreements	94		3	17
	102-42 Identifying and selecting stakeholders	39, 40			17
	102-43 Approach to stakeholder engagement	39, 40			17
	102-44 Key topics and concerns raised	16, 18, 31			
	102-45 Entities included in the consolidated financial statements	102			
	102-46 Defining report content and topic boundaries	2, 41, 102			
	102-47 List of material topics	42, 43			
	102-48 Restatements of information	102			
	102-49 Changes in reporting	102			
	102-50 Reporting period	2, 118			
	102-51 Date of most recent report	118			
	102-52 Reporting cycle	2, 118			
	102-53 Contact point for questions regarding the report	118			
	102-54 Claims of reporting in accordance with the GRI Standards	2			
	102-55 GRI content index	108			
	102-56 External assurance	—			
Specific topics					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	48			
	103-2 The management approach and its components	48			
	103-3 Evaluation of the management approach	48			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	49			8
	201-2 Financial implications and other risks and opportunities due to climate change	79			7, 13
	201-3 Defined benefit plan obligations	50			8
	201-4 Financial assistance received from government	49			

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	93			
	103-2 The management approach and its components	93			
	103-3 Evaluation of the management approach	93			
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	93			8
	202-2 Proportion of senior management hired from the local community	93			10
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	50			
	103-2 The management approach and its components	50			
	103-3 Evaluation of the management approach	50			
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	50, 51, 99			8
	203-2 Significant indirect economic impacts	50, 51			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	52			
	103-2 The management approach and its components	52			
	103-3 Evaluation of the management approach	52			
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	52, 53			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	54			
	103-2 The management approach and its components	54			
	103-3 Evaluation of the management approach	54			
GRI 205: Anti-Corruption 2016	205-1 Operations assessed for risks related to corruption	54, 55		10	16
	205-2 Communication and training about anti-corruption policies and procedures	54, 55		10	16
	205-3 Confirmed incidents of corruption and actions taken	54, 55			

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	66			
	103-2 The management approach and its components	66			
	103-3 Evaluation of the management approach	66			
GRI 302: Energy 2016	302-1 Energy consumption within the organisation	67			
	302-2 Energy consumption outside the organisation	67			
	302-3 Energy intensity	68			
	302-4 Reduction of energy consumption	67		8	7
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	68			
	103-2 The management approach and its components	68			
	103-3 Evaluation of the management approach	68			
GRI 303: Water 2016	303-1 Water withdrawal by source	70			6
	303-2 Water sources significantly affected by withdrawal of water	70			6
	303-3 Water recycled and reused	70			6
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	72			
	103-2 The management approach and its components	72			
	103-3 Evaluation of the management approach	72			
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	73, 74, 75, 76, 107			14, 15
	304-2 Significant impacts of activities, products, and services on biodiversity	77, 107			14, 15
	304-3 Habitats protected or restored	77		8	14, 15
	304-4 Total number of IUCN Red List species and National Conservation List species with habitats in areas affected by operations	77		8	14, 15
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	78			
	103-2 The management approach and its components	78			
	103-3 Evaluation of the management approach	78			

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 305: Emissions 2016	305-1 Direct GHG emissions	80, 81			
	305-2 Energy indirect GHG emissions	80, 81			
	305-3 Other indirect GHG emissions	81			
	305-4 GHG emissions intensity	80			
	305-5 Reduction of GHG emissions	83		8	13
	305-6 Emissions of ozone-depleting substances (ODS)	81			
	305-7 NO _x , SO _x , and other significant emissions	81			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	83			
	103-2 The management approach and its components	83			
	103-3 Evaluation of the management approach	83			
GRI 306: Effluents and Waste 2016	306-1 Water discharge by quality and destination	70			
	306-2 Waste by type and disposal method	83			12
	306-3 Significant spills	79			
	306-4 Transportation of hazardous waste	83			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	85			
	103-2 The management approach and its components	85			
	103-3 Evaluation of the management approach	85			
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	85			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	88, 89, 90			
	103-2 The management approach and its components	88, 89, 90			
	103-3 Evaluation of the management approach	88, 89, 90			
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	91			8
	401-2 Benefits provided to full time employees that are not provided to temporary or part-time employees	94, 95			8
	401-3 Parental leave	94, 95			8

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	94			
	103-2 The management approach and its components	94			
	103-3 Evaluation of the management approach	94			
GRI 402: Labor / Management relations 2016	402-1 Minimum notice periods regarding operational changes	95			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	58			
	103-2 The management approach and its components	58			
	103-3 Evaluation of the management approach	58			
GRI 403: Occupational Health and Safety 2016	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	60			3
	403-3 Workers with high incidence of injuries or high risk of diseases	60			
	403-4 Health and safety topics covered in formal agreements with trade unions	61			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	97			
	103-2 The management approach and its components	97			
	103-3 Evaluation of the management approach	97			
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	98			4
	404-2 Programs for upgrading employee skills and transition assistance programmes	97			4
	404-3 Percentage of employees receiving regular performance and career development reviews	92			4
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	93			
	103-2 The management approach and its components	93			
	103-3 Evaluation of the management approach	93			
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	93			10
	405-2 Ratio of basic salary and remuneration of women to men	93			10

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	54			
	103-2 The management approach and its components	54			
	103-3 Evaluation of the management approach	54			
GRI 406: Non-Discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	55		10	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	94			
	103-2 The management approach and its components	94			
	103-3 Evaluation of the management approach	94			
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	94		3	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	94			
	103-2 The management approach and its components	94			
	103-3 Evaluation of the management approach	94			
GRI 408: Child Labor 2016	408-1 Operations and suppliers with significant risk of child labour usage	94		5	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its boundaries	94			
	103-2 The management approach and its components	94			
	103-3 Evaluation of the management approach	94			
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour	94		4	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	23			
	103-2 The management approach and its components	23			
	103-3 Evaluation of the management approach	23			
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	23		8, 9	9, 12

GRI Standard	Description	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI G4 Sector Disclosures: Oil and Gas	OG1 Volume and type of estimated proved reserves and production	4			
	OG3 Total amount of renewable energy generated by source	68		9	7
	OG4 Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored	77		8	14, 15
	OG5 Volume and disposal of formation or produced water	70			
	OG6 Volume of flared and vented hydrocarbons	82			
	OG7 Amount of drilling waste and strategies for treatment and disposal	85			
	OG8 Benzene, lead and sulphur content in fuels	23			
	OG13 Number of process safety events by business activity	62			3

APPENDIX 4.

ABBREVIATIONS AND ACRONYMS

AG	Amangeldy Gas LLP
AGP	Asia Gas Pipeline LLP
APG	Associated petroleum gas
AR	Atyrau Refinery
AR	Annual Report
CC	Corporate Centre
CDP	Carbon Disclosure Project
CNG	Compressed natural gas
DBK	Development Bank of Kazakhstan
EIA	Environmental Impact Assessment
EMG	Joint Stock Company Embamunaygas
ERP	Enterprise Resource Planning
ES	Emergency situation
ESG	Environmental, Social, and Governance
FAR	Fatal Accident Rate (per 100 million man-hours)
FERs	Fuel and energy resources
GMI	Global Methane Initiative
GRI	Global Reporting Initiative
HCs	Raw hydrocarbons
HSE	Health, safety, industrial and fire safety, environmental protection, emergency prevention
IAOT	International Association of Oil Transporters
ICA	Joint Stock Company Intergas Central Asia
IFRS	International Financial Reporting Standards
IOGP	International Association of Oil & Gas Producers
IUCN	International Union for Conservation of Nature and Natural Resources
JSC	Joint Stock Company
KazGPP	Kazakh Gas Processing Plant Limited Liability Partnership
KBM	Joint Stock Company Karazhanbasmunai
KGM	Joint Venture Kazgermunai Limited Liability Partnership
KMG	Joint Stock Company National Company KazMunayGas
KOA	Joint Stock Company Kazakhoil Aktobe
KPI	Key performance indicator
KTG	Joint Stock Company KazTransGaz
KTGA	KazTransGas Aimak Limited Liability Partnership
KTM	Kazakhturkmunai Limited Liability Partnership
KTO	Joint Stock Company KazTransOil
LLP	Limited Liability Partnership

LTIR	Lost Time Injury Rate (per million man-hours)
mIn	Million(s)
MMG	Joint Stock Company Mangistaumunaygas
NC	National company
OMG	Joint Stock Company Ozenmunaygaz
OSRL	Oil Spill Response Limited
PJSC	Public joint stock company
PKI	PetroKazakhstan Inc.
PKOP	PetroKazakhstan Oil Products JSC (Shymkent Oil Refinery)
POCR	Pavlodar Oil Chemistry Refinery Limited Liability Partnership
RES	Renewable Energy Sources
RoK	Republic of Kazakhstan
RTA	Road traffic accident
SACs	Subsidiaries and associated companies
SDG	Sustainable Development Goals
SDM	Meeting of the KMG Board of Directors and Management Board on Sustainable Development
SR	Sustainability report
UN GC	United Nations Global Compact
UN	United Nations
USNR	Ustyurt State Nature Reserve

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