ҚазМұнайГаз
NATIONAL COMPANY ҰЛТТЫҚ КОМПАНИЯСЫ

ANNUAL REPORT
2022

NEW HORIZONS

CONTENTS

Download PDF

New horizons

FOR PEOPLE AND ECONOMY

KMG went **IPO** on Kazakhstan's stock exchanges KASE and AIX.

Orders submitted by Kazakhstan's citizens were given priority and accepted in full. KMG's IPO will have a positive effect on both the country's financial system and citizens. It is another step towards an open and efficient economy for the benefit of our people.

Alikhan Smailov
Prime Minister of Kazakhstan

IPO OF KAZMUNAYGAS WAS THE LARGEST EVER ON KAZAKHSTAN'S STOCK MARKET

129.9 thous. orders received

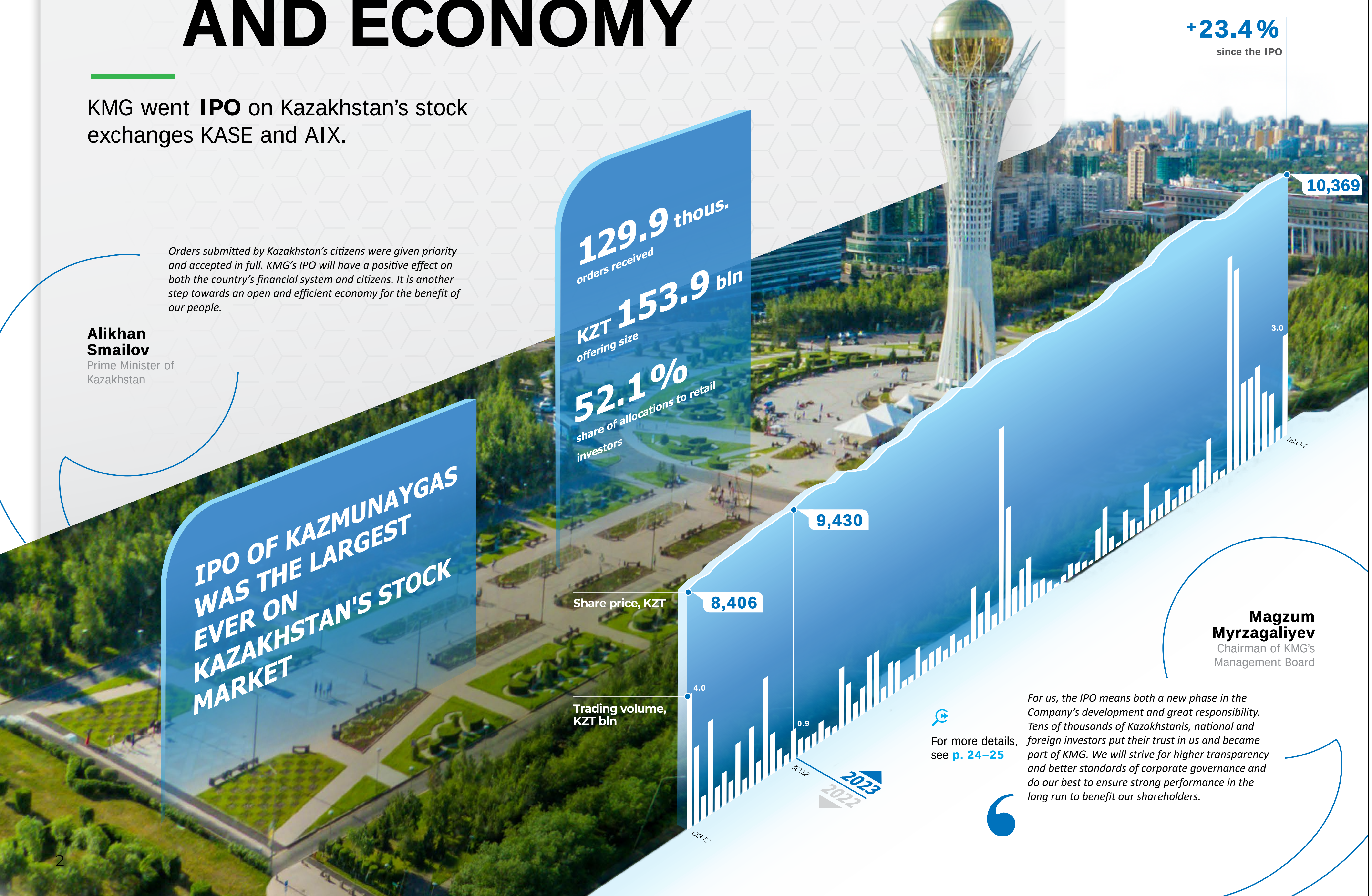
KZT 153.9 bln offering size

52.1 % share of allocations to retail investors

Strategic goal:

Improved efficiency across the Company's value chain

+23.4 % since the IPO



Magzum Myrzagaliyev
Chairman of KMG's Management Board

For us, the IPO means both a new phase in the Company's development and great responsibility. Tens of thousands of Kazakhstanis, national and foreign investors put their trust in us and became part of KMG. We will strive for higher transparency and better standards of corporate governance and do our best to ensure strong performance in the long run to benefit our shareholders.

For more details, see p. 24–25

FIRST EVER IPO OF A NATIONAL COMPANY WITHOUT MEANINGFUL PARTICIPATION OF PENSION FUNDS

0.1 % share of pension funds

FIRST DIGITAL IPO

~99 % of orders were placed via digital platforms

This was the first IPO in Kazakhstan to offer direct subscription via the Tabys app and Kazpost offices. That, together with bank, broker and dealer mobile apps, enabled individuals from all regions and remote localities to subscribe to shares.

For more details, see p. 255–256

New horizons FOR GROWTH

The acquisition of **Samruk-Kazyna's stake in the Kashagan project became a strategic milestone**

This is one of the biggest deals for KMG in recent years. Having increased its interest in the Kashagan project, KMG will improve its consolidated production, EBITDA, net profit and asset portfolio.

Strategic goal:

Resource base sufficient to support the Company's growth

KASHAGAN IS A SUPERGIANT OFFSHORE OIL AND GAS FIELD IN KAZAKHSTAN

One of the largest oil fields discovered in the past decades.

>97 years
2P oil and condensate reserves life

KASHAGAN IS ONE OF THE MOST COMPLEX PROJECTS IN THE INDUSTRY GLOBALLY

Harsh environmental conditions at sea and significant design, logistics and safety challenges require innovative technical solutions. KMG, together with international partners, is successfully implementing the project, having achieved sustainable production rates with further growth potential.

1,402
thous. tonnes
(34 thous. bbl per day)
oil and condensate production in 2022 (attributable to KMG)

For more details, see p. 72–75

New horizons FOR THE COMPANY

KMG is focused on creating a petrochemical industry in Kazakhstan, which marks a **new level in its development.**

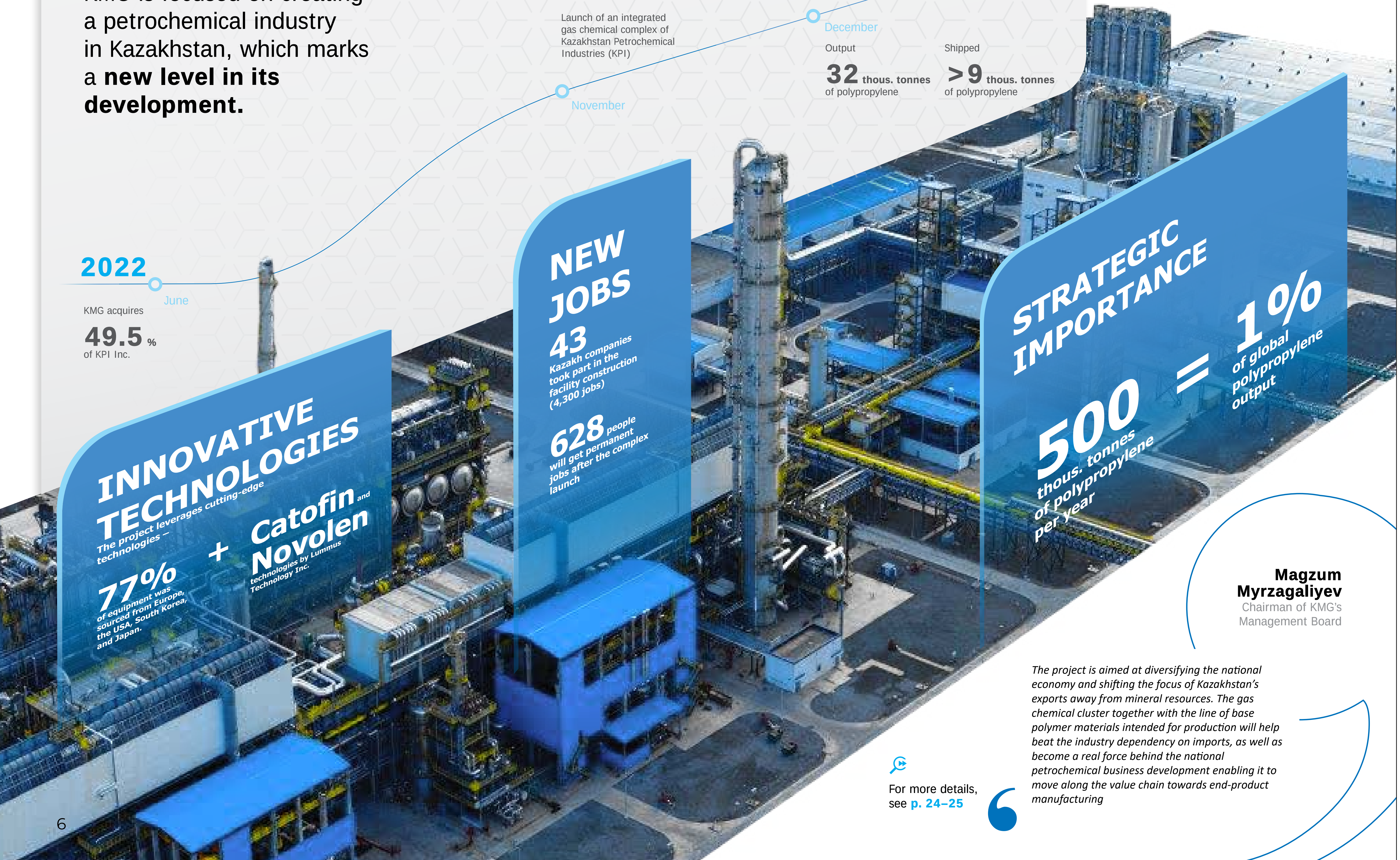
2022

June
KMG acquires
49.5 %
of KPI Inc.

November
Launch of an integrated gas chemical complex of Kazakhstan Petrochemical Industries (KPI)

December
Output
32 thous. tonnes
of polypropylene

Shipped
>9 thous. tonnes
of polypropylene



Strategic goal:

Business diversification and product portfolio expansion

Magzum Myrzagaliyev
Chairman of KMG's Management Board

The project is aimed at diversifying the national economy and shifting the focus of Kazakhstan's exports away from mineral resources. The gas chemical cluster together with the line of base polymer materials intended for production will help beat the industry dependency on imports, as well as become a real force behind the national petrochemical business development enabling it to move along the value chain towards end-product manufacturing

For more details, see p. 24–25

FULLY MEETING DOMESTIC DEMAND AND EXPORTS

In addition to covering the need for polypropylene in the domestic market, the new production facility will also support small and medium-sized enterprises manufacturing products for the construction, medical, automotive and food industries.

For more details, see p. 104–107

HIGH QUALITY AND WIDE ASSORTMENT

Product quality is verified by SGS, a world-renowned Swiss company whose laboratory already operates on the facility's premises.

11
most sought-after polypropylene grades
at the initial stage

65
grades – target product range expansion

For more details, see p. 104–107

SIGNIFICANT RESERVES GROWTH

In 2022, KMG's proved and probable (2P) reserves substantially increased

Strategic goal:

Resource base sufficient to support the Company's growth

As part of this strategic goal, KMG plans to grow organically and inorganically to add new reserves sufficient both for conventional operations and new promising areas of activity.

+9.8%

DUE TO:

- **Acquisition of stake at the Kashagan megaproject**
- **Progress against the development plans, including well interventions and piloting**
- **Increase in oil prices in 2022**

for more details, see the Operating Review section on **p. 60–61**

STRONG FINANCIAL PERFORMANCE

In 2022, KMG significantly increased almost all of its financials

Revenue

2021
15.2
USD bln

2022
18.8
USD bln

+24.3% DUE TO:

growth of Brent crude price by 42.9% year-on-year and the tenge's depreciation against US dollar by 8.2%.

for more details, see the Financial Review section on p. 120–131

IN 2022, FREE CASH FLOW EXCLUDING SHARE BUYBACK IN KMG KASHAGAN B.V. TOTALLED

2.4
USD bln

EBITDA

2021
4.7
USD bln

2022
5.5
USD bln

The key driver behind EBITDA growth was Exploration and Production, mainly due to higher profit from joint ventures and associates, in particular, Tengizchevroil where profit was up USD 575 mln.

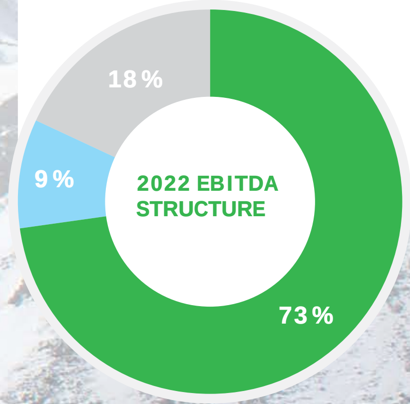
+16.4% DUE TO:

rise in global oil and oil product prices.

USD 3,999 mln
Hydrocarbon exploration and production

USD 517 mln
Oil transportation

USD 994 mln
Refining and sales of crude oil and oil products



IN 2022, KMG CONTINUED TO PURSUE ITS AMBITIOUS STRATEGIC GOALS WHILE STAYING SUFFICIENTLY RESILIENT AND STABLE

STRATEGIC REPORT

NEW HORIZONS

COMPANY OVERVIEW

SCOPE OF OPERATION

JSC National Company KazMunayGas (“JSC NC KazMunayGas”, “KMG”, the “Company”) is a Kazakhstan’s leading vertically integrated oil and gas company.

KMG operates assets across the entire production cycle from exploration and production of hydrocarbons to transportation, refining and provision of services. Established in 2002, the Company represents the interests of the Republic of Kazakhstan in the national oil and gas industry.

Proved plus Probable Reserves (2P)
707
mln toe

Oil and condensate production
22.0
mln tonnes

Gas production
8.2
8.2 bln m³

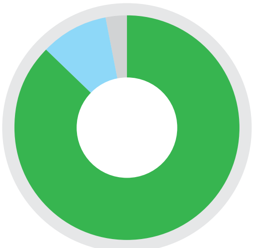
Midstream
74.7
mln tonnes

Oil refining
19.9
mln tonnes

GEOGRAPHY

CAPITAL STRUCTURE

Shareholders of “JSC NC KazMunayGas”



87.42 %
Sovereign Wealth Fund Samruk-Kazyna

9.58 %
National Bank of Kazakhstan

3 %
free float on the KASE and AIX

Under the Trust Management Transfer Agreement for the shares of KMG No. 505 NB / 529-i dated 12 October 2015 signed between Samruk-Kazyna and the National Bank of Kazakhstan, Samruk-Kazyna owns all voting shares of KMG.

Samruk-Kazyna is a sovereign wealth fund with the Government of the Republic of Kazakhstan as its sole shareholder. The Fund’s mission is to improve the sovereign wealth of the Republic of Kazakhstan and ensure long-term sustainability for future generations. The Fund’s portfolio includes companies operating in the oil and gas, transport, logistics, chemical, nuclear, mining and metals, energy and real estate industries.

ASSET STRUCTURE

Material assets of KMG

UPSTREAM

OPERATING ASSETS

- 100 % Ozenmunaigas (OMG)
- 100 % Embamunaigas (EMG)
- 100 % Kazakhturkmunay (KTM)
- 100 % Urikhtau Operating (UO)
- 50 % Mangistaumunaigaz (MMG)
- 50 % JV Kazgermunai (KGM)
- 50 % Karazhanbasmunai (KBM)
- 50 % Kazakhoil Aktobe (KOA)
- 33 % PetroKazakhstan Inc. (PKI)

MEGAPROJECTS

- 20 % Tengizchevroil (TCO)
- 16.88 % North Caspian Operating Company N.V.[1,2]
- 10 % Karachaganak Petroleum Operating (KPO)

MIDSTREAM

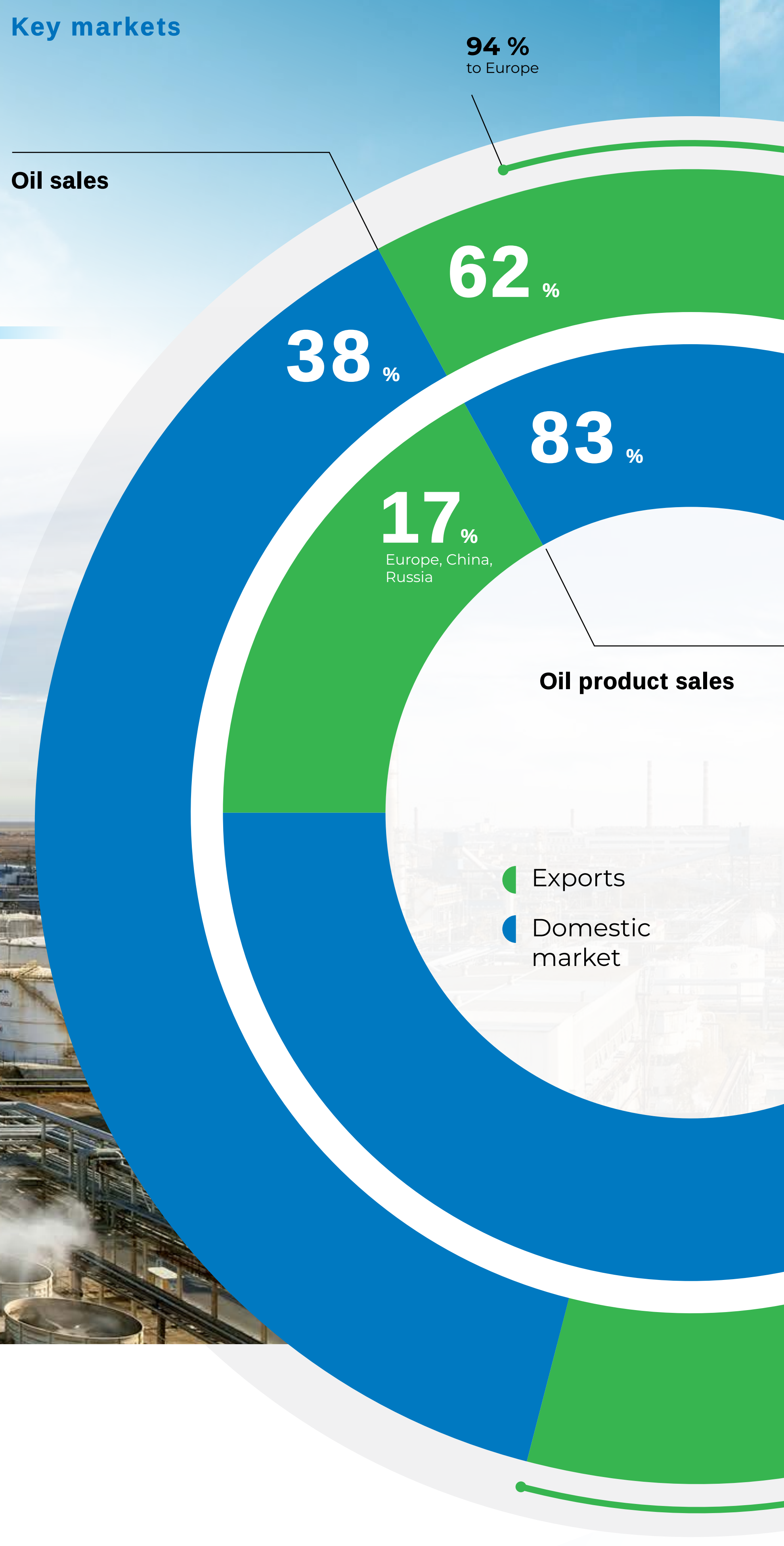
- 100 % NMSC Kazmortransflot (KMTF)
- 90 % KazTransOil (KTO)
  - 100 % Batumi Oil Terminal (BOT)
  - 51 % MunayTas North-West Pipeline Company (MT)
  - 50 % Kazakhstan–China Pipeline (KCP)
- 20.75 % Caspian Pipeline Consortium-R[3] (CPC-R)
- 20.75 % Caspian Pipeline Consortium-K[4] (CPC-K)

REFINING AND PETROCHEMICALS

- 100 % Pavlodar Refinery
- 100 % KMG International N.V.
  - Rompetrol Rafinare SA:
    - 54.62 % Petromidia Refinery
    - 54.62 % Vega Refinery
- 99.53 % Atyrau Refinery
- 50 % Caspi Bitum
- 49.72 % PetroKazakhstan Oil Products
- 49.5 % Kazakhstan Petrochemical Industries (KPI) (KPI)

OILFIELD SERVICES AND OTHER

- 100 % KMG Systems & Services
- 50 % KazRosGas
- 49 % KMG Nabors Drilling Company
- 49 % KMG Parker Drilling Company
- 49 % KMG Automation
- 48.996 % TenizService



1 — NCOC, Kashagan
2 — On 15 September 2022, KMG exercised its call option as part of the 2015 share option agreement to buy back 50% of KMG Kashagan B.V. from Samruk-Kazyna for USD 3.8 bln. KMG Kashagan B.V. owns 16.88% of the North Caspian Production Sharing Agreement (Kashagan project).
3 — 19% held via KMG and 1.75% held via Kazakhstan Pipeline Ventures (KPV).
4 — 19% held via KMG and 1.75% held via Kazakhstan Pipeline Ventures (KPV).

BUSINESS MODEL

COMPETITIVE ADVANTAGES

UNIQUE GEOGRAPHY
Kazakhstan has an extensive resource base, favourable location, and a unique opportunity to export to Europe and fast-growing Asian markets

FULL INTEGRATION ACROSS THE VALUE CHAIN
KMG is the national leader in Kazakhstan's oil and gas industry with a fully integrated value added chain

FINANCIAL STABILITY
The Company maintains its financial stability and provides sufficient conditions for its long-term development

DIVERSIFIED UPSTREAM PORTFOLIO
KMG has a diversified portfolio of oil and gas production assets with an attractive growth potential

LEADING POSITION IN KAZAKHSTAN'S OIL MIDSTREAM SECTOR
KMG has a 53% share in the national oil transportation market and is involved in all of its projects

ADVANCED OIL REFINERIES
The Company operates four largest refineries in Kazakhstan and two in Romania

ADVANCED CORPORATE GOVERNANCE AND COMMITMENT TO SUSTAINABILITY

INTEGRATED VALUE ADDED CHAIN

RESOURCES

Proved plus Probable Reserves (2P)
707 mln toe
5,478 mln boe

Oil and condensate production
22 mln tonnes
456 thous. bbl per day

Gas production
8.2 bln m³

Midstream
74.7 mln tonnes

Pipeline transportation — 65.3 mln tonnes
Marine transportation — 9.3 mln tonnes

Length of oil trunklines
5,373 km

Oil refining
19.9 mln tonnes

Refining in Kazakhstan — 14.3 mln tonnes
Refining in Romania — 5.6 mln tonnes

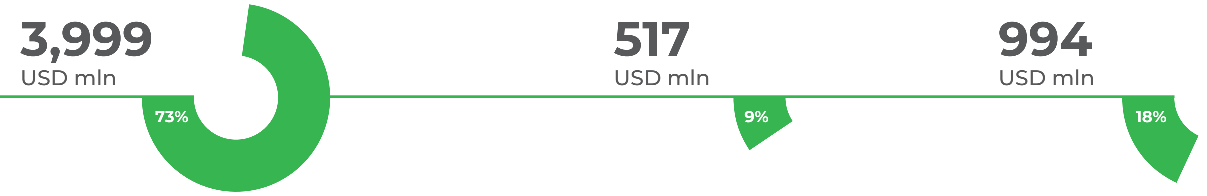
OPERATING CHAIN

EXPLORATION AND PRODUCTION

MIDSTREAM

PROCESSING AND SALES OF CRUDE OIL AND OIL PRODUCTS

EBITDA



STRATEGIC GOALS TO 2031

Increase in reserves (ABC1)
+299 mln tonnes

Total oil output in ten years by 2031
240 mln tonnes

Improved utilisation of existing capacities

Sea transportation synergy

Increase in the depth of refining at Kazakhstan refineries
to 89 %

Implementation of planned polyethylene, polypropylene and others

STAKEHOLDER VALUE

WITH LEADERSHIP AND PRESENCE ACROSS ALL SECTORS OF KAZAKHSTAN'S OIL AND GAS INDUSTRY, FROM EXPLORATION TO PRODUCT SALES, KMG IS WELL-POSITIONED TO CREATE VALUE FOR A WIDE RANGE OF STAKEHOLDERS.

KMG makes regular payouts to shareholders, duly meets its obligations to investors and creditors and is a major employer and taxpayer. The Company promotes mutually beneficial cooperation with partners, invests in social projects and ensures high standards of environmental protection:

Dividends to shareholders
200
KZT bln

Permanent jobs
>47
thous. jobs

Procurement supplies
1,700
KZT bln

Share of local content
82 %

Taxes and other mandatory payments to the national budget
1,176
KZT bln

Social assistance to employees
24
KZT bln

Social investments under subsoil use contracts
11.7
KZT bln

PERFORMANCE HIGHLIGHTS

FINANCIAL HIGHLIGHTS[1]

USD mln

	2022	2021	2020
EBITDA	5,505	4,730	1,960
Revenue	18,845	15,161	8,767
Share in the earnings of joint ventures and associates	2,151	1,597	680
Net profit	2,858	3,020	416
CAPEX on an accrual basis	1,161	1,107	1,098
CAPEX on a cash basis	979	1,065	959
Net debt	4,632	4,594	6,162
Free cash flow	2,421	1,774	121
Net debt / EBITDA	0.84	0.97	3.14

OPERATIONAL HIGHLIGHTS

	2022	2021	2020
2P hydrocarbon reserves, mln toe	707	645	635
Oil and gas condensate production, thous. tonnes	22,011	21,651	21,752
Natural and associated gas production, mln m³	8,241	8,081	8,191
Oil transportation, thous. tonnes	74,658	74,565	73,171
Oil refining, thous. tonnes	19,900	18,833	18,077

SOCIAL HIGHLIGHTS

	2022	2021	2020
Actual headcount[2]	47,526	47,437	60,173
Lost Time Incident Rate (LTIR)	0.36	0.31	0.29[3]
Fatal Accident Rate (FAR)	1.00	2.93	0.0
Social stability level (Samruk Research Services index), %	74	79	86

ENVIRONMENTAL HIGHLIGHTS

	2022	2021	2020
NO_x emissions, tonnes per 1,000 tonnes of produced hydrocarbons	0.31	0.24	0.22
SO_x emissions, tonnes per 1,000 tonnes of produced hydrocarbons	0.21	0.22	0.23
APG flaring rate, tonnes per 1,000 tonnes of produced hydrocarbons	1.5	2.1	2.2

1 — 2022 and 2021 data reflects KMG's acquisition on 15 September 2022 of 50% in KMG Kashagan B.V. from Samruk-Kazyna. KMG Kashagan B.V. owns 16.88% of the North Caspian Production Sharing Agreement (Kashagan project).

2 — In 2020, the Company revised its methodology to calculate the actual headcount (by including employees from consolidated companies with an ownership interest of 51% or above).

3 — Data without hours worked of KazTransGas.

STATEMENT FROM THE CHAIRMAN OF THE BOARD OF DIRECTORS

DEAR SHAREHOLDERS, INVESTORS, AND PARTNERS,

For KMG, 2022 was a landmark and eventful year as global turbulence grew increasingly more intense. As early as 2021, we realised that the world was on the verge of changes and the Company needed to adapt effectively to the new global realities.

We need to align ourselves with global needs and opportunities. The Company will do this by effectively leveraging it's competitive advantages as a company and Kazakhstan's strengths as a regional player.

KMG believes that strong corporate governance is central to delivering robust performance. In its evolution, KMG reached a new level of corporate governance in 2022. The Company went to IPO, the largest on Kazakhstan's stock exchanges – KASE and AIX. On 8 December 2022, secondary trading in KMG shares wwas launched on the stock exchanges. The status of a public company, along with being an increasingly transparent business, implies further sustainable development, when interests of all stakeholders, including minority shareholders, are respected. We are confident that KMG's IPO will greatly contribute to the development of a strong Company that is up to the high standards of modern global majors.

In line with its development strategy, KMG continues its business as a vertically integrated oil and gas company, enhancing its upstream segment, and streamlining operational efficiency. As part of this strategic objective, the Company purchased an 8.44% stake in the Kashagan megaproject from Samruk-Kazyna for USD 3.8 bln, one of the biggest deals for KMG in recent years. With increasing its stake in the Kashagan project to 16.88%, the level of 2P reserves grew by 9.8% and totalled to 707 mln toe (5.5 billion boe). The deal was welcomed by the investment community and credit rating agencies.

As part of the strategic goal to expand its product portfolio, KMG ventured into advanced petrochemicals as one of the new pockets of growth for the future. KMG boasts some impressive achievements in this area. In November 2022, a large-scale integrated gas chemical complex came on-stream (Kazakhstan Petrochemical Industries Inc., where KMG had acquired a 49.5% share). KMG is currently looking into another major petrochemical project for the production of 1.25 mln tonnes of polyethylene per year.

Another important aspect of the Company's balanced development is KMG's sustainability efforts. In December 2022, KMG's ESG risk management was rated by Sustainalytics at 28.4 – medium ESG risk exposure, – which is low for oil and gas companies in general. Experts praised the Company for its engagement with local communities, tax transparency, and commitment to preserving the environment and biodiversity. Moreover, the expert report recognised KMG Group's corporate governance and adherence to high standards of business ethics.

We are proud of the year's results: they assist us in unlocking KMG's potential. I would like to thank our CEO, Magzum Myrzagaliyev, and his Management Board for their strong performance during the year. The milestones that we achieved over the year will lay the foundation for a stronger future.

Chris Walton
Chairman of the Board of Directors of JSC NC KazMunayGas

We are proud of the year's results: they assist us in unlocking KMG's potential. I would like to thank our CEO, Magzum Myrzagaliyev, and his Management Board for their strong performance during the year. The milestones that we achieved over the year will lay the foundation for a stronger future.

STATEMENT FROM THE CHAIRMAN OF THE MANAGEMENT BOARD

DEAR SHAREHOLDERS, INVESTORS, COLLEAGUES, AND PARTNERS,

Despite the high global uncertainty, the reporting year marked quite a number of achievements for KMG. We delivered strong results in the key areas of business while also maintaining a healthy balance of effective production and commercial operations, social responsibility and environmental protection.

A long-awaited historic event is KMG's IPO on local stock exchanges and the status of a public company. President of the Republic of Kazakhstan Kassym-Jomart Tokayev has repeatedly stressed the need for selling state assets to private owners and for national companies to go public. For Kazakhstan's stock market, the transaction was unprecedented in terms of size, number of participants and other important parameters. The offering was worth KZT 154 bln, or 3% of the Company's equity, with the share of retail investors exceeding 52%. This is also the first ever digital IPO which saw about 99% of orders placed online via mobile apps of commercial banks.

KMG delivered positive growth of its operating indicators across all business lines, from exploration and production to transportation and refining of hydrocarbons. We are very happy to announce that KMG contributed 14.3 mln tonnes to the total volume of oil processed by Kazakhstani refineries, which is an all-time high in the history of independent Kazakhstan.

Our strong operational performance in 2022, along with an increase in global oil prices, had a positive impact on our financials, with revenue and EBITDA up by 24.3% and 16.4% year-on-year to USD 18.8 bln and USD 5.5 bln, respectively. In June 2022, we paid our shareholders a record KZT 200 bln in dividends for 2021.

The Company completed a strategic acquisition of a 50% stake in KMG Kashagan B.V. from Samruk-Kazyna for USD 3.8 bln, increasing its stake in the Kashagan megaproject from 8.44% to 16.88% and strengthening its position as a major oil producer, with the Company's 2P reserves up by 9.8% to 707 mln toe (5.5 bln boe). Noteworthy is also the upgrade of our Standard & Poor's rating to BB+ immediately after the deal.

A strategic milestone for us was the launch of a large-scale integrated gas chemical complex of Kazakhstan Petrochemical Industries Inc. with a design capacity of 500 thous. tonnes of finished products per year, which uses Tengiz propane free of harmful impurities as feedstock to minimise the environmental impact. The project cost USD 2.6 bln. In late 2022, the new facility exported the first batch of its products.

We are taking strong effort to duly fulfil our social commitments given our status as a major taxpayer and employer across the regions where we operate. In 2022, we paid a record KZT 1,176 bln in taxes and other statutory contributions. This year, our subsidiaries plan to build more than 40 social infrastructure facilities and overhaul 115 such facilities to improve employee working and recreation conditions.

As regards environmental protection, we are on track with our well-defined action plan to become more eco-friendly and minimise our carbon footprint. One of our steps towards this goal is the construction of a 1 GW wind power plant with an energy storage system in the Zhambyl Region jointly with Total Eren S.A. The feasibility study is now ongoing. The new plant alone will account for a half of energy generated by all the country's renewable energy facilities.

Our 2022 results prove that we manage to pursue our ambitious strategic goals while staying sufficiently resilient and stable. As the Company's management, we are doing our best to ensure sustainable growth of our business in the long run, increase shareholder value and honour our commitments to all stakeholders.

Magzum Myrzagaliyev
Chairman of the Management Board

Our 2022 results prove that we manage to pursue our ambitious strategic goals while staying sufficiently resilient and stable. As the Company's management, we are doing our best to ensure sustainable growth of our business in the long run, increase shareholder value and honour our commitments to all stakeholders.

STRATEGY

MARKET OVERVIEW

Global trends and their impact on strategy implementation

Global trends

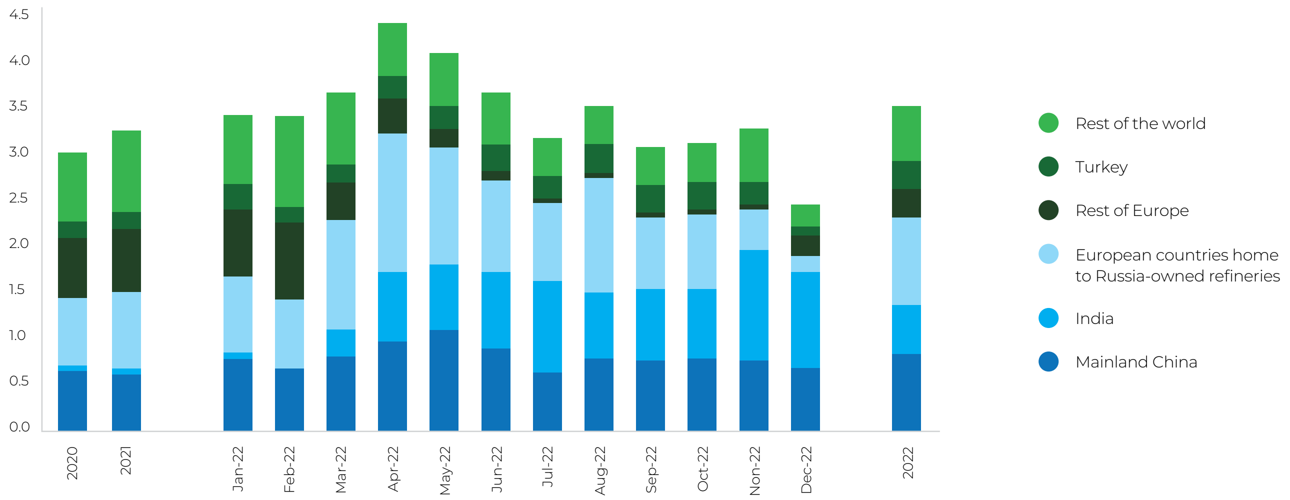
1. Impact of the Russia-Ukraine conflict on the oil and gas industry
2. Impact of China's economic slowdown on the global energy market
3. Climate action
4. High global inflation and slower global economic growth
5. Stronger investment in the clean energy transition
6. Developing innovation and managing cyber security risks in the oil and gas industry
7. Long-term trend of skilled workforce shortages in the oil and gas industry

1 Impact of the Russia-Ukraine conflict on the oil and gas industry

In 1H 2022, the effect of the COVID-19 pandemic and subsequent recovery in demand in most of the key countries put pressure on previously efficient global supply chains. However, those disruptions have been overshadowed by the effects of the Russia-Ukraine conflict that began last February and entailed a radical rethinking of energy supply routes.

Since the conflict began, the energy industry has been operating against a backdrop of uncertainty. After the European Union banned most of Russian crude oil imports by sea, Russia's oil exports and production now depend on mainland China's demand, needs of India, non-Western insurance, and tanker availability. According to S&P Global Commodity Insights, mainland China and India accounted for more than two-thirds of Russia's crude oil exports by sea in 4Q 2022. To offset the loss of Russian crude, European refineries have turned to the US, the Middle East, West Africa and Latin America.

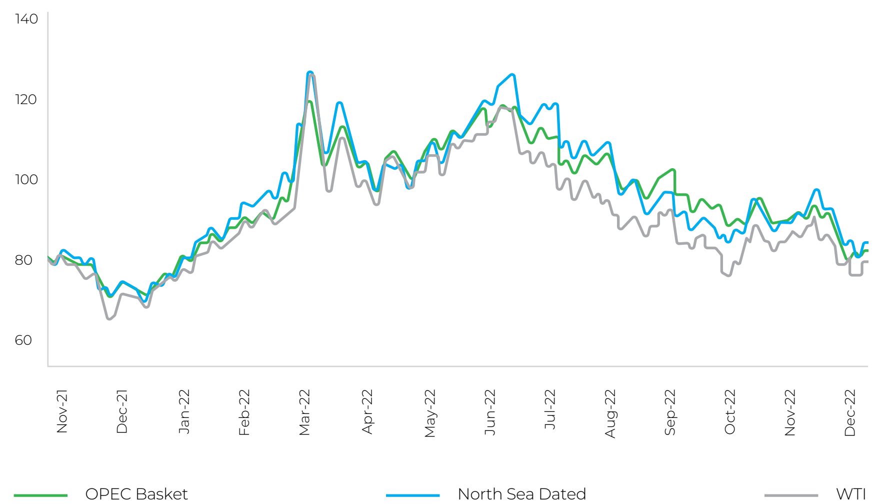
Russian seaborne crude exports by destination, thous. bbl per day



Source: S&P Global Commodity Insights

Crude oil prices were rising globally even before the escalation of the conflict in Eastern Europe, driven by the global economic recovery from the pandemic. However, with the onset of geopolitical tensions, they surged from around USD 76 per barrel in early January 2022 to over USD 110 per barrel on 4 March 2022.

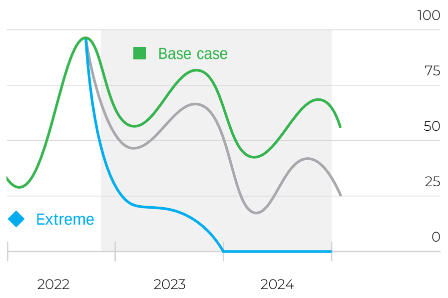
Crude oil price movement, US$ / b



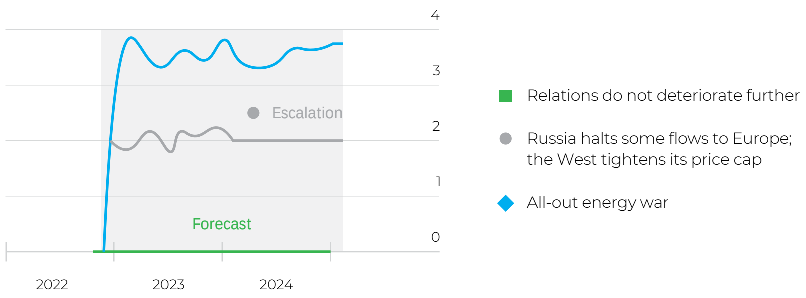
Source: OPEC Monthly Oil Market Report – January 2023

The disruption of energy trade between Europe and Russia triggered a massive spike in energy prices. Rising prices are taking a heavy toll on the global economy, which may be exacerbated if European gas storage capacities empty out.

Europe, gas storage, bln m³



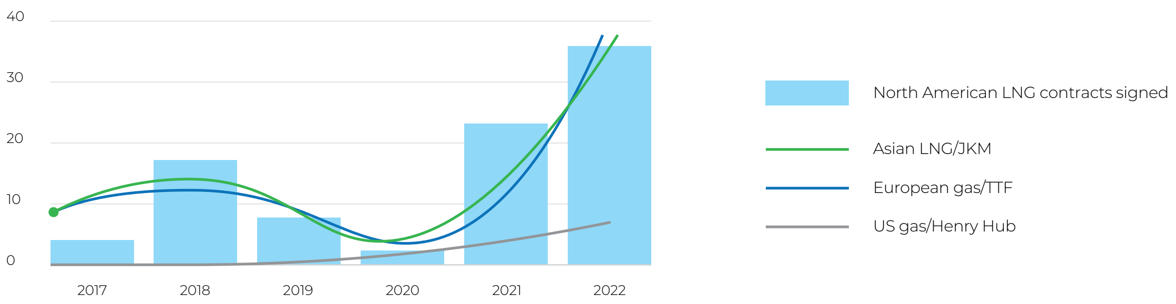
Russia, lost gas-export revenues, USD bln



Source: The Economist

Further potential gas rationing in Europe can cause global gas prices to rise even higher. According to Deloitte, they were driven to new highs in 2022, reaching six to ten times US Henry Hub prices.

Rising demand for LNG as European gas prices reach record levels, USD / 1 mln BTU



Source: US Energy Information Administration (EIA)

US LNG exporters boosted shipments to Europe by 137% in the first eleven months of 2022 from the same period in 2021, according to data from Kpler, supplying more than half of Europe's imported LNG and helping the region weather a more than 55% plunge in piped shipments from Russia.

by **137**%

US LNG exporters boosted shipments to Europe in the first eleven months of 2022

Strategic direction

KMG makes efforts to diversify export routes for Kazakhstan's oil by exploring additional export options, primarily through the Trans-Caspian route.

Since July 2022, Kazakhstan's crude oil has been exported under its own KEBCO brand at a slight discount to Brent. This enabled KMG to offset the lost profit from growing Brent crude prices, as some of the Company's oil was sold under the Urals brand at a high sanctions discount, which had an adverse impact on KMG's financial performance in 1H 2022.

Overall, higher average oil prices resulted in bigger export earnings.

2 Impact of China's economic slowdown on the global energy market

China's economic growth slowed in 2022 due to tight COVID-19 restrictions and a downturn in the real estate market, which consequently led to a significant decline in energy demand. Since the zero-tolerance policy against COVID-19 was lifted in December 2022, the country has been faced with an exponential growth in domestic COVID-19 cases, a decline in economic activity and, accordingly, in demand for oil.

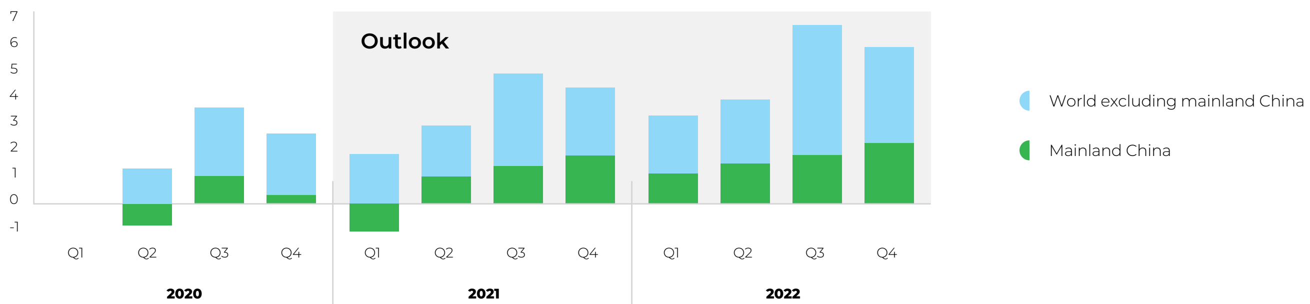
During the first eleven months of 2022, Chinese demand for gas and oil fell by 1.0% and 3.0% respectively.

China's oil demand is expected to decline by 440.000 bbl per day year-on-year in 1Q 2023 and strongly rebound during the initial period after the reopening of the economy.

The outlook for global oil demand growth depends on the demand growth in mainland China. For example, out of a total expected increase in global demand of 5.9 mln bbl per day between 1Q 2022 and 4Q 2024, mainland China accounts for 1.9 mln bbl per day, or about 30%.

According to the OPEC Monthly Oil Market Report – January 2023, China's economy is forecast to grow by 4.8% in 2023 despite muted economic activity due to the zero COVID-19 restrictions. China continues to add new petrochemical capacities on the back of a relatively resilient demand for petrochemical feedstock. This means that the consumption of petrochemical feedstock will remain stable.

Cumulative change in oil demand from 1Q 2022, mln bbl per day



Data compiled: Dec. 15, 2022

Source: S&P Global Commodity Insights

Impact on KMG

On 8 November 2022, KPI Inc. launched a polypropylene plant – the largest in Central Asia and across the globe. KMG's subsidiary will produce up to 500 thous. tonnes of the end product, or around 1% of the global polypropylene output.

This will increase Kazakhstan's output to a level exceeding total production in Turkmenistan, Uzbekistan, and Azerbaijan. Export destinations are Europe, Turkey, CIS and Asia, including China.

In addition, if an agreement is reached with the Chinese side on the price of exported oil, this can potentially increase oil exports to China.

3 Climate action

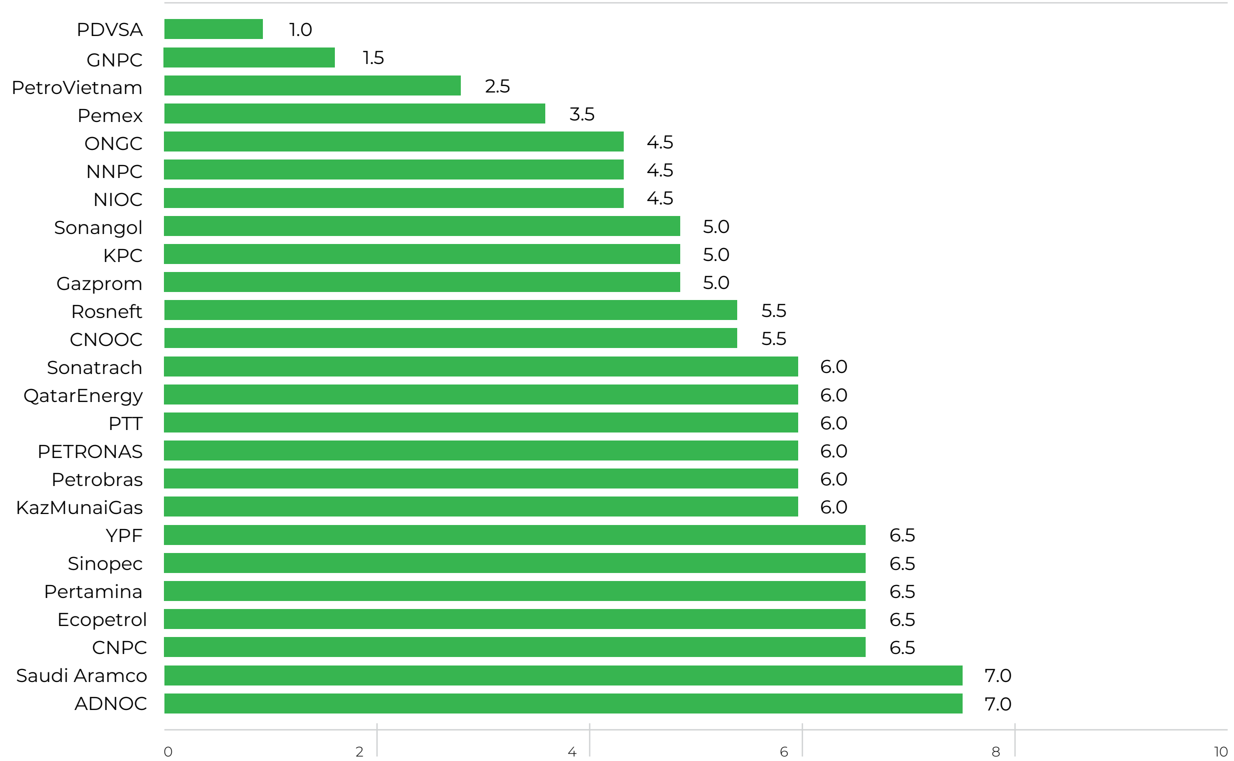
According to a report by the Intergovernmental Panel on Climate Change (IPCC), over the next two decades the world will approach a point of no return when the average temperature increase will reach 1.5 °C. The only way to curb climate change is to reduce emissions of carbon dioxide.

Under the Paris Agreement, countries commit to work towards keeping a global average temperature increase between 1.5 and 2 °C above pre-industrial levels.

The COP27 meeting outlined the need to increase the countries' actual mitigation commitments in order to maintain the ability to keep the temperature rise at no more than 1.5 °C.

Climate change issues have a strong impact on the oil and gas industry, and most of national oil companies (NOCs) that intend to focus exclusively on the oil sector understand the need to adapt to the new realities and address climate change. These companies are taking increasingly active steps to decarbonise their day-to-day operations and retain their social licence to operate in the oil and gas sector. This involves significant investment in going greener, i.e. cutting greenhouse gas (GHG) emissions to reduce methane intensity (by capturing previously flared gas) and electrifying offshore operations to improve their efficiency and contribute to environmental protection.

NOCs: degree of decarbonisation



Data compiled Jan. 12. 2023.

Source: S&P Global Commodity Insights

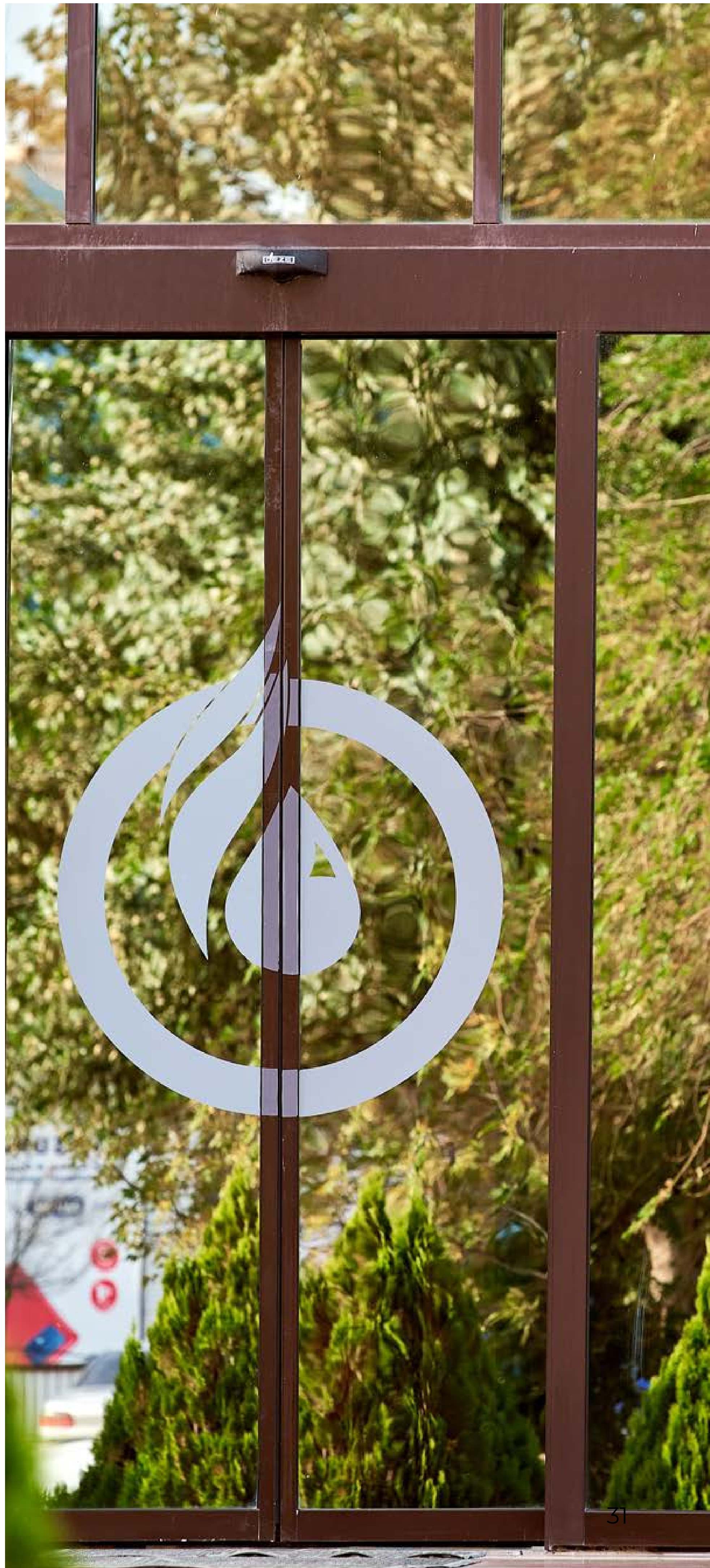
For additional information on the scoring system and methodology used to assess NOC decarbonisation, see the S&P Global Commodity Insights – NOC Insights: In the race to diversify and decarbonise, NOCs remain on the starting blocks

If this trend continues into the next year, this can be a turning point for decarbonisation projects, which will serve to support core carbon-based operations for NOCs. A promising area is carbon capture and storage (CCS), a technology that supports decarbonisation at the initial stage. Given the number of final investment decisions (FIDs) announced and pilot projects launched (PETRONAS, CNPC, SINOPEC), CCS is seen as a more realistic area of focus for many NOCs, especially with the introduction of costly and capital-intensive solutions such as the use of electrolysis for hydrogen production or state-of-the-art moonshot technologies.

Impact on KMG

As part of its Development Strategy and Low-Carbon Development Programme for 2022–2031, both adopted in 2021, KMG focuses on sustainable development and gradual reduction in carbon intensity of production as its strategic goal, which includes commitment to a 15% reduction of direct and indirect CO_2 emissions by 2031 from 2019 levels.

In addition, given the long-term trends in the energy transition, KMG is working towards building its portfolio of low-carbon projects to maintain financial strength in the upcoming zero-emissions environment.

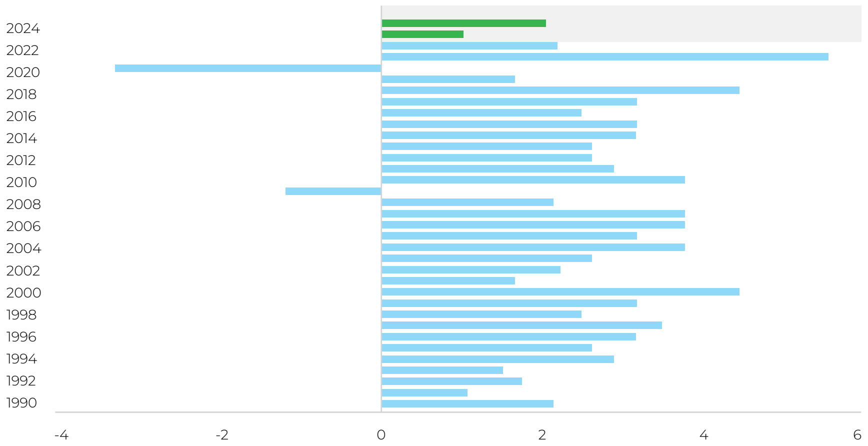


4 High global inflation and slower global economic growth

Global economic activity is experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades. A high cost of living, tightening financial conditions in most regions, the conflict between Russia and Ukraine, and the lingering COVID-19 pandemic all weigh heavily on growth prospects. Global growth is projected to slow down from 6.0% in 2021 to 3.2% in 2022 and 2.7% in 2023, resulting in the weakest growth profile since 2001, excluding the financial crisis and the worst of the COVID-19 pandemic. Such slowdown usually means that the world economy is heading towards a global recession defined as an annual contraction in global per capita GDP.

According to the World Bank's Global Economic Prospects report, inflation rose throughout 2022 in almost all economies. Median global headline inflation exceeded 9% in the second half of the year, its highest level since 1995. Inflation reached almost 10% in emerging markets and developing economics (EMDEs), its highest level since 2008, and in advanced economies just over 9%, the highest since 1982. Inflation was above target in virtually all countries that have adopted inflation targeting.

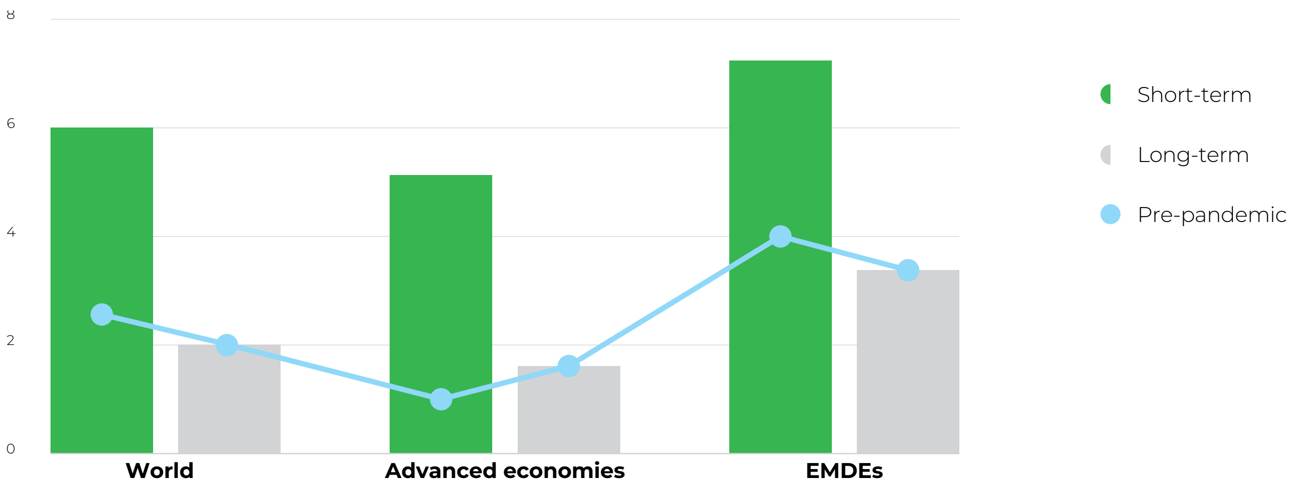
Global growth, %



Note: Shaded area indicates forecasts. Sample includes up to 37 advanced economies and 144 EMDEs. Aggregate growth rates are calculated using real U.S. dollar GDP weights at average 2010-2019 prices and market exchange rates.

Source: World Bank.

Inflation expectations[1], %

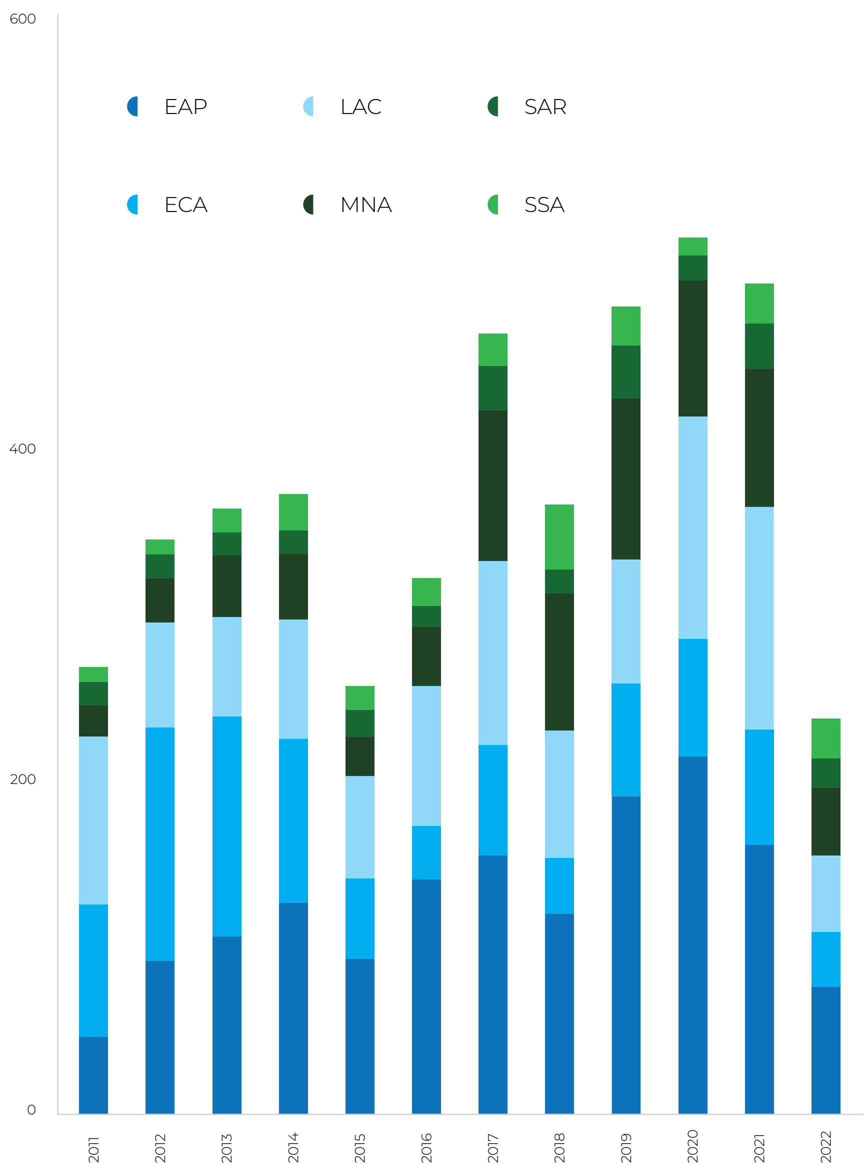


Source: World Bank.

1 — Median one-year-ahead (short-term) and five-year-ahead (long-term) CPI inflation expectations for up to 33 advanced economies and 50 EMDEs based on December 2022 surveys. Blue circles indicate pre-pandemic levels based on January 2020 surveys.

Soaring inflation in 2022 reflected a combination of demand and supply factors. On the demand side, the acceleration of growth during the initial rebound from the 2020 global recession, as well as the lagged effects of earlier macroeconomic support, contributed to persistent price pressures. On the supply side, shortages of key commodities, exacerbated by Russia's special military operation in Ukraine, contributed substantially to higher energy and food prices.

EMDE bond issuance, by region[2], USD bln



Source: World Bank.

2 — Sovereign and corporate bond issuance, January to November.
Unbalanced sample of up to 76 EMDEs (9 EAP, 16 ECA, 17 LAC, 10 MNA, 4 SAR, and 20 SSA).

The World Bank's Global Economic Prospects report notes that dollar strength has squeezed a wide range of borrowers with net dollar exposures and has contributed to inflation in countries with depreciating currencies. To forestall more acute capital outflows and currency depreciation pressures, many EMDE monetary authorities extended domestic tightening cycles or used foreign exchange reserves to lean against currency pressures. Increasingly difficult market conditions led EMDE bond issuance in 2022 to fall to its lowest level in ten years.

Impact on KMG

Amid the current global market environment, KMG is focused on minimising the negative impact that the Company's current, investment, financial and other activities may have on its credit rating, and on financing its day-to-day operations insofar as possible out of its own funds, with debt raised solely to finance new specific projects.

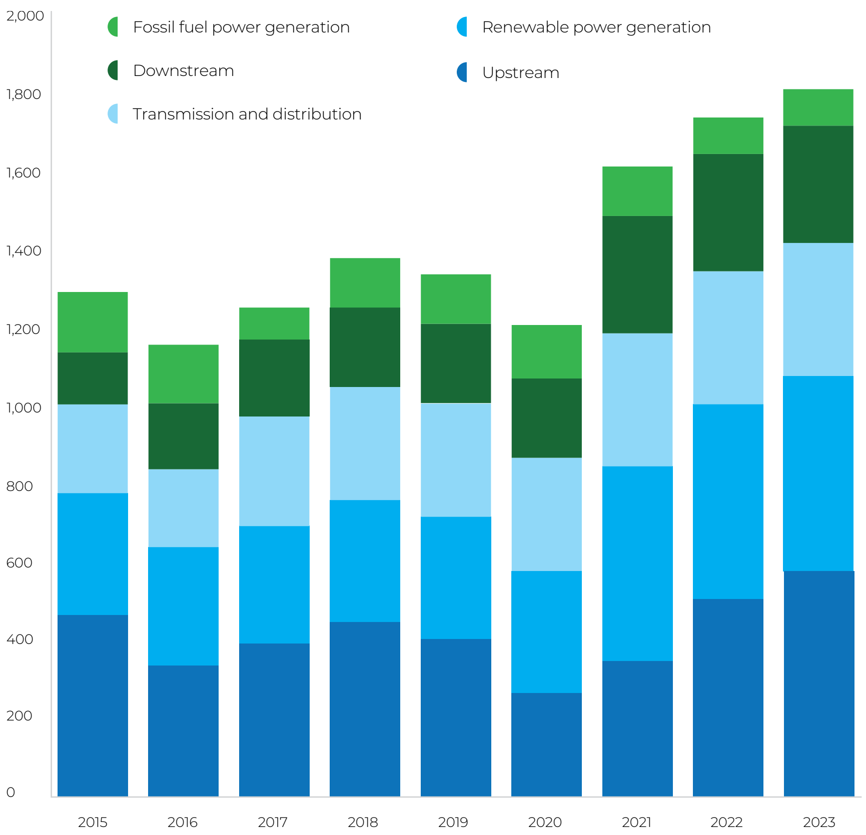
Taking a conservative approach to debt management is another important objective for KMG, given its past experience and a relatively high leverage compared to other oil and gas companies.

5 Stronger investment in the clean energy transition

Higher oil prices and a new focus on energy security may give a boost to investment in new oil supplies, but upstream spending faces headwinds due to the revived cost inflation and competition for investment with the energy transition causes.

Upstream capital expenditure in 2023 is expected to exceed the 2015 level. Spending on renewable energy went up by USD 95 bln in 2020–2022 and is expected to further increase by USD 14 bln in 2023. Renewable energy has become the fastest growing segment of global energy investment since 2015. Overall, global capital spending on energy will increase by USD 50 bln in 2022–2023.

Global energy capital spending, USD bln



Data compiled Jan. 4, 2023.

Upstream spending includes LNG and pipeline. Renewable spending includes wind, solar, nuclear, hydropower, hydrogen, and batteries and storage.

Source: S&P Global Commodity Insights

In addition, the policies adopted in different regions, combined with higher cash flows in the oil and gas industry in 2022 have encouraged oil and gas companies to increase investment in clean energy:

- USA: In 2020–2022, the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act were passed, which together secured some USD 450 bln for clean energy and related investments. The Securities and Exchange Commission (SEC) proposed climate disclosure rules for companies reporting to the SEC.
- Europe: The European Commission decided on the Fit for 55 climate package and the European REPowerEU plan with commitments of around EUR 300 bln for the clean energy transition and emissions reduction.
- Others: More than ten other countries have published hydrogen strategies in the last two years.

Impact on KMG

As part of its Development Strategy and Low-Carbon Development Programme for 2022–2031, both adopted in 2021, KMG focuses on implementation of renewable energy projects with a total capacity of at least 300 MW. The Company also implements other decarbonisation projects (CCUS, hydrogen production, etc.).

6 Developing innovation and managing cyber security risks in the oil and gas industry

Oil and gas companies and other industrial players are facing an increasing number of cyber threats not only to information technology (IT) systems but also to operational technology (OT). As OT becomes more unified, digitalised and automated, cyber intruders are more likely to hack into the system and cause dangerous failures or overrides.

The number of OT incidents increased over the past year. In late January 2022, a cyber attack on two German fuel and oil distributors disrupted supply chain management and in 2021 an attempt was made to disrupt the water supply in Oldsmar, Florida, by remotely accessing the system control station and attempting to raise sodium hydroxide levels.

Furthermore, as hardware in industrial facilities' networks becomes more technologically sophisticated and process control components interact with each other in the domain environment of the industrial control system and operating technology (OT), new risks arise that require new levels of cyber security management.

According to KPMG's oil and gas publication, Drilling Down, incidents of ransomware attacks on OT networks increased fivefold from 2018 to 2020, with manufacturing entities accounting for over one-third of confirmed ransomware attacks on industrial organisations, followed by utilities which made up 10%.

The global cost of these ransomware attacks skyrocketed, reaching USD 20 bln in 2021, up from USD 0.3 bln in 2015. Operational disruption due to ransomware in OT environments has seen a 23-fold increase. In 2020, there was a 32% increase in ransomware attacks against energy and utilities organisations.

Impact on KMG

To prevent cyber risks and leaks of sensitive data, KMG works to maintain the information security management system (ISMS) in compliance with applicable international standards and conducts information security audits.

7 Long-term trend of skilled workforce shortages in the oil and gas industry

The oil and gas industry faces a talent shortage for years due to an ageing workforce, limited new/young talent entering the industry, and growing competition for talent with the technology industry.

These difficulties in getting and retaining talent, which may pose significant issues for the future of the industry, can be attributable to several factors:

New workplace dynamics:

The oil and gas industry is regarded as a relatively staid, conservative one. But to successfully compete for talent these days, companies may have to become more flexible and adapt to the new realities of the modern workforce. Spurred on by the COVID-19 pandemic, many companies permitted or accelerated remote and more flexible working arrangements for their employees whenever possible. This is a change that can help energy companies connect better with the values of coming generations.

Also, as the workforce diversifies, managers should seek to expand their understanding of how to work with people from different backgrounds. This may include acknowledging and embracing the increased importance of ESG and diversity, equity, and inclusion demographics (e.g., race, gender, sexual orientation) and values.

The negative perception of the industry:

The industry is often cast in a negative light by the media. As a result, many talented individuals tend to shun the industry – although this is by no means universal. That is why oil and gas companies continue to rely on the experienced crews who often come back after retirement as contractors. Moreover, there may be a need to “import” foreign employees from India, China and Russia, for example, to help fill the breach. But that also may entail a host of political, immigration and security issues.

Impact on KMG

KMG is building close relationships with the science and research community and will increase the practical effect of scientific developments, including the support of domestic research.

KMG works to build a transparent and flexible incentive system to retain and attract highly skilled staff.

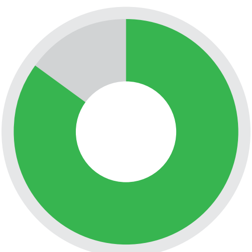
The oil and gas workforce of the future

43%

of the current energy workers want to leave the industry altogether within the next five years

56%

of those currently working in oil and gas said they’d consider jobs with renewables organizations



85%

of university students considering a career in the oil and gas industry said it is important that their future employer has policies aimed at addressing climate change and environmental factors

Source: Energy Outlook Report 2021–2022.

Internal drivers and their impact on strategy implementation

1. Kazakhstan’s oil and gas industry in 2022

According to the Energy Information Administration (EIA), Kazakhstan, an oil producer since 1911, has the second largest oil production after Russia among the former Soviet republics.

The oil and gas industry is a key sector of Kazakhstan’s economy due to its significant hydrocarbon reserves. This industry, together with related sectors (such as transportation, construction of production facilities and geology), accounts for approximately 17% of the total gross domestic product (GDP) of Kazakhstan, according to estimates by the Kazakhstan Association of Oil, Gas and Energy Sector Organisations, KAZENERGY.

As production expanded over the past decades, Kazakhstan has significantly strengthened its position in the global hydrocarbon market. According to BP’s Statistical Review of World Energy, Kazakhstan ranks 12th globally by the volume of its proved reserves.

According to the data and analysis provided by the Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan, the country produced 84.2 mln tonnes of crude oil and gas condensate in 2022 (81.7 mln tonnes and 2.5 mln tonnes, respectively), down 4.9% year-on-year. According to the Ministry of Energy, the country exported 64.3 mln tonnes of crude oil. Gas production in 2022 totalled 53.2 bln m3, down 1.1% year-on-year. According to the Ministry of Energy, the country exported 4.6 bln m3 of gas.

In early February 2023, Kazakhstan’s Ministry of Energy estimated the country’s oil output in 2023 at 90.5 mln tonnes. Oil exports in 2023 are estimated at 71 mln tonnes.

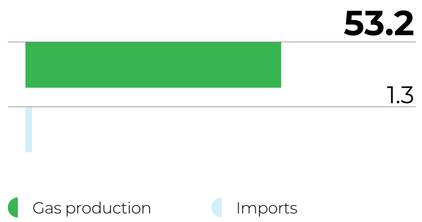
Oil and gas transportation

Kazakhstan has advanced and diversified oil and gas transportation, refining and processing infrastructure, which facilitates the country’s access to global sales markets.

Oil refining and gas processing

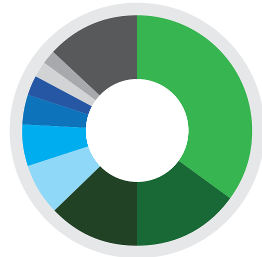
According to the Information and Analytical Centre of Oil and Gas of the Ministry of Energy, the throughput at Kazakhstan refineries in 2022 was 17.92 mln tonnes, up 5.3% year-on-year. The production of all grades of petrol was at 4.97 mln tonnes (up 3.3% year-on-year), jet fuel was at 0.665 mln tonnes (up 13.4% year-on-year), and diesel fuel was at 5.23 mln tonnes (up 7.4% year-on-year).

Gas balance in Kazakhstan in 2022, bln m³



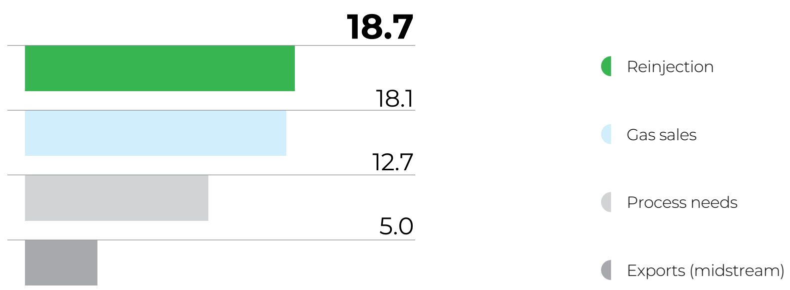
Source: Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

Oil and gas condensate production in Kazakhstan in 2022, %



Source: Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

Gas balance in Kazakhstan in 2022, bln m³



Source: Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

KMG's position in Kazakhstan's oil and gas industry

KMG is the national leader in Kazakhstan's oil and gas industry with a fully integrated value chain.

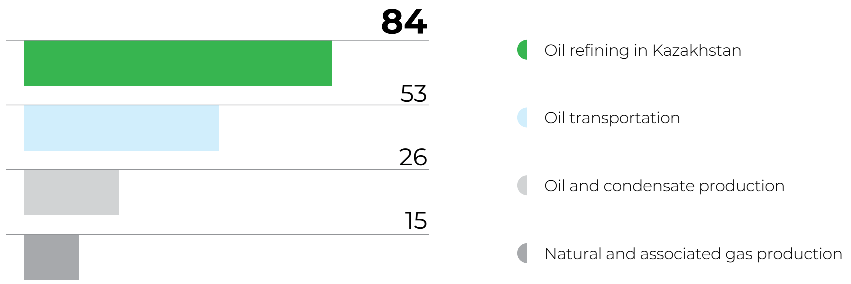
Proved (1P) oil and condensate reserves life was 16 years (based on the 2022 output), far exceeding the average of about 11 years for the global oil majors (based on the 2020 output). KMG's proved and probable (2P) oil and condensate reserves life (based on the 2022 output) was 26 years.

KMG showed the best operating results in Kazakhstan's oil and condensate production segment in 2022, according to the Company's in-house estimates. In 2022, the share of KMG in Kazakhstan's oil and condensate production was 26%, while its share in the nation's gas production came in at 15%.

The Company operates four largest refineries in Kazakhstan with the refining market share of 84% in 2022. KMG completed an ambitious investment programme to upgrade three core refineries in Kazakhstan. As a result the Company ramped up its refining capacity and improved product quality, fully met the domestic demand for petroleum products and expanded their exports to regional markets.

The oil transportation infrastructure managed by KMG is highly diversified and has a strong transit and export potential. The Company's share in the oil transportation market, including trunk pipelines and transportation by sea, totalled 53% for 2022.

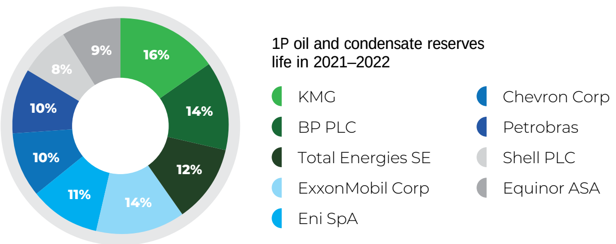
KMG's market share in Kazakhstan by segment in 2022, %



Sources: Company estimates, Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

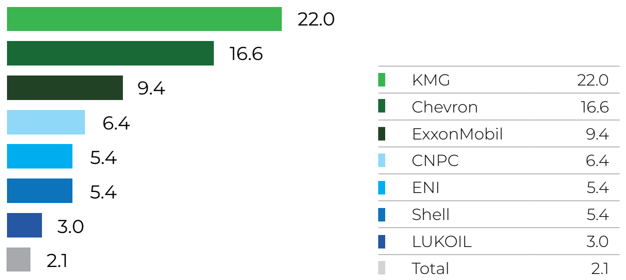
Competition analysis

Hydrocarbon exploration



Source: Bloomberg

Estimated oil and condensate output in Kazakhstan in 2022, mln tonnes



Sources: Company estimates, Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

Strategic direction

KMG focuses closely on further development of the nation's oil and gas industry, while also helping the government to address the challenges of social and economic development in Kazakhstan. The Company acts on behalf of the government in the oil and gas industry and demonstrates strong social responsibility. Successful and sustainable business development is inextricably linked to the nation's economic competitiveness, social welfare, conservation and efficient use of natural resources. KMG sees its mission in the effective and sustainable use of natural resources to ensure energy security, development and prosperity of Kazakhstan, while caring about future generations. In line with the KMG mission, we have set out four strategic goals:

1. resource base sufficient to support the Company's growth,
2. improved efficiency across the Company's value chain,
3. business diversification and product portfolio expansion,
4. sustainable development and gradual reduction in carbon intensity of production.

2. Development of Kazakhstan's petrochemical industry

Kazakhstan actively develops its petrochemical industry. Over the past ten years, the nation's petrochemical output has been growing driven by the launch of new manufacturing facilities.

In 2022, petrochemical production came in at 271.4 thous. tonnes (as compared to the target of 256 thous. tonnes), with plans to increase it to 515 thous. tonnes in 2023.

Kazakhstan's petrochemical industry relies on a number of completed landmark projects. The key of them include Atyrau Refinery (manufacturer of aromatic hydrocarbons such as benzene and paraxylene), Kompaniya Neftekhim (polypropylene production facility), HILL Corporation, LUKOIL Lubricants Central Asia (manufacturer of lubricants), Shymkent Chemical Company (producer of petrol additives such as MTBE) and more. Their total annual production capacity is around 850 thous. tonnes.

To ensure the comprehensive development of its petrochemical industry, Kazakhstan has put in place a special economic zone – the National Industrial Petrochemical Technopark (NIPT), while also introducing tax and customs benefits and providing production facilities with ready-made infrastructure (access motor road, overpass, access rail road, railway station, water pipeline, power transmission line and substation, water treatment unit).

In 2022, NIPT saw the launch of an integrated gas chemical complex with an annual production capacity of 500 thous. tonnes of polypropylene. The site has all the necessary infrastructure to support the production of over 65 polypropylene grades.

Progress against anchor petrochemical projects with the greatest impact on the national economy.

Kazakhstan's petrochemical industry features a number of major completed projects focusing on the production of polyethylene, methanol, terephthalic acid, polyethylene terephthalate, butadiene and rubbers. These projects leverage best-in-class technologies (including digital ones) from the world's leading players.

Pursuant to Kazakhstan's Concept for the Development of the Fuel and Energy Sector in 2022–2026, the national output of petrochemical products is expected to reach 1.2 mln tonnes by 2026.

On top of that, the Ministry of Energy of the Republic of Kazakhstan joined forces with KMG to draft legislative amendments introducing a special investment agreement to be used as a "one-stop document" for the nation's petrochemical projects as a way to drive their investment case. The amendments, which are expected to be included in Kazakhstan's Entrepreneurial and Tax Codes, offer businesses tax benefits for a period of 25 years.

The distinctive feature of investment agreements for petrochemical projects is that they allow the Government to select customised state support tools based on the results of the project's financial and economic assessment and to provide the required benefits for the entire payback period.

Strategic direction

With the support from the Government, KMG will be strongly involved in developing Kazakhstan's petrochemical industry, which is expected to significantly boost the national economy as growth in the petrochemical sector creates a multiplier effect across the entire domestic market.

3. Kazakhstan's Environmental Code

The new Environmental Code of the Republic of Kazakhstan came into effect on 1 July 2021. The Code is based on the «polluter pays and remedies» principle, which implies that major industrial businesses take measures to prevent pollution and introduce best available techniques (BAT). The document provides for new approaches to environmental impact assessment, emission charges, streamlined industrial and consumer waste management, and significantly higher penalties, which will contribute to substantial environmental improvements. During the first phase, the country's 50 largest facilities accounting for 80% of pollutant emissions (including the oil and gas sector) will begin an orderly transition to best available techniques. Other facilities will start transition from 2031. At present, the competent environmental body is drafting industry guidelines on best available techniques, which will serve as a basis for environmental efficiency programmes to be developed by top 50 companies in 2024 for a period defined in such guidelines.

As part of the new Code implementation, Kazakhstan's Ministry of Ecology, Geology and Natural Resources launched a Unified Environmental Portal as a venue for all environment-related government data. The Portal is a critical platform designed to support the nation's businesses and help them develop. It unlocks a significant untapped potential in terms of digitalising business processes related to environmental protection and sustainability. The platform also helped automate such business processes as waste and emissions reporting, classification of facilities, submitting requests for environmental permits, etc.

Strategic direction

KMG's Environmental Policy was updated in 2021 to align with the recently approved Environmental Code of the Republic of Kazakhstan. KMG Group takes a zero tolerance approach to losses and harm caused by environmental pollution. In addition, KMG enhanced its commitment to the sustainable use of natural resources and compliance with biodiversity conservation measures.

KMG Group is dedicated to minimising its environmental impact. On an annual basis, we take measures to clean oil-contaminated soils across the Group's facilities. Plans are underway to develop KMG Group's Water Resources Management Programme.

The recently adopted Environmental Code of the Republic of Kazakhstan expands the liability of facility operators and introduces stricter monitoring and control requirements. In line with these changes, KMG updated its permits based on the lessons learnt from cooperation with contractors and service providers. To control the quantity and quality of emissions and their changes across the Group's production facilities, KMG undertakes operational, production and emissions monitoring. Two KMG subsidiaries (Mangistaumunaigaz and Kazakhoil Aktobe) were among the first companies in the country to implement automated emissions monitoring systems in 2022. There are plans to install similar systems at KMG's refineries.

4. Kazakhstan's Doctrine (Strategy) for Carbon Neutrality by 2060

Kazakhstan's Strategy for Carbon Neutrality by 2060 was developed in 2022 and approved on 2 February 2023. It identifies two distinctive scenarios for the country's economic future. The used scenario-based analysis and assessment of investments needed for transition to carbon neutrality were based on the comprehensive models of potential industrial solutions, system evolution and macroeconomic effects.

The strategy is set to become a major landmark in the long-term development of Kazakhstan, as it outlines transition from a linear development model to a cyclical one (the so-called circular economy). The adoption of the strategy means the need to review the existing economic programmes, tax and budgeting policies, and business plans. For example, industrial and household waste should be used as production resources, while woodlands are to be perceived as carbon capturing assets.

To encourage the growth of businesses fit for the low-carbon economy, the government will put in place clearly defined state support tools and incentives. Furthermore, agricultural subsidies are to be granted based on the ESG criteria to phase out the use of harmful chemical fertilisers. The strategy will also unlock new opportunities for environmentally clean production facilities.

Strategic direction

KMG is fully aware of the material impact its operations may have on the economy, environment and society. That is why we are keen on embedding sustainability principles in our key business processes as a way to align economic, environmental and social priorities with core management objectives. The Company is committed to high social responsibility standards inspired by the principles of partnership with its employees and trade unions. In 2022, KMG received a score from the Sustainalytics international rating agency, with its ESG risk rating assessed at 28.4 (medium risk level).

5. National Project for the Geology Sector Development in 2021–2025

The State Geological Exploration Programme for 2021–2025 was transformed into the National Project for the Geology Sector Development in 2021–2025.

Over the past decades, Kazakhstan has depleted many of its major polymetal ore fields, with oil output declining every year in some of the regions. That said, the country still has room for new discoveries of hydrocarbons and solid minerals.

That is why the national project aims to define the oil and gas potential of poorly explored sedimentary basins and to prospect deep horizons in the mining regions.

Implementation of the national project will help update exploration data and appraise prognostic mineral resources, while also increasing employment rates in the exploration industry, attracting investments and creating new jobs in the construction, mining and concentration sectors.

Strategic direction

KMG will be exploring and developing new reserves in Kazakhstan, including with reliance on the subsoil exploration programme aiming to appraise prospective areas previously unexplored with modern techniques. To speed up the reserve growth, exploration will rely on the latest technologies and methodologies, including new processing approaches, high-quality re-interpretation of geological and geophysical materials, and the use of next generation technologies in seismic surveys.

6. Kazakhstan's economy

In 2022, Kazakhstan's economy grew by 3.4% – a remarkable success in view of the shock waves rippling through the region and across the world. The country's economy proved resilient to a variety of stress factors thanks to the efficient fiscal policy of the Government and monetary policy of the National Bank of Kazakhstan. That said, the disruption of existing logistics chains, strong domestic demand and the migration flow to Kazakhstan drove inflation up to 20.3% in 2022. Food prices soared by 25.3%, while the cost of non-food products and services rose by 19.4% and 14.1%, respectively.

In the medium term, inflation is expected to slow down due to a number of external factors such as waning global demand for goods and services, and tighter monetary policies pursued by central banks across the world. Even so food prices are predicted to remain fairly high. One of the key risks is the ongoing military conflict in Ukraine.

According to analyst forecasts, inflation is likely to peak in 1Q 2023. A disinflationary trend is currently gaining momentum globally, with inflation in Kazakhstan expected to come in at 11–13% in 2023. Factors that help curb domestic inflation include high commodity prices, the strengthening of the tenge against the currencies of Kazakhstan's key trading partners, and the country's impressive trade surplus. With stronger domestic demand and lower inflation expectations, price growth is predicted to slow down to 7–9% in 2024.

Strategic direction

- KMG responded to the military conflict in Ukraine by developing and successfully implementing an action plan designed to mitigate the impact of the crisis on the Company. The action plan focused on navigating the rising inflation, minimising the risk of secondary sanctions, responding to the supply chain changes in the region, and retaining the Company's production and human resource potential to the maximum extent possible.
- KMG seeks to achieve the key strategic objectives of the Government with regard to developing the country's oil and gas industry. The Company is guided by Kazakhstan's strategic documents and pursues growth strategies designed to support the country's economy and social initiatives.

KMG DEVELOPMENT STRATEGY

STRATEGIC FOCUSES

VALUE CREATION

ENERGY TRANSITION

STRATEGIC GOALS

- Resource base sufficient to support the Company's growth
- Improved efficiency across the Company's value chain
- Business diversification and product portfolio expansion
- Sustainable development and gradual reduction in carbon intensity of production

TARGETS – 2031 (Value creation)

New reserves
+299 mln tonnes

- Total oil output **240 mln tonnes**
- Uninterrupted operation of oil refineries
- Meeting Kazakhstan's domestic demand for oil products
- Production of petrochemicals (benzene and paraxylene)
- Increased utilisation of existing transportation capacity
- Development of additional oil export routes

Petrochemical projects to make:

- polyethylene
- polypropylene
- polyethylene terephthalate
- terephthalic acid

TARGETS – 2031 (Energy transition)

15%
CO_2 emissions reduction from the 2019 level

At least
10%
reduction in carbon intensity and energy intensity of production

Implementation of renewable energy projects with total installed capacity of at least
300 MW
attributable to KMG

Gradual improvements in **ESG risk rating**

ALL LINES OF ACTIVITY

- Optimised operating costs
- Optimised asset structure
- Efficient procurement
- Digitalisation and technology development
- Project management

Context

The oil and gas industry has been traditionally affected by turbulence resulting from disrupted oil supplies and price volatility. Over the past seven years, the industry has went through a series of ups and downs, from more than USD 100 per bbl in 2014 to minus USD 37 per bbl in 2020.

In 2022, a combination of economic, geopolitical, trade, political and financial challenges complicated the industry's underinvestment. The oil and gas industry responded to what investors required in terms of prudent investments and financial discipline, causing CAPEX to go down.

Disrupted energy trade between Europe and Russia, new shortage of raw materials for renewable energy development, and challenges in supply chains for low-carbon technologies decelerated the pace of energy transition.

In 2022, global market imbalances drove energy prices up to record highs while also bringing in considerably improved cash flows for oil and gas companies. At the same time, the industry's investment policy remains uncertain.

Against the global trends and developments of 2022, the key drivers of balanced growth for oil and gas companies today are energy security, diversified supplies and operations, and further transition to low-carbon development.

To this end, KMG's goal today is about striking the right balance between ramping up investments and maintaining capital discipline.

KMG has a competitive edge in terms of a resilient production cycle from upstream to downstream that generates cash flows sufficient to deliver against the Company's strategic targets. The Company exercises its priority right to assets onshore and off the shore of the Caspian Sea to grow its resource base.

With cheap feedstock readily available, KMG sees petrochemicals as its natural point of growth to rely on in expanding and improving the Company's value chain.

KMG's successful growth story is underpinned by sustained cash flow generation on the back of increased production and a sustainable development strategy. Given the long-term trends in the energy transition, KMG is building its portfolio of low-carbon projects to remain financially successful in a future zero-emissions world.

Our growth will be secured by the efficiency of existing production, development of new products, introduction of cutting-edge energy saving technologies, and carbon footprint reduction.

VISION

Vertically integrated national oil and gas company that meets the highest standards of safety, is committed to sustainability principles, and strives to maximise its financial performance.

MISSION

We are effective and sustainable in our use of natural resources to ensure energy security, development and prosperity of Kazakhstan while also caring about future generations.

Responding to external and internal challenges, KMG goes ahead with a balanced strategy that combines oil, petrochemical and green projects.

Strategic goal #1

Sufficient resource base in the long run

Resource base sufficient to support the Company's growth

To ensure stable production levels over the next decade, KMG has exploration projects – onshore and offshore in the Caspian Sea.

As part of this strategic goal, KMG plans to grow organically and inorganically to add new reserves sufficient both for conventional operations and new promising areas of activity.

KMG will be exploring and developing new reserves in Kazakhstan, among other things in strategic partnerships with global oil and gas majors.

In 2023, we are entering the active stage for our offshore projects Zhenis and Abay and onshore projects Turgai Palaeozoic, and Taisoigan. The FEED stage will begin at the Kalamkas-Sea–Khazar–Auezov block. On 9 February 2023, a number of agreements on the Kalamkas-Sea, Khazar, Auezov subsoil area development project in the Kazakhstan part of the Caspian Sea were concluded with LUKOIL.

Whenever there are attractive M&A opportunities and the market environment is favourable, KMG will be searching for and acquiring new assets.

Activities/developments of 2022 as part of the strategic goal

- First initiated in 2017, planned further exploration (high-resolution 3D seismic surveys, drilling of new wells, core sampling, etc.) at the Kalamkas field in the Mangistau Region helped grow recoverable oil reserves by 32.6 mln tonnes.

by **32.6** mln tonnes
recoverable oil reserves grew

- On **16 June**, KMG and LUKOIL signed Addendum No. 1 to the Principles Agreement on the Kalamkas-Sea and Khazar Project which provides for selecting the development concept for the Kalamkas-Sea, Khazar, and Auezov fields, and settles the key commercial terms for jointly running the subsoil use project.
- On **17 June**, KMG and Tatneft signed an Agreement of Intent on joint implementation of the Karaton Subsalt exploration project in the Atyrau Region.
- On **15 September**, KMG exercised its call option as part of the 2015 share option agreement to buy back 50% of KMG Kashagan B.V. from Samruk-Kazyna for USD 3.8 bln. KMG Kashagan B.V. owns 16.88% of the North Caspian Production Sharing Agreement.

Strategic goal #2

High efficiency and strong business performance as strengths that investors appreciate

Improved efficiency across the Company's value chain

KMG focuses on its core operations seeking to maximise benefits from production, refining, transportation, and marketing of oil and to improve operations across all key segments.

To make up for the natural decline in production at its operating mature fields, the Company will continue working to increase oil recovery ratios and the time between repairs as well as engage in other measures to improve efficiency with a view to maximising well productivity.

At its large Tengiz, Karachaganak and Kashagan fields, the Company focuses on successful implementation of expansion projects and projects to maintain and extend production plateau.

The Company is committed to effectively leveraging the existing oil transportation infrastructure to enhance its exports and transit businesses. In response to external factors and geopolitical challenges, KMG works to create additional routes to export Kazakhstan's oil. We are in talks with partners to open the southern corridor and ramp up supplies to China.

A major priority for KMG is to ensure seamless operation of refineries and meet domestic demand for oil products.

The Company is engaged in ongoing efforts to optimise its operating costs and make the supply chain more effective.

Activities/developments of 2022 as part of the strategic goal

- On **25 March**, Kazakhstan's first specialised laboratory for testing catalysts used in the production of oil products opened in Atyrau. Grace and KMG are evaluating the prospects for building a full-cycle plant in Kazakhstan to make catalysts used in the country's refining industry.
- On **1 July**, test operation started at the formation water desalination plant at the Karazhanbas field.

Strategic goal #3

Petrochemicals as new point of growth

Business diversification and product portfolio expansion

The Company is developing petrochemical projects to produce polypropylene and polyethylene. The resource base for the projects is gas and its derivatives from the Tengiz field and other fields (propane, ethane, butane, etc.).

With cheap feedstock readily available, KMG sees petrochemicals as its natural point of growth to rely on in expanding and improving the Company's value chain.

In late 2022, an integrated gas chemical complex of Kazakhstan Petrochemical Industries (KPI) Inc. was launched, boasting an annual capacity of 500 thous. tonnes of polypropylene. Another major project is the construction of a polyethylene plant with a capacity of 1.25 mln tonnes.

As part of growing its petrochemical business to diversify operations, KMG will rely on existing and new hydrocarbon resources to run petrochemical projects and make new products amid global shifts in oil demand in the long run.

Activities/developments of 2022 as part of the strategic goal

- On **13 June**, KMG completed a deal to acquire a 49.5% stake in KPI Inc. from Samruk-Kazyna. On 8 November 2022, KPI's polypropylene plant in the Atyrau Region with a design capacity of 500 thous. tonnes per year came on-stream.
- On **14 September**, KMG completed the acquisition of a 49.9% stake in Silleno.
- On **9 December**, KMG completed the acquisition of a 100% stake in KLPE.

Strategic goal #4

Sustainable development and gradual reduction in carbon intensity of production

Sustainable development and gradual reduction in carbon intensity of production

KMG recognises the importance of its economic, environmental and social impact and will continue embedding sustainability principles into the key business processes in order to ensure the alignment of the Company's economic, environmental and social priorities and corporate governance targets.

The Company integrates its ESG goals within the framework for management performance evaluation on an ongoing basis.

In 2022, KMG received a score from the Sustainalytics international rating agency, with its ESG risk rating assessed at 28.4. This means that KMG's risk was moved to the medium category.

KMG's key ESG challenges are carbon emissions from operating activities and emissions from using the Company's products, as well as community relations in our operating regions. By 2031, KMG aims to solidify its standing as a company with medium ESG risks.

KMG will develop an Employee Health Management Programme to better care about the health and well-being of the employees, with a focus on three major tracks:

- measures to tackle the pandemic and its implications;
- prevention of occupational diseases;
- improved employee awareness of, and motivation for, a healthy lifestyle.

To introduce unified approaches and improve occupational health performance, the Company will develop a corporate healthcare programme.

With the climate agenda now a matter of strategic importance, the Company runs the 2022–2031 Low-Carbon Development Programme, setting out KMG's climate ambitions and key approaches and measures for carbon footprint reduction.

In its commitment to limit carbon footprint, the Company pursues a balanced approach, targeting a 15% reduction in greenhouse gas emissions by 2031 from the 2019 level. The Company also plans to implement renewable energy projects with a total capacity of at least 300 MW.

In 2022, as part of improving its GHG emissions management processes, KMG approved the Internal Carbon Pricing Programme and the GHG Emission Monitoring and Reporting Methodology.

The Internal Carbon Pricing Programme sets out the key approaches to assessing GHG emissions in value terms to analyse KMG's sustainability during the energy transition. Also, the programme will put in place additional incentives for subsidiaries and associates to limit their emissions while also enabling the assessment of projects' financial risks related to carbon regulation.

The GHG Emission Monitoring and Reporting Methodology is aimed at standardising approaches to monitoring and taking stock of GHG emissions among KMG's subsidiaries and associates.

To achieve its strategic goals, KMG focuses on addressing end-to-end objectives in the areas of business process optimisation, project management, technology development, digitalisation, IT, HR and risk management while managing the assets through a holding company model.

The Company carefully selects and prioritises investment opportunities, considering only highly effective strategic projects for investments. KMG is committed to prudent capital allocation and focuses on maximising benefits for the shareholders and respecting the interests of the government in the oil and gas industry. The Company seeks to adhere to a conservative financial policy maintaining a balanced debt profile and securing a strong liquidity position.

By delivering on its four strategic goals, KMG will contribute to diversifying the national economy and reducing Kazakhstan's carbon footprint, which will help grow the Company, promote the well-being of people in Kazakhstan, and preserve the environment for generations to come.

Activities/developments of 2022 as part of the strategic goal:

- On **16 March**, agreement was reached for technical support to be provided by the EBRD to introduce a framework and procedures to disclose climate-related financial information (in line with the TCFD's recommendations).
- On **8 June**, KMG and Chevron, through its subsidiary Chevron Munaigas Inc., announced a memorandum of understanding to explore potential lower carbon business opportunities in Kazakhstan.
- On **9 June**, Kazakhstan's Ministry of Energy, Samruk-Kazyna, KMG and Total Eren S.A. entered into the Agreement in Principle under a project to construct a 1 GW wind power plant in the Zhambyl Region. The project will be implemented on a phased basis, with its completion scheduled for 2024–2026.
- On **24 November**, seeking to promote renewable energy in Kazakhstan, KMG purchased International Renewable Energy Certificates (I-REC) and made a claim for 8.5 mln kWh, an equivalent of expected electricity consumption by KMG's headquarters in 2022.
- On **30 November**, the governments of Kazakhstan and France signed a special agreement in Paris to implement cooperation in the field of combating global warming.

KPI SYSTEM

Weights of corporate and functional KPIs for the final performance evaluation of the Management Board

CORPORATE KPIS

100% Chairman of the Management Board

70% Members of the Management Board

FUNCTIONAL KPIS

30% Members of the Management Board

The performance evaluation system is among the Company's strategic and day-to-day management tools to ensure that the Company's business processes are aligned with its strategic goals.

The KPI system relies on the following principles:

- a balanced approach where production, financial and economic KPIs come along with sustainability and ESG KPIs;
- a top-down approach with the breakdown of strategic KPIs into operational KPIs and the top-down cascading of strategic KPIs through the organisational structure and by type of activity.

Corporate KPIs are the same for all employees and are based on KMG's priorities for the reporting period. Functional KPIs are individual KPIs of the Company's Management Board members and are based on their individual strategic targets.

Performance against corporate KPIs in 2022

№	KPI	Unit	Actual[1]
1	Oil and gas condensate production[2]	thous. tonnes	22.012
2	Free Cash Flow (FCF)[3]	KZT bln	1.116
3	Lost Time Incident Rate (LTIR)	Ratio	0.36
4	ESG risk rating	Rating	28.4
5	Preparation for IPO	%	100
6	Performance under investment projects	%	60

Performance against KMG corporate KPIs in 2021

№	KPI	Unit	Actual
1	Performance under investment projects	%	43
2	Operational efficiency improvement	%	98
3	FCF available for development and distribution as dividends[4]	KZT bln	-31
4	Net Asset Value (NAV)[5]	KZT bln	10.255
5	Debt/EBITDA[6]	Ratio	2.4
6	ESG rating	Rating	72
7	Local content across KMG Group[7]	%	78

1 — The final approval by the KMG Board of Directors of the actual values for 2022 is expected in July 2023, and therefore the values indicated in the table may be slightly adjusted.
2 — KMG Kashagan B.V.'s oil and gas production volumes are included at 50% until 15 September 2022 and 100% after 15 September 2022.
3 — Free Cash Flow = Net cash flow from operating activities minus Purchase of property, plant and equipment, intangible assets, investment property and exploration and evaluation assets. Dividends received from JVs and associates are included in cash flow from operating activities.
4 — Cash flow from operating activities (excluding joint ventures and associates) less maintenance CAPEX
5 — On November 9, 2021, KMG transferred 100% of the shares of QazaqGaz NC JSC in favor of Samruk-Kazyna JSC. Therefore, QazaqGaz NC JSC was excluded from the consolidation perimeter. However, the actual figure includes QazaqGaz NC.
6 — As per approved methodology of JSC Samruk-Kazyna.
7 — A composite indicator reflecting performance against local content targets set across KMG Group.

KPIs and targets for members of KMG's Management Board are approved annually by KMG's Board of Directors. Performance evaluation for awarding bonuses is carried out after the Company has analysed its financial and economic results for the reporting year.

Corporate KPIs for 2022 were developed based on the sustained need for the management to focus on operational efficiency improvements and on ESG aspects of the Company's operations.

PERFORMANCE UNDER INVESTMENT PROJECTS

Investment portfolio overview

In line with the KMG Development Strategy for 2022–2031, the Company's investment portfolio includes projects both in conventional areas (exploration, transportation and refining of oil) and new realms (petrochemicals and sustainability). KMG is also considering new projects with a focus on alternative energy and reduction of carbon footprint across its existing operating assets. Sources of project financing are determined on a case-by-case basis, with the Company relying insofar as possible on its own funds and raising debt solely for certain new projects.

To improve investment and financial discipline, KMG seeks to raise debt mostly at the project level with the lowest recourse to the Company.

In 2022, the investment portfolio totalled KZT 47.030 bln, including KZT 16.713 bln attributable to KMG.

Oil and gas exploration and production

In 2022, in order to strengthen the investment case for the country's oil and gas industry, the Government of Kazakhstan together with foreign investors and KMG developed an improved model contract offering a number of regulatory and fiscal benefits for complex projects that require additional support (new complex onshore, offshore and gas projects). In December 2022, the President of Kazakhstan signed a relevant set of amendments to the national Code on Subsoil and Subsoil Use and Tax Code. These amendments will impact several KMG's projects helping intensify work both on the Caspian Sea shelf and on a number of complex and gas projects onshore.

In early December 2022, the Company launched the mobilisation stage and commenced the drilling of a 3.300 m deep exploration well for the Zhenis block in Kazakhstan's part of the Caspian Sea. We expect to complete the drilling in 2023.

Портфель инвестиционных проектов

Project type	Total investment portfolio, KZT bln	Share of investment portfolio attributable to KMG, KZT bln
Oil and gas exploration and production	39.809	12.058
Infrastructure projects	371	371
Oil transportation	410	149
Refining and marketing of oil products	208	123
Petrochemicals	6.096	3.926
Other	137	86
Total	**47.030**	**16.713**

In early 2023, the Company signed a subsoil use contract for the Kalamkas-Sea–Khazar–Auezov block, which has proven reserves. The next step is to agree on the field development concept with LUKOIL, our partner.

KMG also conducts active onshore exploration. In 2022, we proceeded with preparations to drill an exploration well for the Turgai Palaeozoic block, with plans to drill a 5.500 m deep well there in 2023.

TENGIZ, KASHAGAN AND KARACHAGANAK MEGAPROJECTS

KMG partners with strategic investors in projects at large fields: Tengiz (20%), Kashagan (16.88%) and Karachaganak (10%).

- At Tengiz, the Company is implementing the Future Growth Project and Wellhead Pressure Management Project (FGP – WPMP). We expect to complete our main construction work and start pre-commissioning in 2023. The commissioning of the WPMP facilities is slated for December 2023. The implementation of the projects will boost oil production by 12 mln tonnes per year.
- Projects to maintain production plateau at the Karachaganak field are ongoing. In 2021, we successfully completed the KPC gas debottlenecking (KGDBN) project at the Karachaganak Processing Complex and the installation of the 4th injection compressor (4ICP). The 5th injection compressor project is now in the active construction phase. The overall progress on this project is expected to reach 85% by the end of 2023.
- In addition, 2022 saw the Company make a final investment decision on the 6th injection compressor project.
- In 3Q 2022, the project to upgrade existing raw gas injection compressors at the Kashagan field was completed. The upgraded compressors are expected to help increase crude oil production by 8.5 mln tonnes by 2041.
- The Kashagan field is currently in Phase 1 of the development. Phase 2 is considered in terms of three separate projects. The two most deeply studied of the three projects (Phase 2A and Phase 2B) will seek to increase crude oil and condensate output by a total of ca. 710 thous. bbl per day (ca. 89.5 thous. tonnes per day) over the next ten years. Further decisions on the implementation of these projects are expected in 2023–2024.

In December 2022, we signed exploration and production contracts for the Taisoigan-1 and Taisoigan-2 blocks in the Atyrau Region. Comprehensive high-resolution 3D seismic surveying of these blocks carried out back in 2019 and unique to Kazakhstan helped identify 328 mln tonnes of mineral reserves.

In 2022, the Company obtained subsoil exploration licences for five blocks: Mugodzhary, Berezovsky, Zharkyn, Bolashak, and Northern Ozen. The analysis and modelling of main sedimentary basins identified five most prospective areas that require further exploration. In 2023, we plan to conduct pro-active seismic surveying as part of the subsoil exploration programme.

Work continues to add new reserves through further exploration at existing onshore fields. In 2022, Embamunaigas' projects at the S. Nurzhanov, North Uaz and Southeast Novobogat fields saw the completion of further exploration and switched to commercial production. At another field, West Karasor, works are underway and production is expected to commence in 2023. At East Urikhtau and the Rozhkovskoye field development project, pilot production is ongoing, with start of commercial production expected in 2023–2024

Oil transportation

In 2021, we completed the first stage of flow reversal at the Kenkiyak–Atyrau oil pipeline section with a throughput of up to 6 mln tonnes per year. In 2022, the reverse flow of oil totalled 4.3 mln tonnes.

Work is underway to increase the CPC pipeline's throughput capacity to 83 mln tonnes per year, including 72.5 mln tonnes through Kazakhstan. We are also looking into ways to ramp up exports via an alternative route from the port of Aktau through the Caspian Sea.

Refining and marketing of oil products

One of KMG's key objectives in the coming years is to ensure the supply of locally manufactured oil products to Kazakhstan's domestic market to meet the expected consumption growth.

To ensure energy security of Kazakhstan's northern and eastern regions, KMG implements projects at Pavlodar Refinery to remove sulphur compounds from LPG and make winter diesel fuel. The project units are scheduled for launch in 2024 and 2025, respectively.

We are also exploring options to ramp up the capacity of domestic refineries (PetroKazakhstan Oil Products and Caspi Bitum). In 2023, we expect to complete the pre-feasibility study that will underlie all further decisions on the refineries.

In 2021, the Kazakh-Romanian Investment Fund KMG International N.V. completed Phase 1 of the project to expand the retail network for the sale of oil products in Romania by constructing 25 filling stations. In 2023, more filling stations will be built as part of the next phase of this project, which aims to gradually build 44 new filling stations in Romania.

Petrochemicals

In 2022, KMG actively worked to complete Phase 1 of the Atyrau petrochemical complex, engage strategic partners and source financing for petrochemical projects.

On 8 November 2022, we launched a polypropylene plant with a capacity of 500 thous. tonnes per year. On 7 November 2022, Samruk-Kazyna, KMG and SIBUR signed binding documents for SIBUR to join the polypropylene and polyethylene projects. In 2022, 32.3 thous. tonnes of polypropylene was manufactured. Currently, KPI Inc. together with the contractor, CNCEC, and the licensor, Lummus Technology, conducts comprehensive testing of process equipment/units to bring the whole Complex to stable process parameters and identify bottlenecks in the operation of process units, as well as carries out performance guarantee tests to verify that the design parameters have been reached. A petrochemical cluster is expected to be established in Kazakhstan to manufacture petrochemical products using feedstock from the Tengiz field, including export-oriented products with high added value. The project will be commissioned in 2Q 2023.

KMG also implements a project to build a polyethylene plant with a capacity of 1.250 thous. tonnes per year. To date, we have completed a feasibility study. The project to produce polyethylene and sell petrochemicals is implemented in strategic partnership with SIBUR Holding. Apart from that, KMG progresses with the projects to create infrastructure for polyethylene production. We completed a feasibility study and developed design and estimate documentation for the construction of a gas separation unit, as well as technical specifications for an ethane pipeline. The polyethylene project and related infrastructure projects are scheduled to be completed in 2028.

Projects to address water supply issues and improve the environment

As a national company, KMG runs projects that are aimed at:

- addressing water supply issues in its regions of operation, such as an upgrade of the Astrakhan–Mangyshlak water pipeline and construction of a desalination plant in Kenderly with a daily capacity of 50.000 m^3. The Astrakhan–Mangyshlak water pipeline upgrade project is currently at the construction and installation stage, with financing secured by signing an agreement with a second tier bank in Kazakhstan. This project is both important for industrial consumers and has major social significance for households in the Atyrau and Mangistau regions. It is expected to be completed in 2024. The Kenderly project to build a desalination plant with a daily capacity of 50.000 m^3 saw the adjustment of the feasibility study (in line with recommendations by the project consultant, PMC). Currently, the results of the EPC contractor selection are being finalised and a list of potential contractors is being drafted. The project will be completed by the end of 2024;
- ensuring uninterrupted gas processing, including as a way to meet the needs of local residents. We completed the pre-FEED and feasibility study for the project to build a new gas processing plant in Zhanaozen and reached an agreement with a second tier bank in Kazakhstan to secure project financing. The pre-qualification of suppliers for the project is currently underway. The commissioning is slated for 2025;
- improving the environment by preventing air pollution in Atyrau from treatment plants and evaporation fields of Atyrau Refinery as part of the Tazalyq project. In 2022, the Company completed Phase 1 of the mechanical treatment plants upgrade and drained two sectors of four evaporation fields. Phase 2 of the treatment plants upgrade and the evaporation field recultivation are slated for completion by the end of 2023.

TRANSFORMATION AND DIGITALISATION

In 2022, the KMG Corporate Centre underwent structural changes with a focus on advancing digitalisation. The Information Technology Department and the Transformation and Digitalisation Department were consolidated into the Digital Development Department.

During the reporting period, progress was made to implement digital initiatives across the Company's core business areas. In particular, as part of the key project to digitalise oil production, Development of the ABAI Information System, two new modules were put into operation to tackle specific production issues. The Reservoir Fluids module introduced at Kazakhoil Aktobe supports the automated collection, interpretation and substantiation of oil reservoir fluid properties for accurate reserves estimation and field development engineering.

The Economics module launched at the KMG Corporate Centre serves to estimate the total value of assets of oil producing companies or the value of their individual existing fields and to forecast operating performance under various scenarios.

Earlier, five pilot ABAI information system modules were put into operation and proved to be highly effective: ABAI Database, Visualisation Centre, Well Operation Mode, Monitoring of Process Complications and Selection of Downhole Pumping Equipment. The Well Operation Mode module launched at Kazgermunai analyses the performance and calculates the production potential of wells, thus ensuring more efficient distribution of planned oil production among wells and reservoirs and optimising field development. It now takes the module only six hours to complete these operations instead of the five days previously required for human experts. Data accuracy went up from 85% to 95%.

A total of seven system modules are currently in operation. Ten more modules are planned to be introduced by the end of 2024 with a view to streamlining exploration, drilling, field operation, economic effect assessment and other processes.

2022 saw the continued development of the automated training system at KMG's refineries based on computer simulators. Those are used to simulate routine operations and failures of the refineries' process units. Thanks to the use of simulators, operators can practice production management in a virtual environment, which helps eliminate disruptions caused by human error and improve real-life safety.

In the reporting period, Pavlodar Refinery introduced computer simulators for the electrostatic desalting, dehydrating and atmospheric distillation units (EDD-ADU), naphtha hydrotreaters, catalytic reformers and gas fractionation units of the LK-6U complex. Going further, the project will be rolled out to cover the vacuum distillation (VDU), vacuum gasoil hydrotreating, catalytic cracking, absorption and gas fractionation units of the KT-1 complex.

Atyrau Refinery is expected to complete the introduction of computer simulators at EDD-ADU-2 and EDD-VDU-3 in 2023. The possibility of using simulators for petrol hydrotreaters (KU GBD and DT KU GBD units) is being assessed.

Overall, computer simulators are planned to be introduced for 13 process units of Atyrau Refinery, 9 process units of Pavlodar Refinery, and 1 process unit of PetroKazakhstan Oil Products.

In 2022, the initiative to implement a project management system (PMS) – viewed as key to business efficiency – was completed as part of the digital transformation, moving into the operational stage. The role of the business process owner was assigned to the newly established Project Management Office within the Company's Strategy and Portfolio Management Department.

The system is based upon the phased implementation of all projects (assessment – selection – scoping – implementation – operation). At each of the stages, a comprehensive feasibility study is carried out to determine whether the project shall proceed to the next stage. Today, the Company runs all its capital projects in line with the phased implementation process.

The PMS defines the project management bodies and their relationship to one another, and classifies the types of decisions reserved to these bodies. It also defines the structure, main roles and functions of project participants, requirements for the structure and content of project documents, and guidelines on the use of project management tools. A methodology setting out the principles for recruiting, screening and engaging project team members is in place. It has already been used to set up project teams for the Tazalyq, Turgai Paleozoic and Urikhtau projects, a new gas processing plant in Zhanaozen, the Kenderli desalination plant and other projects.

A project management information system has been developed as part of the PMS. It provides prompt access to relevant project information (costs, deadlines, progress, etc.) for monitoring and timely management decision-making.

In developing the Company's project management, a strong emphasis is placed on improving competencies and skills of involved employees. Centralised project management training has been provided since 2020, covering a total of over 2.000 employees of KMG and its subsidiaries and affiliates, including 70 managers. More than 30 employees have been certified according to the standards of the International Project Management Association (IPMA) and the Project Management Institute (PMI).

As far as operations are concerned, we will continue to build up the project management capabilities in the Company and its subsidiaries, provide methodological support, train employees, create a pool of project managers, develop and motivate project teams, and work in other PMS areas.

The newly established Digital Development Department will focus on developing/upgrading the IT and data management architecture to lay the ground for the Company's digital development, as well as searching for industry-leading solutions in the areas of production, transportation and refining.

OPERATING REVIEW

KMG is the national leader in Kazakhstan's oil and gas industry with a fully integrated value chain.

The proved reserves (1P)

16 years

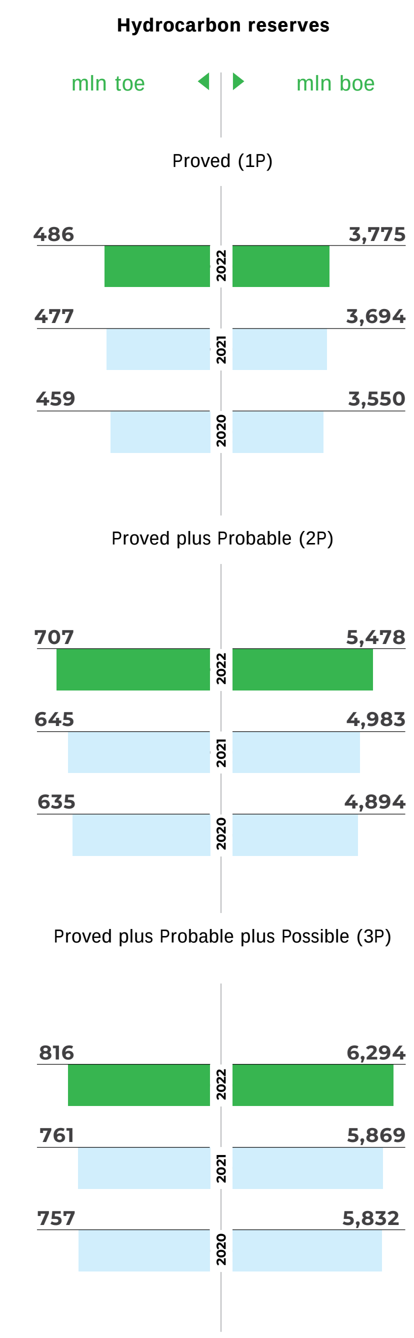
far exceeding the average for global oil majors (about 11 years).

RESERVES

According to the reserves audit report prepared by the international independent consulting firm DeGolyer and MacNaughton in line with the PRMS international standard, KMG's proved plus probable hydrocarbon reserves (2P) were 707 mln toe (5.478 mln boe) as of 31 December 2021. 2P reserves increased by 9% year-on-year. The increase is mainly attributable to comprehensive initiatives in hydrocarbon reserves management, including the recalculation of hydrocarbon reserves at the Kalamkas and other fields, as well as the increase of the share in the Kashagan field from 8.44% to 16.88% (on 15 September 2022, KMG acquired a 50% stake in KMG Kashagan B.V. from Samruk-Kazyna) and improved macroeconomic environment (higher oil prices).

NET RESERVES[1] UNDER PRMS

as of 31 December 2022



EXPLORATION

In exploration, KMG pursues its Development Strategy until 2031 approved in 2021.

The Development Strategy provides for the strategic goal of the Resource base sufficient to support the Company's growth that envisages exploration at seven offshore and seven onshore projects, as well as further exploration at the key existing fields. The exploration is expected to increase the Company's recoverable reserves by 299 mln tonnes by 2031. We plan to achieve a reserve replacement ratio of 105%.

In the medium term, KMG will continue to ramp up its investment in exploration, with plans to invest approximately USD 900 mln between 2023 and 2030. The planned exploration programme includes 2D and 3D seismic surveys of more than 5.000 linear km and more than 2.400 sq km, respectively.

During this period, we expect 56 exploration and appraisal wells to be drilled, including:

- first prospecting wells at the Zhenis, Karaton Subsalt, Turgai Palaeozoic, Taisoigan, Abay and Al-Farabi exploration blocks with further drilling of related appraisal wells;
- more than 25 appraisal wells for continued further exploration and reserve replenishment at existing fields.

299 mln tonnes
recoverable reserves by 2031

105%
reserve replacement ratio

1 — Net Reserves are defined as the portion of gross reserves attributable to (1) the interest held by KMG after deducting all interests held by others, and (2) interests that are not held, but controlled by KMG.

Exploration highlights in 2022

In 2022, about KZT 35.5 bln (tentative) was invested in exploration (KMG's share accounts for KZT 5.9 bln, the rest came from partners as carry financing):

- more than 5.000 linear km and more than 300 sq km of historical seismic data were reprocessed;
- ten exploration and appraisal wells were drilled and tested;
- a drilling success rate of 80% was achieved (in 2021, the success rate was 73%);
- actual new reserves of 20 mln tonnes of oil were added, representing an 88% reserve replacement ratio (preliminary results). New reserves were added at existing fields as a result of further exploration.

Active exploration is ongoing both offshore and onshore.

- Drilling began in December 2022 in the Zhenis block in Kazakhstan's part of the Caspian Sea.
- We signed exploration and production contracts for the Taisoigan-1 and Taisoigan-2 blocks in the Atyrau Region. High-resolution 3D seismic surveying of these blocks carried out back in 2019 and unique to Kazakhstan helped locate 26 prospects with total geological resources of 328 mln tonnes (P50).

The analysis and modelling of main sedimentary basins identified five most prospective blocks that require further exploration. In 2023, we plan to conduct pro-active seismic surveying as part of the subsoil exploration programme. By the end of 2022, KMG intends to obtain a licence and start tendering procedures for KMG Barlau, a 100% subsidiary of KMG. This structure will allow both foreign and local investors to join the project going forward.

35.5 KZT bln

invested in exploration in 2022

Plans for 2023

In 2023, a total of about USD 190 mln is planned to be invested in exploration, with only 40% of the costs attributable to KMG.

The first subsoil exploration projects will begin with 2D seismic surveys of the Northern Ozen and Zharkyn blocks in the Mangistau and Aktobe regions.

With LUKOIL, our partner, we intend to carry out an offshore seismic survey of the Al-Farabi block covering more than 500 sq km of the Caspian Sea. This decision is based on extensive analysis revisiting historical seismic data. Following the survey, we will find the optimal location of prospecting wells.

Further exploration of existing fields in the Mangistau Region will be continued. We will conduct a high-resolution 3D seismic survey at five fields of Mangistaumunaigaz to uncover additional prospects and extend the life of the fields in the later stages of development.

A total of 22 prospecting and appraisal wells will be drilled in 2023:

- completion of drilling of one prospecting well in the Zhenis offshore block;
- start of drilling of one deep technologically complex well (more than 5 km) for Palaeozoic deposits at the Karaton Subsalt and Turgai Palaeozoic blocks;
- for all the major operators (Embamunaigas, Mangistaumunaigaz, Ozenmunaigas, Kazgermunai), 19 appraisal wells are in the pipeline as part of the ongoing work to further explore mature fields and deposits discovered earlier.

190 USD mln

planned to be invested in exploration

500 km²

offshore seismic survey of the Al-Farabi block

22 wells

will be drilled in 2023

2023

Achievements in 5 years

- In 2018–2022, about KZT 165 bln was invested in exploration, including KMG's costs of around KZT 111 bln. Among the most notable results for this period was the discovery of new deposits – West Karasor and Bekturly Vostochny. Based on the outcome of high-resolution 3D seismic survey and drilling and testing of a prospecting well in the Bekturly Vostochny block, the prospects of non-structural traps were proved.
- In 2018, an unprecedented amount of 3D seismic surveying was carried out in the Taisoigan block. Following the processing and interpretation of seismic data, 36 prospects with a total geological potential of 328 mln tonnes were identified. In 2022, exploration and production contracts were obtained for the Taisoigan-1 and Taisoigan-2 blocks. These will be transferred to Embamunaigas to continue exploration.
- New subsoil use contracts were signed for the Al-Farabi, Abay and Zhenis blocks together with strategic partners. Exploration activities are carried out using carry financing provided by a strategic partner. In December 2022, drilling of a prospecting well (V-1, 3.300 m deep) started at the Zhenis block, the first well of this type in the Kazakhstan's part of the Caspian Sea in the recent five years. At the Al-Farabi block, a field 3D seismic survey is slated for 2023.
- A subsoil use contract was concluded for the Turgai Palaeozoic block in the Kyzylorda Region. Drilling of a 5.500 m prospecting well is scheduled for 2023.
- We achieved an impressive growth of oil reserves at the Uzen (+39.9 mln tonnes) and Kalamkas fields (+32.6 mln tonnes). Re-appraisal of the fields' reserves resulted from comprehensive efforts, including high-resolution 3D seismic surveys, adjustment of the fields' geological concept, drilling of new wells, laboratory analysis of core samples and re-interpretation of geophysical well logs for the entire well stock.
- The total increase in recoverable oil reserves in 2018–2022 attributable to KMG amounted to 121.3 mln tonnes.

165 KZT bln

invested in exploration in 2018–2022

New exploration projects

In 2022, the Company continued to strongly focus on expanding its cooperation in exploration with international oil and gas companies:

- KMG and LUKOIL signed a number of agreements as part of the Kalamkas-Sea–Khazar–Auezov project in Kazakhstan's part of the Caspian Sea.
- We signed an Agreement of Intent with Tatneft for a strategic partnership on the Karaton Subsalt block. The project will employ carry financing, with the strategic partner incurring all costs at the exploration stage. The project documentation is being finalised. Drilling of a deep prospecting well (5.000 m) is scheduled to start in late 2023. The geological resource (P50) forecast is around 353 mln tonnes.
- To attract foreign investments and to share risks in exploration, KMG takes active steps to team up with strategic partners. For this purpose, KMG operates a virtual data room providing access to geological and technical data on prospective and existing assets. In 2022, we held 14 data room sessions for oil and gas majors, including Shell, SINOPEC, CNPC, LUKOIL, Tatneft and others.
- The Company continues technical sessions with Shell and SINOPEC on their possible entry into exploration projects.
- On top of attracting investment, following data room sessions companies provide their views on prospective sites, and leading international and domestic experts share their experience and expertise.
- In 2022, the list of the National Acreage Management Programme included four new blocks reserved for KMG, for which pro-active seismic surveys are planned as part of subsoil exploration. Apart from that, we filed an application to include one exploration block located in the Aktobe Region in the Programme's list.

Sanctions risks of Russian partners

The sanctions imposed on Russian companies and banks narrow down the range of contractors which provide services in the Caspian Sea, and therefore increase the cost of work. Thus, we conducted an analysis of the potential use of suppliers and service companies that are not subject to sanctions. We continue to gather information. KMG also included clauses stipulating withdrawal from projects and joint ventures, if US, EU, and UK sanctions are imposed on Russian partners, in the documents on joint activities with them.

Deploying new technologies, optimising exploration, and improving performance

Currently, there are three focus areas to introduce new technology in KMG's exploration efforts:

SEISMIC SURVEYING

High-resolution seismic surveys, which is wide-azimuth and hyperspectral surveying with increased density of data acquisition and application of new generation vibrators. This increases the geological probability of discovering hydrocarbon deposits. The results of high-resolution surveying have become the ground for re-appraising reserves at key fields. For example, comprehensive efforts at the Uzen field resulted in an increase in recoverable reserves of 39 mln tonnes in 2021. In 2022, new reserves at theKalamkas field of 32.6 mln tonnes were discovered. The technology is to be rolled out at Mangistaumunaigaz's and Karazhanbasmunai's fields. New offshore field technologies are also being considered for use at the Al-Farabi and Zhenis blocks.

PROCESSING AND INTERPRETATION OF SEISMIC DATA

New technologies in the processing and interpretation of seismic data are being introduced and rolled out on an ongoing basis by Professional Geosolutions Kazakhstan (PGS-K), our subsidiary. In 2022, we applied such advanced technologies as FWI, SWIM, SRME, Q-VMB, etc. in the processing and interpretation of seismic data for the Al-Farabi and Kashagan West exploration blocks. PGS-K has unrestricted access to the world's new technologies developed by the international company PGS Oslo.

DIGITAL GEOLOGY

We continue the development of the Digital Geology module within the ABAI information system. Under the module's hood are tools under development for automatic interpretation of geophysical well logs, automatic correlation of well tops, automatic interpretation of core samples, algorithms for dynamic and structural interpretation of seismic data and visualisation of 1D, 2D, and 3D geophysical data. In 2023, KMG plans to launch commercial introduction of sub-modules for automatic interpretation of geophysical well logs and automatic correlation of well tops in its upstream subsidiaries and associates.

To improve exploration efficiency, we introduced a quality control mechanism for drilling, well testing and kick-off jointly with KMG subsidiaries and associates, KMG Engineering and contractors. We also make sure that we learn the lessons from completed drilling operations by identifying the causes of unsuccessful drilling and follow-up measures to eliminate the flaws. As a result, the success rate of appraisal wells increased from 73% to 80% year-on-year in 2022.

32.6 mln tonnes
new reserves at the Kalamkas field

80%
rate of appraisal wells

UPSTREAM

Oil and gas are produced by KMG's operating assets and megaprojects where KMG has non-operating interests.

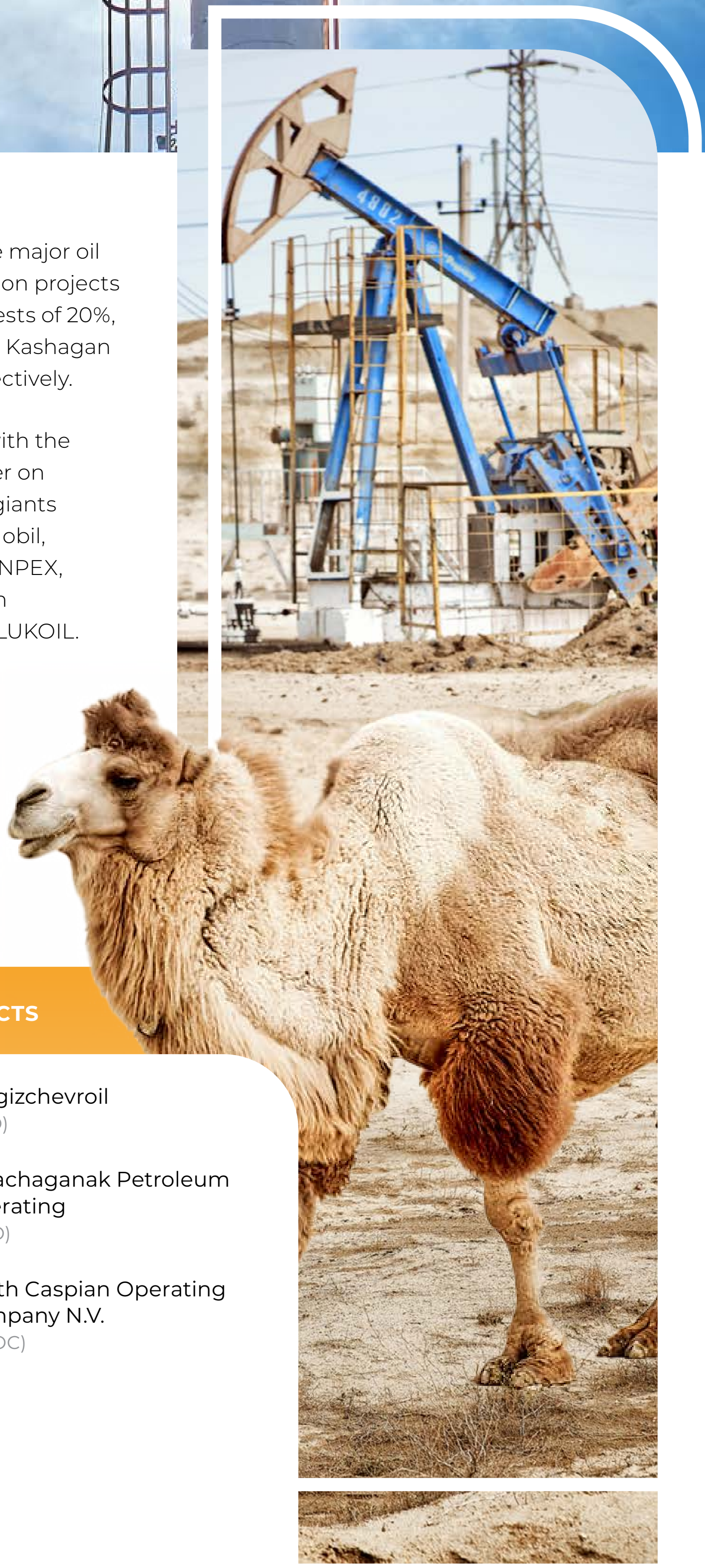
KMG's key strategic objectives in terms of production are as follows:

- stabilisation of production at existing operating assets;
- commencement of production at new fields;
- gas production ramp-up;
- successful implementation of projects to expand and extend production plateau at major oil and gas projects.

Oil and gas are produced by KMG's operating assets and megaprojects where KMG has non-operating interests.

KMG participates in three major oil and condensate production projects in Kazakhstan, with interests of 20%, 16.88% and 10% in Tengiz, Kashagan and Karachaganak, respectively.

The Company partners with the world's oil giants to deliver on its megaprojects. These giants include Chevron, ExxonMobil, Shell, Eni, TotalEnergies, INPEX, China National Petroleum Corporation (CNPC) and LUKOIL.



Production assets

OPERATING ASSETS

Interest	Asset
100%	Ozenmunaigas (OMG)
100%	Embamunaigas (EMG)
100%	Kazakhturkmunay (KTM)
100%	Urikhtau Operating (UO)
50%	Mangistaumunaigaz (MMG)
50%	Kazgermunai (KGM)
50%	Karazhanbasmunai (KBM)
50%	Kazakhoil Aktobe (KOA)
33%	PetroKazakhstan Inc. (PKI)

MEGAPROJECTS

Interest	Project
20%	Tengizchevroil (TCO)
10%	Karachaganak Petroleum Operating (KPO)
16.88%	North Caspian Operating Company N.V. (NCOC)

Oil production

In 2022, KMG's total output was 22.0 mln tonnes or 456 thous. bbl per day, up 1.7% year-on-year. The share of operating projects and megaprojects in its total oil and condensate production was 63% (13.8 mln tonnes) and 37% (8.3 mln tonnes), respectively.

One of the main drivers behind a 1.7% increase in oil and condensate production in 2022 was a 9.9% production growth at Tengizchevroil following the lifting of OPEC+ restrictions, and the reliable operation of production facilities. The increase in total production was offset by a 4.4% decline at one of our operating assets, Ozenmunaigas, mainly as a result of power outages caused by the utility company servicing Ozenmunaigas' production facilities, as well as a decline in production at mature fields.

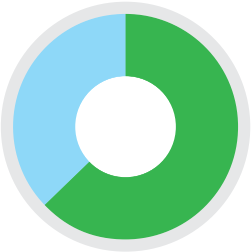
13.8 mln tonnes

share of operating projects in its total oil and condensate production

8.3 mln tonnes

share of megaprojects in its total oil and condensate production

22 ▼ 1.7%
mln tonnes
KMG's total output in 2022

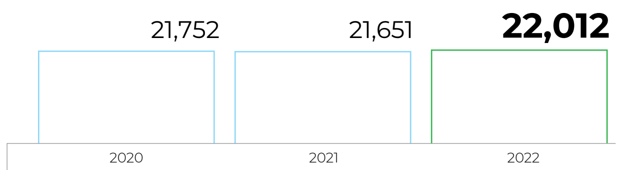


63 %
Operating assets

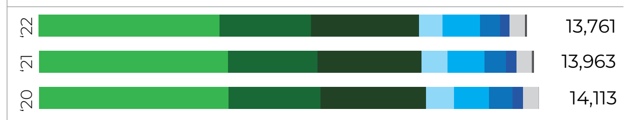
37 %
Megaprojects

Oil and gas condensate production

thous. tonnes

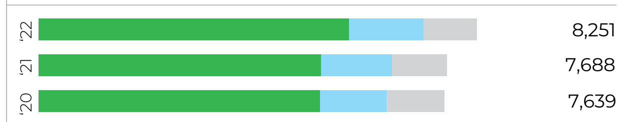


OPERATING ASSETS



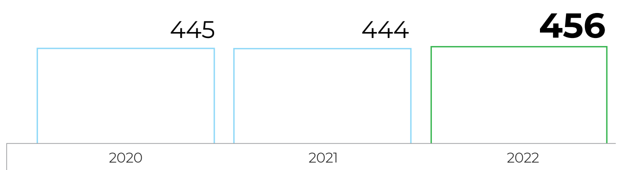
	2020	2021	2022
Ozenmunaigas	5,347	5,332	5,096
Embamunaigas	2,601	2,522	2,581
Mangistaumunaigaz	2,977	2,944	3,049
Kazgermunai	778	727	651
Karazhanbasmunai	1,001	1,048	1,071
PetroKazakhstan	661	600	554
Kazakhoil Aktobe	295	298	281
Kazakhturkmunay	432	434	436
Amangeldy Gas (KTG)	15	11	—
Urikhtau Operating	6	47	43

MEGAPROJECTS

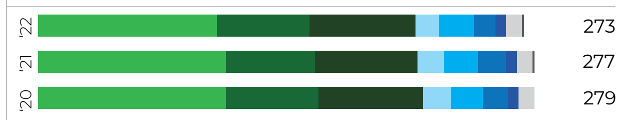


	2020	2021	2022
Tengizchevroil	5,292	5,311	5,836
KMG Kashagan[1]	1,253	1,344	1,402
KMG Karachaganak	1,094	1,034	1,013

thous. bbl per day

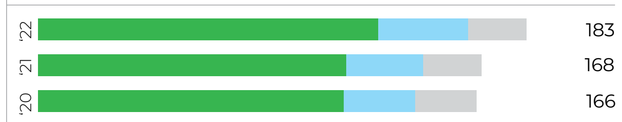


OPERATING ASSETS



	2020	2021	2022
Ozenmunaigas	106	106	101
Embamunaigas	52	50	52
Mangistaumunaigaz	59	58	60
Kazgermunai	16	15	13
Karazhanbasmunai	18	19	20
PetroKazakhstan	14	16	12
Kazakhoil Aktobe	6	6	6
Kazakhturkmunay	9	9	9
Urikhtau Operating	—	1	1

MEGAPROJECTS



	2020	2021	2022
Tengizchevroil	115	116	128
KMG Kashagan[1]	27	29	34
KMG Karachaganak	23	22	22

1 — 16.88% – KMG's interest after 15 September 2022.

Parameters of KMG production assets

Assets	OMG	EMG	KBM	KGM	PKI	MMG	KOA	KTM	UO
Porosity	0.19	0.27	0.32	0.26	0.09–0.30	0.14	0,085	0.14	0.1
API gravity	36.51	32.03	19.81	39.95	51.25	30.77	38.89	36.12	41.7
Sulphur content, %	0.14	0.62	2	0.1	0.03–0.08	0.2	1.12	3.17	0.7
Number of fields	2	33	1	5	19	15	2	6	3
Average flow rate of new wells, tonnes/day	8	10.5	2.8	25.5	11–18.2	9.3	26.8	4.3	46.5
Average flow rate of current producing well stock, tonnes/day	4.2	3.3	2.13	34	5.6	6.2	15.7	36.2	59.1
Oil barrelisation ratio, bbl/tonne	7.23	7.3	6.68	7.38	7.75	7.23	7.516	7.21	7.717

The technical characteristics of KMG's oil differ from region to region. The heaviest oil is produced by Karazhanbasmunai (bbl/tonne conversion rate of 6.68), the lightest one – by PetroKazakhstan (bbl/tonne conversion rate of 7.75).

There are two main parameters of high-quality crude oil: high API gravity and low sulphur content. The sulphur content of the CPC Blend brand (KMG's main megaprojects) is 0.56%, API gravity – 45.3, which makes it one of the world's highest quality oils.

Crude oil brand	API gravity	Sulphur content, %
CPC Blend (Kazakhstan, Novorossiysk)	45.3	0.56
West Texas Int. (USA, Cushing)	40.0	0.42
Arab Extra Light (Saudi Arabia)	39.4	1.09
Brent (UK)	37.5	0.40
Urals (Russia, Novorossiysk)	31.3	1.36

S&P Global Platts' publicly available data

Megaprojects

TENGIZ

The largest gem in Kazakhstan's oil and gas industry, a unique supergiant oil field.

KMG develops world class projects through partnerships with international oil and gas companies.

The agreement on Tengizchevroil was signed between the Republic of Kazakhstan and Chevron Corporation on 2 April 1993, with a 40-year hydrocarbon exploration and production licence granted to Tengizchevroil in 1993. Tengizchevroil focuses on the exploration, production and sales of hydrocarbons from the Tengiz and Korolevskoye fields in the Atyrau Region.

Oil production (total)

29.18 mln tonnes
638 thous. bbl per day[1]

Associated gas production (total)

16.15 bln m³
including gas consumed in own operations and gas reinjection

Interests

- 50% Chevron
- 25% Exxon Mobil
- 20% KMG
- 5% LUKOIL

Oil production (attributable to KMG) (20%)

5.8 mln tonnes
128 thous. bbl per day

2P oil reserves life

> 22 years

Operator | Tengizchevroil

Outlook

As part of production capacity expansion, TCO is implementing the Future Growth Project (FGP) and the Wellhead Pressure Management Project (WPMP), which are designed to boost oil production from the Tengiz field by 12 mln tonnes per year.

1 — 1 tonne = 7.98 bbl

Tengizchevroil (TCO) operates a licence that includes the unique supergiant Tengiz field and the adjacent Korolevskoye field with significant reserves. The Tengiz oil field was discovered in 1979. It is one of the world's largest oil fields.

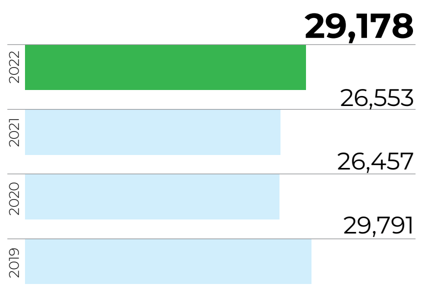
Currently, oil is produced and processed by highly reliable modern operating facilities, including complex technology lines (CTL), Second-Generation Plant (SGP) and sour gas injection unit (SGI).

In 2022, oil output increased by 9% year-on-year to 29,178 thous. tonnes (including KMG's share of 5,836 thous. tonnes), while gas output was up 9% year-on-year to 16.15 bln m3 (including KMG's share of 3.23 bln m3). The growth was attributable to the absence of OPEC+ restrictions in the reporting year.

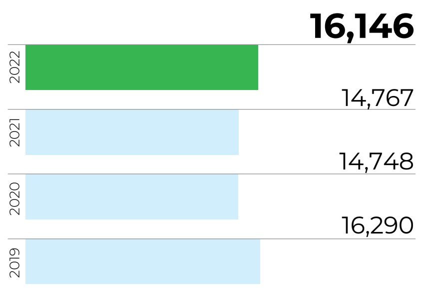
29.2 ▲9% mln tonnes
oil output increased in 2022

Tengizchevroil's operational highlights

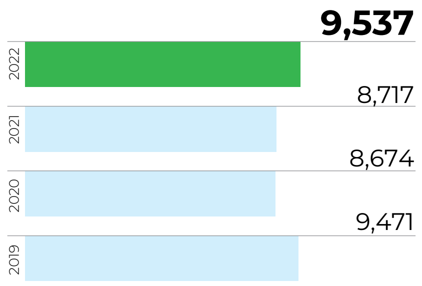
Oil production, thous. tonnes



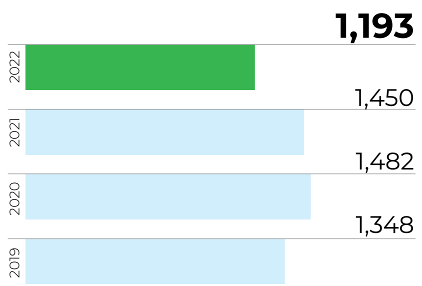
Associated gas production, mln m³



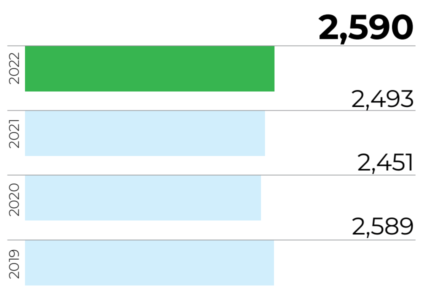
Dry gas production, mln m³



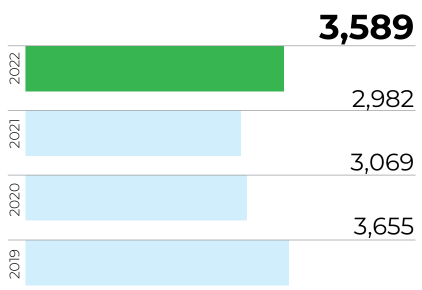
Liquefied petroleum gas (LPG) production, thous. tonnes



Sulphur production, thous. tonnes



Gas injection, mln m³



Progress on the Future Growth Project and the Wellhead Pressure Management Project

As part of production capacity expansion, TCO is implementing the Future Growth Project (FGP) and the Wellhead Pressure Management Project (WPMP), which are designed to boost oil production from the Tengiz field by 12 mln tonnes per year. The two projects make a significant contribution to the national economy by creating new jobs, training qualified specialists, building new production facilities and upgrading infrastructure in the region.

At the end of 2022, the total cost of FGP–WPMP was USD 42.1 bln, with the overall project progress at 96.6%. Under the updated 2022 schedule, the launch of the WPMP and FGP facilities is slated for December 2023 and June 2024, respectively.

Since the start of FGP–WPMP, TCO has spent over USD 15 bln on the procurement of domestic products, works and services. All project works related to module manufacturing, transportation and placement on foundations have been fully completed. Well drilling is also complete, and all group metering stations have been commissioned. 2022 saw the launch of the Single Centre for Production Management that will work as a one-stop shop for managing all TCO facilities under a single operating model.

16.1 ▲9% bln m³
gas output increased in 2022

Megaprojects

KASHAGAN

The huge Kashagan field is the largest discovery in recent four decades. Kashagan is one of the most complex projects in the industry globally.

The Production Sharing Agreement in respect of the North Caspian Sea (NCSPSA) was signed by the Republic of Kazakhstan and an international consortium in November 1997. North Caspian Operating Company N.V. is the project operator, acting on behalf of the project contractors.

Oil and condensate production in 2022 (total)

12.68 mln tonnes
310 thous. bbl per day[1]

Gas production (total)

7.9 bln m³

Oil and condensate production (attributable to KMG)

1.4 mln tonnes
34 thous. bbl per day

2P oil and condensate reserves life

> 97 years

Interests

- 16.88% — KMG Kashagan B.V.
- 16.81% — Eni
- 16.81% — Exxon Mobil
- 16.81% — Shell
- 16.81% — TOTAL SA
- 8.33% — CNPC
- 7.56% — INPEX North Caspian Sea

Operator | North Caspian Operating Company N.V.

1 — 1 tonne = 7.9272 bbl

The North Caspian project is the first major offshore oil and gas project in Kazakhstan. It includes three fields: Kashagan, Kairan and Aktoty. The Kashagan South-West field is currently being returned to the government.

The Kashagan field lies in an offshore location 75 km from Atyrau at water depths of 3 to 4 m. The field reservoir lies at a depth of over 4 km and is characterised by high pressures (over 700 bar) and high hydrogen sulphide (H2S) concentration. At the same time, sour gas reinjection at high pressure improves oil recovery.

Kashagan is one of the most challenging industry projects globally due to harsh environmental conditions at sea and significant design, logistics and safety challenges. Located in the subarctic climate, the North Caspian Sea is covered with ice for about five months a year, requiring innovative technical solutions. KMG, together with international partners, is successfully implementing the project, having achieved sustainable production rates with further growth potential.

The Kashagan field infrastructure comprises onshore and offshore facilities. Onshore facilities include the Bolashak Onshore Processing Facility (an integrated oil and gas treatment plant) while the offshore facilities comprise a range of manmade structures including an operations and process complex on Island D, Island A, and early production islands EPC-2, EPC-3 and EPC-4. A total of 40 wells were drilled on the Kashagan field, including six injection wells, 33 production wells, and one monitoring well.

In 2022, oil and gas production from the North Caspian project stood at 12.7 mln tonnes and 7.9 bln m3, respectively. Kashagan production decreased by 22% year-on-year to 3.554 thous. tonnes of oil and 2.000 mln m3 of gas. The decline in production in 2022 was caused by scheduled midyear overhauls at the offshore and onshore facilities, as well as the need to carry out repairs after the discovery of a gas leak at the preliminary gas separation unit (slug catcher) in August. Still, oil production attributable to KMG's share increased by 4.3% to 1.402 thous. tonnes (34 thous. bbl per day) and production of raw gas rose by 7.3% to 877 mln m3 as KMG's share in the project grew from 8.44% to 16.88% from 15 September 2022 due to the successful completion of the share buy-back in the project from Samruk-Kazyna.

Currently, KMG (through Cooperative KazMunayGaz U.A.[2]) owns KMG Kashagan B.V. which, in turn, has a 16.88% interest in the North Caspian project. Thus KMG indirectly owns 16.88% of the project.

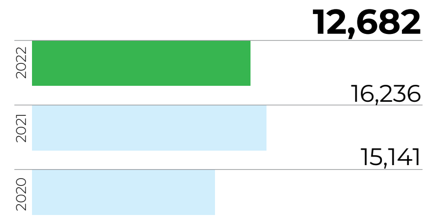
Under the terms of the PSA, all oil produced at the Kashagan field is exported, including KMG's share of the oil. The produced oil is mostly exported to Europe, East Asia and India via Novorossiysk, where the oil is delivered by the CPC pipeline.

Slug catcher incident at Kashagan

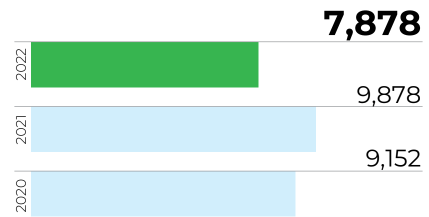
On 3 August 2022, as a gas leak was detected at the Bolashak preliminary gas separation unit (slug catcher), production at the Kashagan field was halted. The slug catcher was put out of service to be repaired, and on 9 August 2022, oil production was partially resumed at ~100 thous. bbl per day without the unit. Following the repairs of the slug catcher on 7 November 2022, oil production was restored to full capacity of over 400 thous. bbl per day. Currently, the production facility operates normally. The incident caused no harm to human health or environment.

NCOC's operational highlights

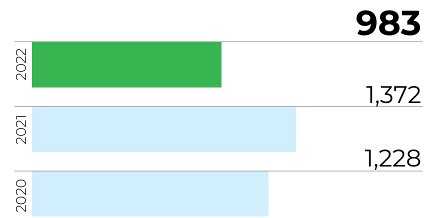
Oil production, thous. tonnes



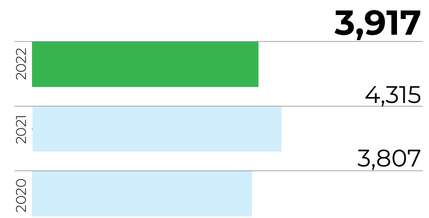
Natural and associated gas production, mln m³



Sulphur production, thous. tonnes



Gas injection, mln m³



2 — A wholly-owned subsidiary of KMG, with the direct ownership of 99.7440256% and indirect ownership via KMG Kumkol LLP of 0.2559744%.

KMG Kashagan B.V. share buyback

On 15 September 2022, KMG exercised its share buyback right and acquired a 50% stake in KMG Kashagan B.V. from Sovereign Wealth Fund Samruk-Kazyna for a total of USD 3.8 bln.

Having increased its interest in KMG Kashagan B.V. to 100%, KMG improved the consolidated production, EBITDA, net profit and asset portfolio. However, the Company's debt also grew as it raised funds to finance the share buyback via a bond issue and agreed on a deferred payment with the Fund. The buyback was partially financed by the KMG Kashagan B.V. dividends paid in 2022. In 1H 2023, KMG also plans to repay part of its debt with the KMG Kashagan B.V. dividends.

Outlook for Kashagan

There is a need to build a new slug catcher to replace the temporary configuration of the existing one. The new slug catcher project is currently at the pre-FEED stage. The FID is expected in May 2023, the commissioning – in 4Q 2024.

Projects completed in 2022

Bundle 1

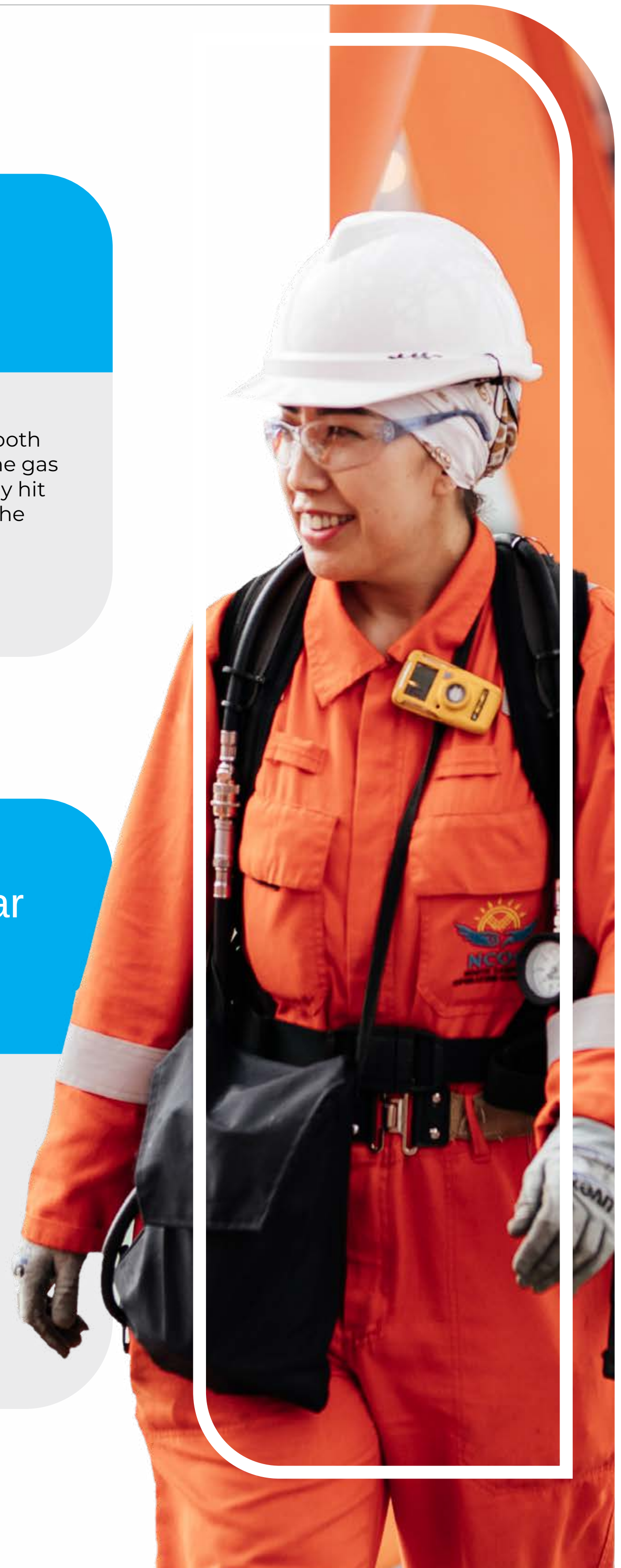
The raw gas injection compressor upgrade was completed, and both compressors were commissioned with a confirmed increase in the gas injection rate. Thanks to this project, in December 2022 the facility hit a record in daily oil production: 451 thous. bbl per day (as part of the maximum capacity tests).

Projects in progress

Supply of 1 bln m³ of raw gas per year to QazaqGaz gas processing plant

The aim is to increase oil production by ~20–25 thous. bbl per day (2.5–3 thous. tonnes per day) by way of supplying raw gas to the gas processing plant.

- Materials for the pipeline are being delivered from the North Caspian Operating Company N.V. (NCOC) side; general construction is ongoing. The NCOC side is expected to be ready for launch in 4Q 2023.
- The QazaqGaz side will be prepared for commissioning in 1Q 2025.



Projects under consideration

Phase 2A

1

Seeks to increase oil production by ~50 thous. bbl per day (~6.3 thous. tonnes per day) through additional supplies of ~2 bln m³ of raw gas per year to QazaqGaz' new gas processing plant.

- The project is now at the FEED stage on the NCOC side, with completion expected in 1Q 2023.
- QazaqGaz has not started the gas processing plant FEED. In 2022, it expressed an intent to build a plant with a capacity of 4 rather than 2 bln m³ per year. The current stance of QazaqGaz and the Ministry of National Economy of the Republic of Kazakhstan: the project will be reviewed to increase the plant capacity to 4 bln m³ of raw gas per year (or a step-by-step approach will be applied: 2+2 bln m³ starting 2027).

Phase 2B

2

The aim is to increase oil production by ~210 thous. bbl per day (~26.5 thous. tonnes per day) by drilling new wells and building a new oil treatment plant and to supply ~6 bln m³ of raw gas per year to a third party. Pre-FEED was completed. Due to uncertainties regarding the raw gas recipient, the FEED stage is being postponed.

Phase 2C

3

It is similar to Phase 2B. Additional concept review is ongoing. Progress on this project depends on further implementation of Phase 2B.

Liquefied petroleum gas (LPG) marketing

4

The project seeks to commercialise LPG through its fractionation at a third-party plant for further propane and butane exports. Commercial evaluation of third-party bids for the construction of an LPG fractionation plant is in progress. It will be possible to make a FID on the project once its economic feasibility is confirmed and approved.

Megaprojects

KARACHAGANAK

One of the world’s largest gas and condensate fields.

The Final Production Sharing Agreement (FPSA) in respect of the Karachaganak oil and condensate project was signed by the Republic of Kazakhstan and an international consortium on 18 November 1997. Royal Dutch Shell and Eni are the joint operators of the Karachaganak project (development via Karachaganak Petroleum Operating B.V.).

Production of liquid hydrocarbons (stable[1])

10.1 mln tonnes
219 thous. bbl per day[2]

Gas production

19.4 bln m³

Production of liquid hydrocarbons (attributable to KMG)

1.0 thous. tonnes
22 thous. bbl per day

2P oil and condensate reserves life

> 23 years

Interests

- 29.25% Eni
- 29.25% Shell
- 18% Chevron
- 13.5% LUKOIL
- 10% KMG

Operator | **Royal Dutch Shell** and **Eni** are the joint operators of the Karachaganak field (Karachaganak Petroleum Operating B.V.)

Outlook

The implementation of investment projects to maintain the achieved liquid hydrocarbon production plateau levels.

1 — A conversion factor of 0.9 is applied to total oil and condensate production to estimate stable liquid hydrocarbons.
2 — 1 tonne = 7.86 bbl.

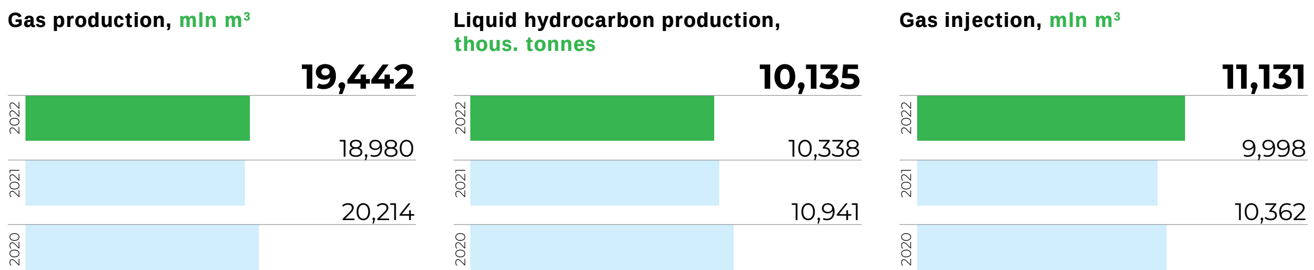
Karachaganak oil and condensate field is one of the largest oil and condensate fields in the world, located in the West Kazakhstan Region and covering an area of over 280 sq km. The field was discovered in 1979, with pilot development started in 1984.

The Karachaganak project has three core process facilities, comprising a single system of interrelated and interdependent process units within the production process:

- KPC – the Karachaganak Processing Complex, located in the northwestern part of the field and processing liquid hydrocarbons coming from wells as well as feedstock transported from Unit 2 and 3, while also partially preparing gas for export, injection, and internal production needs;
- Unit 2 – a gas treatment unit located in the southeastern part of the field, which separates and reinjects raw gas at high pressure and feeds liquid hydrocarbons to the KPC for stabilisation before shipment for export;
- Unit 3 – a gas treatment unit located in the northeastern part of the field, which separates and partially stabilises liquid hydrocarbons and gas before shipment for export.

In 2022, the field’s operating well stock was 160 wells and 20 injection wells.

Karachaganak Petroleum Operating B.V.’s operational highlights



In 2022, liquid hydrocarbon production from Karachaganak decreased by 2.0% year-on-year to 10.135 thous. tonnes, including KMG’s share of 1.013 thous. tonnes. Gas production grew by 2.4% year-on-year to 19.442 mln m³ in total, with KMG’s share of 1.944 mln m³. One of the key negative drivers for the Karachaganak field in general and KMG in particular was the reduced raw gas intake by Orenburg GPP due to the extension of scheduled preventive maintenance at its process units. The Russian party served a notification on the extension of scheduled preventive maintenance at such units, namely the sulphur recovery and Sulphren off-gas post-treatment unit 1U-350/335, as well as repairs of gas treatment and dehydration units 3U-70 and 3U-370, and Claus units 1U-350/355, U-05/07 and U-04. Gas production increased by 2.4% to 1.944 mln m³ mainly due to the growth in raw gas reinjection at gas treatment unit 2, commissioning of the 4th compressor, and higher gas processing volumes at the Karachaganak Processing Complex.

Taking into account the reduction in raw gas intake by Orenburg GPP, Karachaganak Petroleum Operating B.V. and KazRosGas, it was noted that unstable and limited intake of Karachaganak gas by Orenburg GPP has a negative effect on liquid hydrocarbon production and revenues, as well as KazRosGas’ ability to fulfil its obligations as regards gas supplies to Kazakhstan’s domestic market.

- From 12 September to 6 October, scheduled preventive maintenance works at the Karachaganak field were successfully performed fully in line with the approved schedule and budget.
- In May, the 4th injection compressor was put to service.
- On 16 November, the field hit a new high in daily liquid hydrocarbon production: 34.069 thous. tonnes per day. On 1 December, a record was set in daily raw gas injection: 40.839 mln m³ per day.
- In November 2022, a FID was made on the 6th injection compressor project.

Outlook for Karachaganak

As part of the Karachaganak Expansion Project (KEP1), the 5th and 6th injection compressors are expected to be built and commissioned in 2024 and 2026, respectively, in order to maintain the production plateau at 10–11 mln tonnes per year.

Following Phase 2M of the field development, further support for the production plateau is expected to come from a major production facility expansion, which will be implemented step by step under the Karachaganak Expansion Project (KEP1 A+B). To maintain reservoir pressure and enhance oil recovery, the KEP1 (A+B) project provides for the construction and commissioning of the 5th and 6th injection compressors, raw gas treatment (dehydration) system, the expansion of the system for gathering well products, trunk line network, supporting facilities and other related units. Once the 5th and 6th injection compressors are put into operation, the total gas injection volume will reach ca. 21 bln m³ per year, while gas production at Karachaganak will amount to 31 bln m³ per year, resulting in an aggregate increase in oil production of around 13 mln tonnes over the remaining life of the FPSA.

Building a crossover line with T. Kasymov Oil Pumping Station (potential daily capacity of ca. 4.5 thous. tonnes) will enable Karachaganak Petroleum Operating B.V. to gain access to:

- KazTransOil's tank farm in case of any CPC failures or incidents;
- alternative export routes (the Baku–Tbilisi–Ceyhan pipeline, the ports of Batumi and Kulevi, exports to China, and to the Novorossiysk port as the Siberian Light grade).

In the mid term, the Karachaganak operator initiated a pre-feasibility study for the ways to add value to (monetise) the produced raw gas and its by-products. Currently, different options for supply volumes and gas processing techniques are being reviewed. The commercial gas is expected to be supplied to the domestic market. Project concept will be decided in 2023.

Oil production at operating assets

With a legacy of more than one hundred years in the oil and gas industry, KMG has a portfolio of producing assets that mainly consists of mature fields. In this regard, the Company's key priority is to improve production efficiency. The Company is committed to energy saving across operations while also maintaining a strong focus on continuous production process optimisations and improvements and driving higher oil recovery rates.

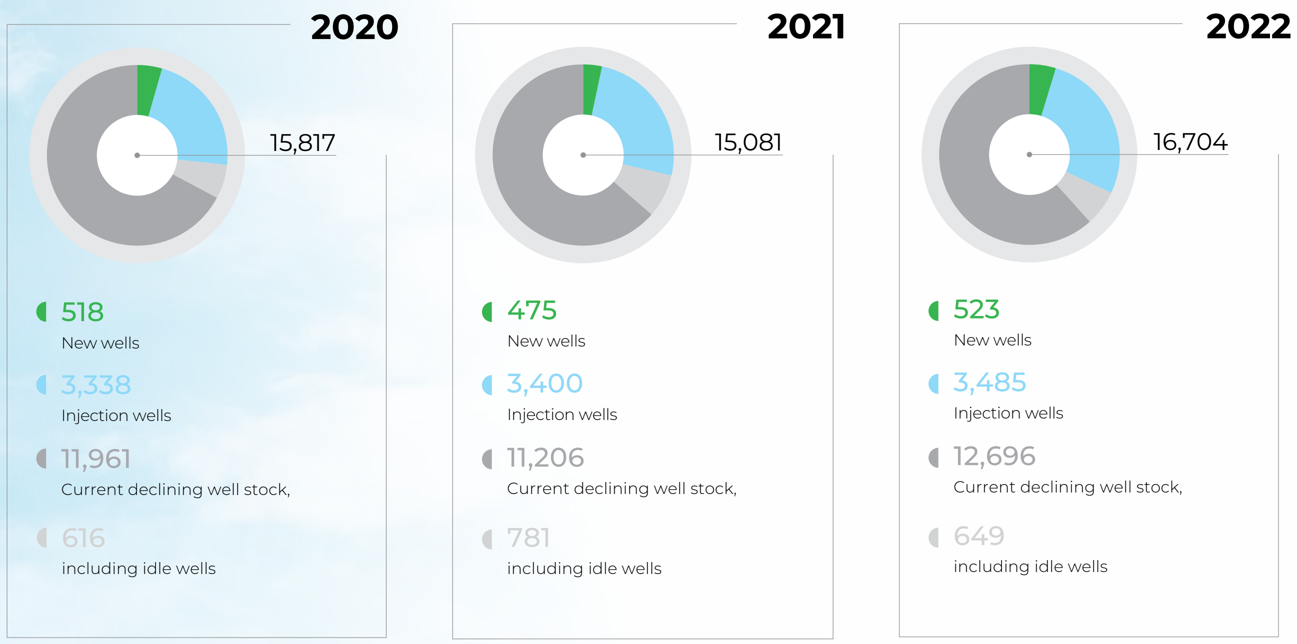
Today about 85% of total oil production at the Company's operating assets comes from seven key fields: Uzen and Karamandybas (Ozenmunaigas), Kalamkas and Zhetybai (Mangistaumunaigaz), S. Nurzhanov and East Moldabek (Embamunaigas), and Karazhanbas (Karazhanbasmunai).

In 2022, oil and condensate production across KMG Group came in at 22.01 mln tonnes, including 13,761 thous. tonnes of oil produced by operating assets (down 1.4% year-on-year). The decline in oil and condensate production was caused by emergency power cuts by the utility company that services the production facilities at Ozenmunaigas and a natural production decline at some mature fields. That said, the decline in oil production at the operating assets was partly offset by production increases by 3.6% at Mangistaumunaigas and by 2.3% at Embamunaigas.

In the reporting year, Ozenmunaigas, Kazakhturkmunay and Mangistaumunaigaz extended hydrocarbon production contracts and licences at the following fields: Aktas, Tasbolat, Karamandybas, West Tenge, South Zhetybai, South Karatobe, Oimasha, and Alatyube.

In 2022, the total well stock in operation was 16,704 wells, of which 12,696 wells were classified as the current declining well stock. Most of oil and condensate production comes from the current declining well stock.

Number of wells at KMG-operated assets



Lifting costs (indicative estimates), USD per bbl

Unit	OMG	EMG	MMG	KGM	KTM	KOA	KBM
	17.4	11.8	9.9	4.1	6.6	6.4	16.8

Netbacks (indicative estimates), USD per bbl

Unit	OMG	EMG	MMG	KGM	KTM	KOA	KBM
Exports							
	40	39	24	48	41	41	38
Domestic market							
	25	19	22	23	9	24	—

8.2 mln m³ ▲ 2%
natural and associated gas production in 2022

2.2 mln m³
the share of operating assets in gas production in 2022

6.1 mln m³
the share of megaprojects in gas production in 2022

Gas production

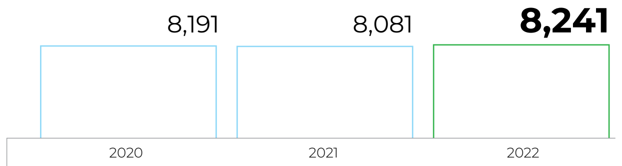
Natural and associated gas production increased by 2% to 8,241 mln m³ in 2022. Operating assets produced 2,190 mln m³ (27% of the total), while 6,051 mln m³ (73%) came from megaprojects, with the Tengiz megaproject accounting for the bulk of production.

Gas production values are the actual volume of gas produced, including gas reinjected and own gas needs. Gas reinjection is used to maintain reservoir pressure, which is essential for sustaining high oil production rates.

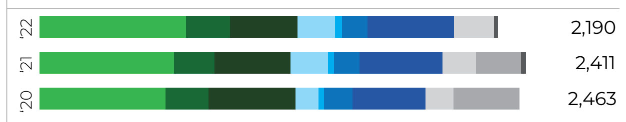
Commercial gas production in 2022 was 4.529 mln m³, of which 1.516 mln m³ came from operating assets and 3.013 mln m³ from megaprojects. Year-on-year, KMG's commercial gas production decreased by 96 mln m³, or 2.1% cumulatively.

Along with processing own feedstock, Kazakh Gas Processing Plant (KazGPZ) produces commercial gas using feedstock supplied by KMG's other operating assets that do not produce commercial gas themselves.

Natural and associated gas production, mln m³

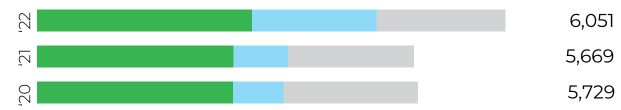


OPERATING ASSETS



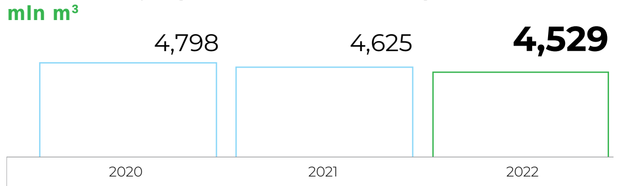
	2020	2021	2022
JSC Ozenmunaigas	726	665	623
JSC Embamunaigas	217	202	213
JSC Mangistaumunaigaz	334	376	431
JV Kazgermunai LLP	188	185	115
JSC Karazhanbasmunai	27	31	33
JSC PetroKazakhstan Inc.	142	125	127
Kazakhoil Aktobe LLP	361	412	430
Kazakhturkmunay LLP	140	167	197
Amangeldy Gas LLP	326	224	-
Urikhtau Operating LLP	2	24	21

MEGAPROJECTS

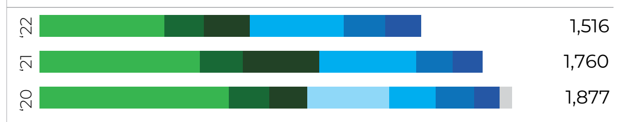


	2020	2021	2022
Tengizchevroil LLP	2,950	2,953	3,229
KMG Kashagan B.V.	758	818	877
KMG Karachaganak LLP	2,021	1,898	1,944

Commercial gas production from KMG-operated assets, mln m³

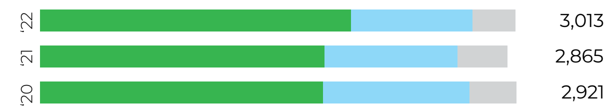


OPERATING ASSETS



	2020	2021	2022
JSC Ozenmunaigas + KazGPZ[1]	751	636	496
JSC Mangistaumunaigaz (PD Zhetybaimunaigaz)	161	172	156
JV Kazgermunai LLP	150	303	182
Amangeldy Gas LLP	326	—	—
Kazakhoil Aktobe LLP	185	383	374
JSC Embamunaigas	152	145	164
Kazakhturkmunay LLP	103	121	144
JSC PetroKazakhstan Inc.	49.5	0	0

MEGAPROJECTS



	2020	2021	2022
Tengiz	1,735	1,743	1,907
Karachaganak[2]	899	818	745
Kashagan[3]	287	304	263

1 — Raw gas from JSC Ozenmunaigas and JSC Mangistaumunaigaz's PD Zhetybaimunaigaz is supplied to the KazGPZ plant.
2 — Raw gas supplies to the Orenburg Gas Processing Plant.
3 — On 15 September 2022, KMG's share increased from 8.44% to 16.88%.

OIL TRANSPORTATION

KMG completed the construction of an oil transportation infrastructure to supply hydrocarbons to export markets. Medium-term priorities:

- increase existing capacity utilisation by making KMG's oil transportation systems more attractive and competitive;
- develop alternative export routes;
- improve operating-cost control.

The two oil transportation modes at KMG are trunklines and the marine fleet.

Indicator	Trunkline transportation				Marine fleet transportation
Management company	**KazTransOil**	**Kazakhstan–China Pipeline**	**MunayTas**	**Caspian Pipeline Consortium**	**Kazmortransflot**
Interest, %	KMG: 90	KTO: 50	KTO: 51	KMG: 20.75	KMG: 100
Key destinations	Exports to Europe and China, domestic market	Exports to China, domestic market	Exports to China, domestic market	Exports to Europe	Exports to Europe
Key routes	Kazakhstan's refineries Uzen–Atyrau–Samara Port of Aktau Oil transshipment to the CPC and Atasu–Alashankou pipelines	Atasu–Alashankou Kenkiyak–Kumkol	Kenkiyak–Atyrau	Tengiz–Novorossiysk	Black Sea Mediterranean Sea Caspian Sea
Total length, km	5,373	1,759	449	1,510	n/a
Capacity, mln tonnes/year	17.5[2] 5.2[3]	20	6	67	n/a

1 — 10% of shares are owned by minority shareholders who acquired them under the People's IPO programme.
2 — Capacity of the Atyrau–Samara section.
3 — Capacity of the Port of Aktau (large-capacity vessel berths, oil loading).

Pipeline infrastructure

Kazakhstan's pipeline infrastructure is owned by KazTransOil – the national oil pipeline operator, its two joint ventures (Kazakhstan–China Pipeline and MunayTas North-West Pipeline Company) and Caspian Pipeline Consortium. The existing pipeline infrastructure in Kazakhstan has adequate potential to support increased oil transportation volumes from promising projects.

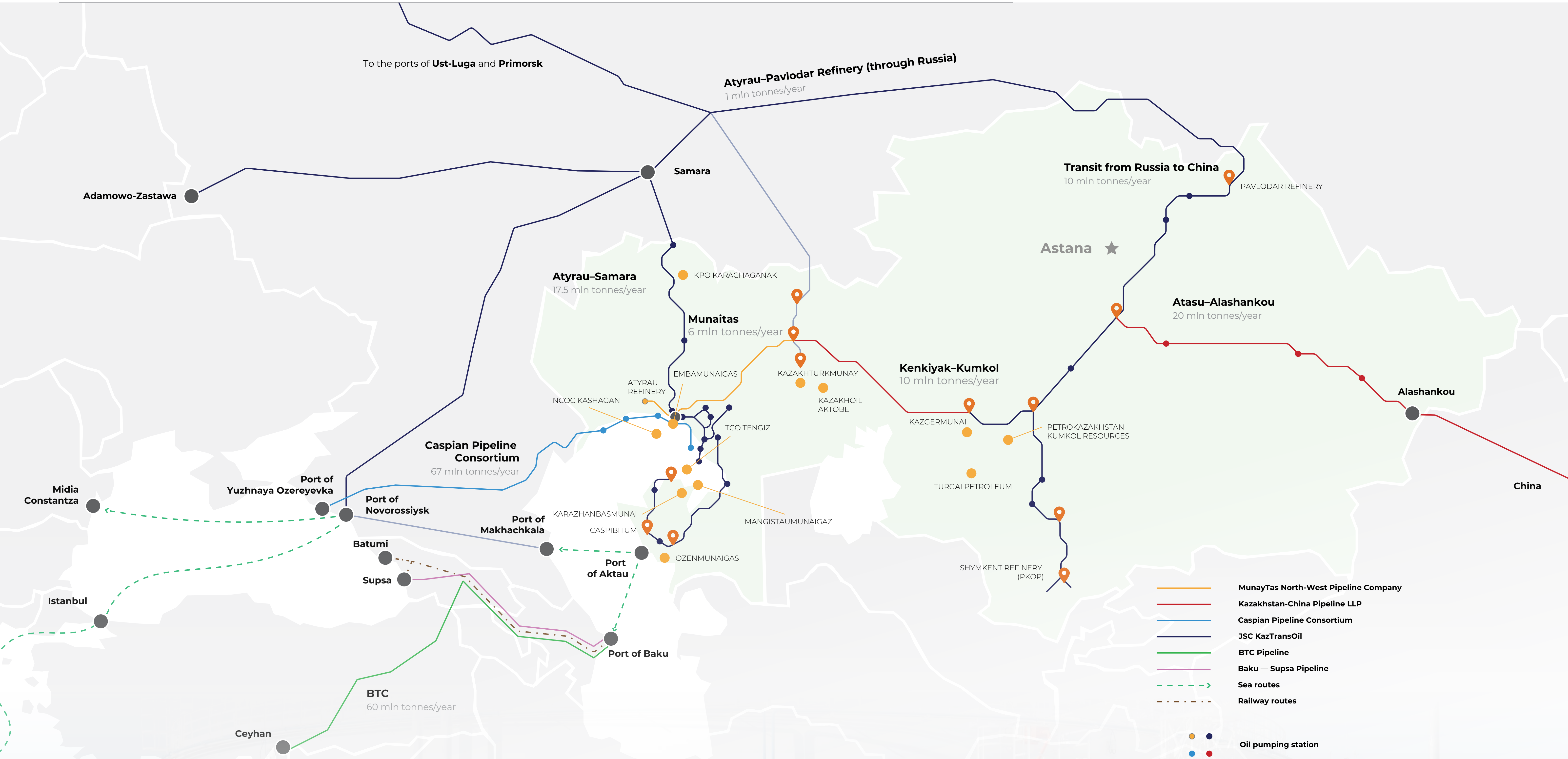
JSC KazTransOil (KTO) is the national oil pipeline operator of the Republic of Kazakhstan. The company owns an extensive network of oil trunklines with a total length of 5,373 km, to which virtually all oil fields in Kazakhstan are connected. The Company transports oil to Kazakhstan's four major refineries, pumps oil for export via the Atyrau–Samara pipeline, transships oil to the CPC and Atasu–Alashankou export pipelines, and ships oil to tankers in the Port of Aktau and by rail. Oil transportation via trunklines is supported by 36 oil pumping stations, 67 heaters, and a tank farm for oil storage with a total capacity of 1.4 mln m^3. KazTransOil also provides operation and maintenance services for the trunklines of Kazakhstan–China Pipeline, MunayTas North-West Pipeline Company, Karachaganak Petroleum Operating B.V., Caspian Pipeline Consortium-K, and Turgai Petroleum, as well as for the trunk water line of Main Waterline.

Kazakhstan–China Pipeline is the owner of the Atasu–Alashankou (965 km) and Kenkiyak–Kumkol (794 km) oil pipelines. The company transports Kazakhstan's oil and transit Russian oil to China and to the domestic market.

MunayTas North-West Pipeline Company (MT) is the owner of the 455 km Kenkiyak–Atyrau oil trunkline. In 2018, the company started implementing the Kenkiyak–Atyrau pipeline reverse project to support supplies of West Kazakhstan's oil to domestic refineries and to compensate production declines in the Aktobe and Kyzylorda Regions, as well as to support exports to China totalling up to 6 mln tonnes per year. The project cost is KZT 30.9 bln. From mid-2021, reverse transportation of up to 6 mln tonnes per year of oil was enabled at the Aman oil pumping station.

Caspian Pipeline Consortium (CPC) is an international oil transportation project involving Russia, Kazakhstan and the world's leading industry players. It was established for the construction and operation of a 1.510 km trunkline (452 km are within Kazakhstan). The CPC oil pipeline is a priority export route for Kazakhstan's oil supplies, connecting Kazakhstan's Tengiz oil field with the Yuzhnaya Ozereyevka oil terminal on the Black Sea (near the Port of Novorossiysk). Oil transportation via the CPC pipeline is supported by 15 oil pumping stations, an oil storage tank farm with a total capacity of 1.3 mln m^3 and three single-point moorings.

In 2019, in view of the anticipated increases in oil production from Tengiz and Kashagan, CPC shareholders resolved to launch a debottlenecking project for the pipeline system. The project timeframe is 2019–2023. Pumping capacity is on track to increase to 81.5 mln tonnes/year (including up to 72.5 mln tonnes/year in Kazakhstan).



KMG’S OIL PIPELINE NETWORK

Trunkline oil transportation

Volume of oil transportation[1], thous. tonnes

Company	2020	2021	2022
KazTransOil (100%)	**42,298**	**41,224**	**40,656**
export	16,699	14,296	12,762
transit	9,989	9,989	9,989
domestic market	15,610	16,939	17,905
Kazakhstan–China Pipeline (100%)	**15,883**	**17,412**	**19,236**
export	571	967	1,290
transit	9,979	9,979	9,980
domestic market	5,333	6,465	7,966
MunayTas (100%)	**3,321**	**4,273**	**5,606**
export	1,595	1,572	1,188
domestic market	1,726	2,701	4,418
Caspian Pipeline Consortium (100%), export	**59,027**	**60,728**	**58,713**

Volume of oil transportation (net to KMG)[1], thous. tonnes

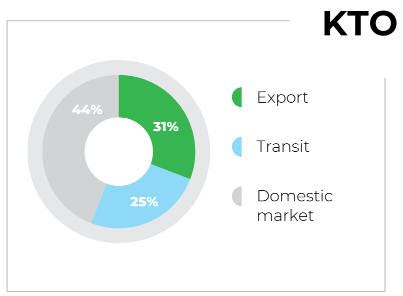
	2020	2021	2022
KazTransOil (100%)	42,298	41,224	40,656
Kazakhstan–China Pipeline (50%)	7,942	8,706	9,618
MunayTas (51%)	1,694	2,179	2,859
Caspian Pipeline Consortium (20.75%)	12,248	12,601	12,183

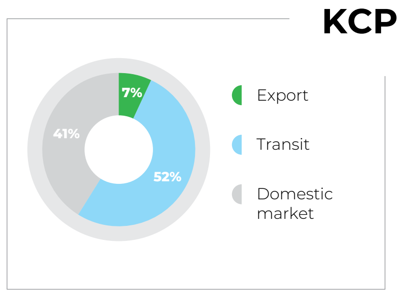
Structure of oil sales by destination in 2022, mln tonnes

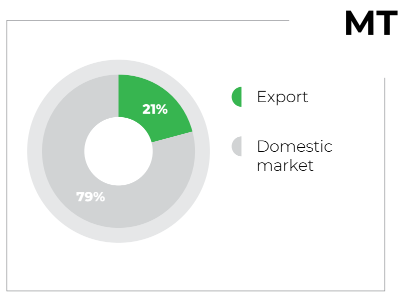
	2020	2021	2022
Total:	**22,034**	**21,661**	**22,128**
Export destinations	**15,176**	**13,744**	**13,713**
"Atyrau - Samara" oil pipeline	6,508	5,074	3,842
CPC oil pipeline	7,898	7,888	8,864
"Atasu - Alashankou" oil pipeline	101	166	223
Port of Aktau	669	616	723
Other directions (Railway Batumi, Uzbekistan, Azerbaijan)	0	0	60
Domestic destinations	**6,858**	**7,917**	**8,415**

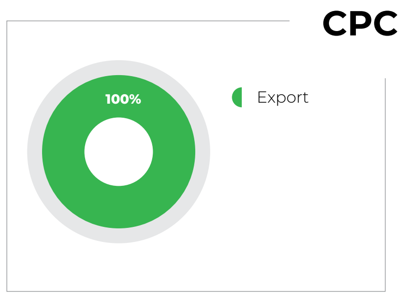
1 — Consolidated volume of oil transported includes the volume of each individual pipeline company, including the operating share of KMG (excluding KTO). Part of the oil volumes can be transported by two or three pipeline companies, and these volumes are accordingly counted more than once in the consolidated volume of oil transportation.

Structure of oil transportation by destination in 2022, %









Oil transportation turnover, mln tonnes*km

	2020	2021	2022
KazTransOil (100%)	35,899	35,162	34,261
Kazakhstan–China Pipeline (100%)	14,368	15,592	17,314
MunayTas (100%)	1,322	1,725	2,265
Caspian Pipeline Consortium (100%)	77,207	79,446	78,154

Oil transportation turnover (net to KMG), mln tonnes*km

	2020	2021	2022
KazTransOil (100%)	35,899	35,162	34,261
Kazakhstan–China Pipeline (50%)	7,185	7,796	8,657
MunayTas (51%)	674	879	1,155
Caspian Pipeline Consortium (20.75%)	16,020	16,485	16,217

In 2022, KMG's share in the consolidated volume of trunkline oil transportation was slightly up by 0.9% to 65,316 thous. tonnes. The increase was due to higher domestic transportation to Kazakhstani refineries in order to ensure necessary refining volumes in the domestic market. At the same time, oil exports decreased due to the natural decline in oil production at mature fields, and due to redistribution of oil by shippers to the domestic market and lower production at Kashagan due to repairs. Note that the Caspian Pipeline Consortium (CPC) saw a 3.3% decline in transportation volumes in the reporting year. This decline mainly ensues from repairs at Kashagan and at single point moorings of the marine terminal operated by CTC. Currently, CTC operates normally.

Oil transportation using KazTransOil trunklines is expected to decline by 568 thous. tonnes year-on-year to 40,656 thous. tonnes.

Lower oil volumes fed to KazTransOil trunklines are mainly due to a decrease in production and delivery (Ozenmunaigas, CNPC International Aktobe Petroleum, oil producers from the Kumkol group of fields). Besides, a number of oil companies redirected their products to Kazakhstan bypassing KazTransOil trunklines.

A year-on-year increase in KCP transportation is due to more oil exported to China and domestic refineries.

A year-on-year increase in domestic oil transportation by MunayTas is attributable to more volumes of reverse transportation to utilise Pavlodar and Shymkent refineries.

A year-on-year decline in exports is associated with a focus on domestic supplies to ensure refinery utilisation.

Tariffs for oil transportation to the domestic market, KZT per tonne per 1,000 km

Company	2020	2021	2022
KazTransOil	4,110	4,356 (4,328 from 1 December 2021)	4,356
Kazakhstan–China Pipeline	6,456 (7,158 from 1 February 2020)	4,323.7	4,359
MunayTas	5,457.3 (5,912 from 25 December 2020)	5,912	5,912

Tariffs for oil transportation for export

Company	2020	2021	2022
KazTransOil, KZT per tonne per 1.000 km	6,399 (7,359 from 1 March 2020)	7,359	8,831
Kazakhstan–China Pipeline, KZT per tonne per 1.000 km	6,799	6,799	6,799
MunayTas, KZT per tonne per 1.000 km	5,912	5,912	5,912
Caspian Pipeline Consortium, USD per tonne	38	38	36

Tariffs for transit to China, USD per tonne

Company	2020	2021	2022
KazTransOil	4.23	4.23	4.23
Kazakhstan–China Pipeline	10.77	10.77	10.77

Tariffs for trunkline oil transportation

The tariffs for crude oil transportation to Kazakhstan's domestic market are regulated by the government.

According to Law of the Republic of Kazakhstan No. 204-VI on Natural Monopolies dated 27 December 2018, oil transportation services to support transit via the Republic of Kazakhstan and exports outside the Republic of Kazakhstan are beyond the scope of natural monopolies.

In 2022, the Company implemented the following key energy efficiency initiatives:

1. replaced five pumps at Pavlodar and B. Djumangaliev head oil pumping stations, as well as Ekibastuz and Stepnoye oil pumping stations with more efficient ones. This delivered an 11% and a 16% decrease in electricity consumption per unit of oil pumped through Pavlodar–Atasu and Djumangaliev–Atasu sections, respectively, with total savings estimated at 2,465,000 kWh per year;
2. installed a variable-frequency drive at the Uzen head oil pumping station, with electricity consumption per unit of oil pumped through the Uzen–Atyrau section down by 11% and total savings estimated at 2,071,000 kWh per year;
3. optimised the temperature of hot pumping at the Atyrau–Samara pipeline by improving the rheological properties of oil blend in summer (redistributing Mangyshlak oil). This enabled the switch off of heaters from June to September 2022 and achieve the savings of ca. 4,896,585 m^3 per year;
4. as part of the HAZOP study upgraded energy supply of oil heating facilities and replaced electrical drives protecting heaters against emergencies at the A. Kultumieva oil pumping station and Opornaya high-speed pipeline heater.

In 2023, the Company plans to implement the following initiatives:

1. Upgrade a booster pumping station at Zhetybai oil pumping station to save an estimated 2,032,000 kWh per year;
2. upgrade linear control and monitoring stations and cathodic protection means, reconstruct electricity supply systems at the Pavlodar–Shymkent trunkline (1,499.9–1,572.1 km), introduce renewable energy sources.

KCP participants plan to build the Aralsk oil pumping station to increase the capacity of the Kenkiyak–Kumkol trunkline to 15 mln tonnes per year. The plans require the participants' consent and are being currently discussed.

Trans-Caspian oil transportation (overseas exports via the Caspian Sea using the Baku–Tbilisi–Ceyhan pipeline) is under consideration. The Company expects to supply 1.5 mln tonnes of Tengizchevroil's oil per year from 2023.

Events related to some CPC-operated single point moorings (SPMs) going out of service in 2022

In 2022, the CPC marine terminal repeatedly faced restrictions on the operation of single point moorings (SPMs). Repairs have been completed at three of CPC's SPMs.

Despite the emergencies that affected the CPC pipeline from time to time in 2022, oil exports via the pipeline was down by only 3% and remained largely stable.

Diversification of oil transportation routes

In furtherance of the order from the Republic of Kazakhstan President to diversify hydrocarbon exports corridors, KMG keeps looking for alternative overseas transportation routes for domestic oil.

Oil exports to Azerbaijan through the Port of Aktau

In November 2022, KMG signed an oil transit agreement with the State Oil Company of the Republic of Azerbaijan (SOCAR) to transport 1.5 mln tonnes of Kazakhstani oil per year via the Aktau–Baku–Ceyhan route over the next five years.

Transportation of 1.5 mln tonnes of oil via the Aktau–Baku–Ceyhan route will enable Kazakhstani producers to assess its efficiency, among other things, based on the data from the BTC oil quality bank and the effect of Kazakhstani oil on the economics of BTC blend.

That said, KMG will continue negotiations with Azerbaijan to increase oil transit via the Baku–Ceyhan pipeline and other potential routes from Baku (railroad transportation to Batumi, Baku–Supsa pipeline, and supplies to Azerbaijan refineries).

Tengiz–Batumi railway supplies

In 2022, a total of 243 thous. tonnes of oil was shipped from the Tengiz field via the Tengiz–Samur–Baku–Batumi railway route with transit through Russia.

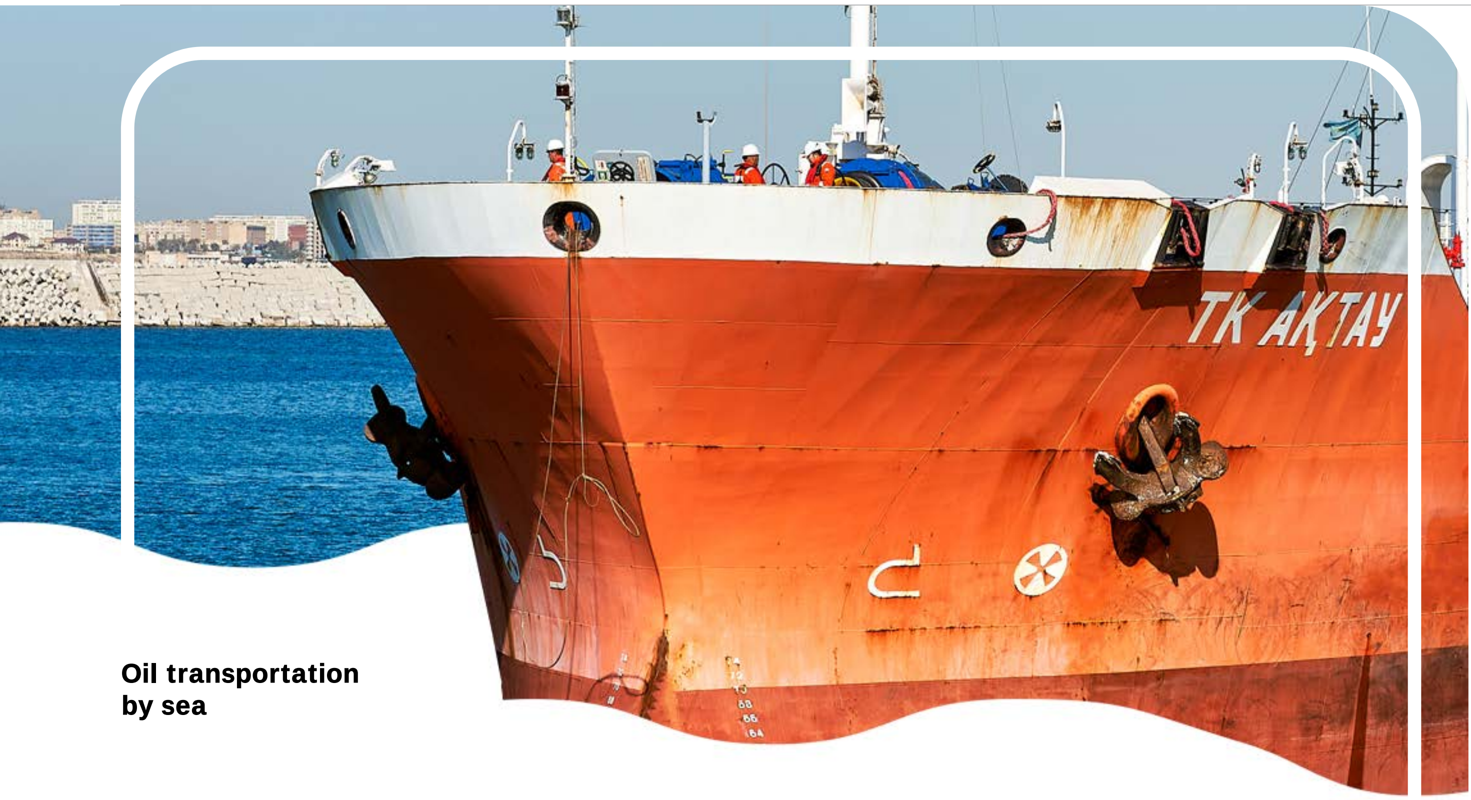
Transportation to China

In August–November 2022, KMG held several rounds of negotiations with CNPC on increasing oil supplies to China and extending the pipeline.

Options to increase capacity in order to boost oil exports from Atyrau to China are on the table:

- ramp-up of Atyrau-Kenkiyak to 12 mln tonnes/year (+2 oil pumping stations) and Kenkiyak–Kumkol to 15 mln tonnes/year (+1 oil pumping station).

The relevant negotiations between parties are ongoing.



Oil transportation by sea

Transportation assets

Engaged in:
- oil transportation in the Caspian Sea and open seas;
- dry and container cargo transportation;
- provision of fleet support services for offshore operations.

Its assets include:
- merchant fleet – oil tankers (Astana, Almaty and Aktau, each with a deadweight of 12,000 tonnes) and Aframax oil tankers (Alatau and Altai, each with a deadweight of 115,000 tonnes);
- dry cargo fleet (5,000-tonne Beket Ata and Turkestan vessels);
- marine support fleet: 4 barge platforms of KMG series with a capacity of 3,600 tonnes each;
- container fleet: Barys and Sunkar with a capacity of 5,200 tonnes or 350 TEUs each,
- Berkut, an MCV-class vessel with capacity of 5,200 tonnes, and 3 tugboats – Talas, Emba and Irgiz with a bollard pull of 40 tonnes-force each;

The main routes for oil transportation by sea go across:
- Caspian Sea;
- Black Sea and Mediterranean Sea.

Performance highlights

In 2022, total sea transportation shrank by 512 thous. tonnes year-on-year to 9,343 thous. tonnes due to less oil shipped by KazMunayGas Trading from Petromidia Refinery.

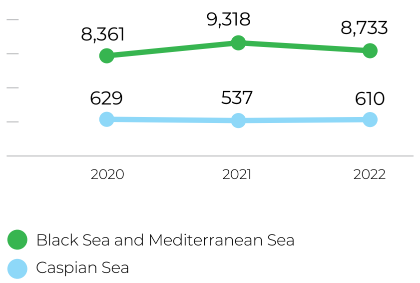
In September 2022, the auxiliary multifunctional vessel Sunkar was reequipped to transport containers along the Aktau–Baku–Aktau feeder line.

In November 2022, Berkut conversion into a container vessel started.

In December 2022, KMG's Investment Committee approved the purchase of two oil tankers with a deadweight of 8,000 tonnes each.

NMSC Kazmortransflot (KMTF) is the National Sea Carrier

Marine fleet transportation, thous. tonnes



DOWNSTREAM

22.1 mln tonnes
sales of own oil and condensate produced by KMG in 2022

19.9 mln tonnes
Consolidated hydrocarbon refining volumes in 2022

The Company has completed a number of major modernisation projects across its oil refineries in Kazakhstan and Romania, successfully achieving higher refining depths. KMG's Strategy until 2031 has set the following goals:

- improving the refining depth at Kazakhstan refineries to at least 89%;
- increasing the output of high-margin petrochemicals at Kazakhstan refineries;
- ramping up vertical integration at KMGI by adding more filling stations across its footprint to boost margins.

Oil and condensate marketing

In 2022, sales of own oil and condensate produced by KMG amounted to 22,126 thous. tonnes, including 13,712 thous. tonnes of oil exports, and 8,415 thous. tonnes of domestic oil supplies. Supplies to KMG refineries in Kazakhstan are fully included in domestic oil supplies: 3,043 thous. tonnes to Atyrau Refinery, 3,340 thous. tonnes to Pavlodar Refinery, and 1,568 thous. tonnes to Shymkent Refinery.

Sales of KMG-produced oil and condensate, thous. tonnes

Assets	2020			2021			2022		
	Export	Domestic market	Total	Export	Domestic market	Total	Export	Domestic market	Total
Operating assets[1]	7,524	6,849	14,373	6,126	7,916	14,042	5,472	8,412	13,884
including subsidiaries and associates[2]	4,911	3,514	8,428	3,805	4,458	8,262	3,173	4,907	8,080
Megaprojects[3]	7,637	2	7,639	7,619	0	7,619	8,240	3	8,243
Total	**15,161**	**6,851**	**22,012**	**13,745**	**7,916**	**21,661**	**13,712**	**8,415**	**22,126**

Oil and condensate exports

In June 2022, all oil companies in Kazakhstan adopted the name of Kazkhstan Export Blend Crude Oil (KEBCO) for their products. On 1 November 2022, Platts began publishing quotes for this grade. Amid sanctions against Russian crude and shrinking supply of the Urals blend, KEBCO prices have been on a steady upward trend.

Brent-pegged taxes and levies associated with oil exports grew as global oil prices increased in 2022.

Oil and condensate sales to domestic buyers

Pursuant to the President's commission to adopt the so-called combined scheme at oil refineries and further commissions from the Government, KMG has been working to introduce this scheme at its refineries, taking into account the amendments being made to the Law of the Republic of Kazakhstan On State Regulation of Production and Sales of Certain Oil Products with respect to oil supplies to local refineries.

The combined scheme and amendments mentioned above provide for a subsoil user's affiliate to be recognised as an oil supplier subject to at least one of the following conditions:

- the oil supplier owns at least 50% of shares in the subsoil user;
- the subsoil user owns at least 50% of shares in the oil supplier;
- the oil supplier and subsoil user are controlled by one or more persons owning, directly or indirectly, a total of at least 50% of shares in the oil supplier and subsoil user.

OzenmunaiGas, Embamunaigas, Kazakhturkmunay and Urikhtau Operating supply Atyrau, Pavlodar and Shymkent refineries with KMG's own crude oil, and the resulting refined products are subsequently sold wholesale domestically or for export.

1 — JSC Ozenmunaigas, JSC Embamunaigas, JSC Karazhanbasmunai, JV Kazgermunai LLP, JSC PetroKazakhstan Inc., Kazakhturkmunay LLP, Kazakhoil Aktobe LLP, JSC Mangistaumunaigaz, Amangeldy Gas LLP, Urikhtau Operating LLP
2 — JSC Ozenmunaigas, JSC Embamunaigas, Kazakhturkmunay LLP, Urikhtau Operating LLP
3 — KMG Kashagan B.V., KMG Karachaganak, Tengizchevroil LPP.

KMG refining assets

Within KMG's asset mix, four refineries in Kazakhstan and two in Romania are responsible for processing liquid hydrocarbons (primarily oil).

KMG refineries

Indicator	Kazakhstan refineries				Romania refineries	
	Atyrau Refinery	Pavlodar Refinery	Shymkent Refinery	CASPI BITUM	Petromidia Refinery	Vega Refinery
Location	Atyrau	Pavlodar	Shymkent	Aktau	Năvodari	Ploiești
Commissioning date	1945	1978	1985	2013	1979	1905
Design refining capacity, mln tonnes	5.5	6.0	6.0	1.0	6.0[4]	0.5
Hydrocarbon refining volumes in 2022, mln tonnes	5.2	5.5	6.2	0.9	5.3[5]	0.4
Refinery utilisation rate in 2022, %	95	92	103	90	88[6]	75
KMG interest, %	99.53	100	49.72	50	54.63	54.63
Nelson Index	13.9	10.5	8.2	–	10.5	–
Light product yield in 2022, %	59	71	76	–	86	–
Refinery co-owners	–	–	CNPC	CITIC	Romanian Government	Romanian Government

4 — Design capacity includes refining 5 mln tonnes of crude oil and 1 mln tonnes of other hydrocarbons per year.
5 — Total refining volume of 4.86 mln tonnes includes 3.98 mln tonnes of crude oil and 0.88 mln tonnes of other and alternative feedstocks.
6 — Petromidia Refinery utilisation rate is 97.5% based on Solomon Associates' methodology.

Consolidated hydrocarbon refining volumes	2020	2021	2022
Kazakhstan refineries			
Atyrau Refinery	5,016	5,473	5,224
Pavlodar Refinery	5,004	5,407	5,480
Shymkent Refinery (50%)	2,397	2,582	3,103
CASPI BITUM (50%)	433	464	461
Total for Kazakhstan refineries	**12,849**	**13,927**	**14,269**
Romania refineries			
Petromidia Refinery	4,864	4,586	5,258
Vega Refinery	364	321	373
Total for Romania refineries	**5,228**	**4,907**	**5,631**
Total	**18,077**	**18,833**	**19,900**

Consolidated oil product output	2020	2021	2022
Kazakhstan refineries			
Atyrau Refinery	4,525	4,867	4,647
Pavlodar Refinery	4,609	4,935	5,168
Shymkent Refinery (50%)	2,145	2,352	2,857
CASPI BITUM (50%)	428	460	456
Total for Kazakhstan refineries	**11,707**	**12,614**	**13,128**
Romania refineries			
Petromidia Refinery	4,749	4,831	5,512
Vega Refinery	361	320	370
Total for Romania refineries	**5,110**	**4,790**	**5,142**
Total	**16,817**	**17,445**	**18,639**

Refining volumes at Kazakhstan refineries

Nearly all key indicators set records in 2022. These included oil refining volumes, and petrol and diesel and jet fuel production. Wastes and flaring were at historical lows.

Shymkent Refinery processed over 6 mln tonnes of oil – more than in any year before – and set the time between repairs to three years, with Atyrau Refinery to follow suit soon.

Pavlodar Refinery is implementing important projects, such as production of winter diesel fuel, which is in short supply in Kazakhstan.

REFINERY DEVELOPMENT PLANS

Initiatives have been planned to boost the output of high-margin products at Kazakhstan refineries, improving their operational efficiency.

- Technical audit for repairs to be performed once in every three years.
- Implementation of the Action Plan with Energy and Resource Efficiency and Atmospheric Emission Reduction Targets for the Period until 2031.

ATYRAU REFINERY

- Engineering and survey activities (restoring the reformer's operability, ramping up the capacity of the Prime D hydrotreatment and dewaxing unit, and building a gas turbine power plant, unloading rack for straight-run naphtha and kerosene / gas oil fraction, and new pumping station to enable complete transition to automatic on-spot loading).
- Feasibility study (upgrading the delayed coker unit and building a de-asphalting unit).
- Installation of an oil metering station and floating roofs for tanks intended to store Tengiz oil before refining.
- Completion of the Tazalyq project, mechanical treatment plants upgrade at Atyrau Refinery, and reclamation of evaporation fields.

PAVLODAR REFINERY

- Selection of an EPC contractor for the project on reconstruction of the diesel hydrotreating plant including a dewaxing unit.
- Equipment procurement and start of construction and installation for the project on construction of an LPG treatment facility.

SHYMKENT REFINERY

- Completion of the pre-feasibility study for the project on expansion of Shymkent Refinery's production capacities (bringing the capacity to 9 or 12 mln tonnes per year).

CASPI BITUM

- Plans for reaching the design oil refining capacity of 1.0 mln tonnes per year.
- Procurement of results of the PFS for the project on expansion of CASPI BITUM LLP's capacity.
- Start of the development of a project design for the project on expansion of CASPI BITUM LLP's capacity.

PROSPECTIVE PROJECTS AND INNOVATIONS

- Restoration of the LG-35-11/300-95 reformer's operability (scheduled for 2022–2025).
- As work progresses to enable the refining of Tengiz oil and with the catalytic cracking unit at full capacity, an excess of off-balance straight-run naphtha is being created, which requires using LG-35-11/300-95 in winter.
- Construction of a gas turbine power plant (scheduled for 2023–2026).
- Upgrade of the delayed coker unit.
- Production of more jet fuel (repurposing the LG-35-11/300-95 hydrotreater, scheduled for 2023–2025).
- Expansion of the Prime D hydrotreatment and dewaxing unit's capacity (commissioning the third booster compressor).
- Expansion of the existing automatic on-spot loading unit (building a new pumping station).
- Construction of an unloading rack for straight-run naphtha and kerosene / gas oil fraction.
- Refining of Tengiz oil.

- Action Plan with Energy and Resource Efficiency and Atmospheric Emission Reduction Targets for the Period until 2031.

Under this plan, Atyrau Refinery works to reduce direct and indirect emissions by at least 12% by 2031 vs 2019.

PAVLODAR REFINERY

- Project on reconstruction of the diesel hydrotreating plant including a dewaxing unit. This initiative seeks to achieve a winter diesel fuel output of 160 thous. tonnes per year.
- Project on construction of an LPG treatment facility.

This initiative seeks to achieve a marketable LPG throughput and output of 100 thous. tonnes per year.

- Action Plan with Energy and Resource Efficiency and Atmospheric Emission Reduction Targets for the Period until 2031.

Under this plan, Pavlodar Refinery works to reduce direct and indirect emissions by at least 15% by 2031 vs 2019.

SHYMKENT REFINERY

- Shymkent Refinery expansion project (ramping up the capacity to 9 or 12 mln tonnes per year).

A variety of plant layouts are being considered to expand the existing production capacities to 9–12 mln tonnes per year.

A PFS by US-based Honeywell UOP is in progress.

- Action Plan with Energy and Resource Efficiency and Atmospheric Emission Reduction Targets for the Period until 2031.

Under this plan, Shymkent Refinery works to reduce direct and indirect emissions by at least 13% by 2031 vs 2019.

Refining tariffs

The tariff for refining oil under tolling arrangements embraces an operating and investment parts, financial liabilities and corporate income tax and may provide an opportunity to finance the enterprise's operation while maintaining efficiency and preventing it from making a loss.

Weighted average tariffs at Kazakhstan refineries, KZT / tonne (net of VAT)

Refinery	2020	2021	2022
Atyrau Refinery	41,168	42,434	42,515
Pavlodar Refinery	20,904	23,033	23,240
Shymkent Refinery	30,783	35,191	35,336
CASPI BITUM	18,003	18,472	24,901

Hydrocarbon refining volumes and oil product output in Kazakhstan

In 2022, hydrocarbon refining volumes at Kazakhstan refineries (net to KMG) amounted to 14,269 thous. tonnes, with oil product output at 13,101 thous. tonnes. The two measures grew by 2.5% and 4.1% respectively vs 2021, showing their best performance since Kazakhstan gained independence. This was driven by the postponing of scheduled repairs at Shymkent Refinery from 2022 to 2023 and higher refining volumes at Pavlodar Refinery.

Acquisition of a stake in PETROSUN. KMG's purview in oil product marketing

PETROSUN LLC was incorporated in Kazakhstan on 17 January 2012.

The members:
1. CNPC International in Kazakhstan LLP
2. JSC National Company KazMunayGas

In July 2022, the Company acquired a 49% stake in PETROSUN LLC, increasing KMG's share in the domestic market for oil products from 28% to 80%.

PETROSUN LLC's core activities:
- foreign trade, commerce, and export and import;
- sales of hydrocarbons and their derivatives;
- refining of hydrocarbons and their derivatives;
- procurement and refining of crude oil, natural gas, oil products, lubricants and fuels in Kazakhstan and elsewhere, including treatment, storage, sales and marketing, distribution, and import and export of crude oil, oil products and hydrocarbons and their derivatives, and procurement of materials and equipment (beyond the scope of natural monopolies);

1 — Including petrol, diesel fuel, jet fuel and LNG.
2 — Including fuel oil, vacuum gas oil and bitumen.
3 — Including benzene and paraxylene.

Hydrocarbon refining volumes (net to KMG), thous. tonnes

	2020	2021	2022
Atyrau Refinery	5,016	5,473	5,224
Pavlodar Refinery	5,004	5,407	5,480
Shymkent Refinery (50%)	2,397	2,582	3,103
CASPI BITUM (50%)	433	464	461

Oil product output (net to KMG), thous. tonnes

Oil products	2020	2021	2022
Atyrau Refinery	4,525 (100%)	4,867 (100%)	4,647 (100%)
· Light[1]	2,737 (60%)	3,169 (65%)	2,988 (64%)
· Dark[2]	1,383 (31%)	1,499 (31%)	1,447 (31%)
· Petrochemicals[3]	250 (6%)	52 (1%)	85 (2%)
· Other	155 (3%)	147 (3%)	127 (3%)
Pavlodar Refinery	4,609 (100%)	4,935 (100%)	5,137 (100%)
· Light	3,438 (75%)	3,736 (76%)	3,879 (76%)
· Dark	896 (19%)	862 (18%)	927 (18%)
· Other	275 (6%)	337 (7%)	331 (6%)
Shymkent Refinery (50%)	2,145 (100%)	2,352 (100%)	2,857 (100%)
· Light	1,970 (92%)	2,035 (87%)	2,348 (82%)
· Dark	172 (8%)	313 (13%)	504 (18%)
· Other	3	4	5
CASPI BITUM (50%)	428 (100%)	460 (100%)	460 (100%)
· Dark	185 (43%)	203 (44%)	203 (44%)
· Other	243 (57%)	257 (56%)	257 (56%)
Total	**11,707**	**12,614**	**13,101**

Refining depth, %

Refinery	2020	2021	2022
Atyrau Refinery	77.15	77.24	75.72
Pavlodar Refinery	87.20	87.79	88.19
Shymkent Refinery	90.14	85.96	82.79

- acquisition, storage and transshipment of oil products; and
- oil product transportation.

PETROSUN LLC aims to operate efficiently in Kazakhstan's oil product market, ensure energy security and maximise its profit from selling lubricants and fuels in the domestic oil product market and exporting them.

PETROSUN LLC refines the acquired crude oil at the following Kazakhstan refineries:

1. PetroKazakhstan Oil Products (Shymkent Refinery) – a 72% stake;
2. Pavlodar Refinery – a 41% stake;
3. Atyrau Refinery – a 29% stake.

PETROSUN LLC's oil products made at these refineries are sold to farm operators in the spring and autumn farming seasons, KTZ – Freight Transportation for the needs of its locomotive divisions, major filling station networks in Kazakhstan, buyers on an exchange, and town-forming industrial enterprises.

Kazakhstan refineries source and refine oil under the combined scheme, whereby the crude is supplied to and processed at refineries by subsoil users, their affiliated or associated marketing entities, and the refineries in their capacity as oil product makers. After processing the oil, a refinery returns the resulting oil products to the oil owners (resource holders) or sells them. In both cases, the products are then shipped from the refinery.

KMG and PETROSUN LLC dominate the domestic wholesale market for oil products, with aggregate shares of 91.3%, 71.4% and 81% in total sales of the AI-92 and AI-95 petrols and diesel fuel respectively (between October 2021 and September 2022).

Production and marketing of oil products derived from KMG's own oil

Ozenmunaigas, Embamunaigas, Kazakhturkmunay and Urikhtau Operating supply Atyrau, Pavlodar and Shymkent refineries with KMG's own crude oil, and the resulting refined products are subsequently sold wholesale domestically or for export.

In 2022, Ozenmunaigas, Embamunaigas, Kazakhturkmunay and Urikhtau Operating supplied 4,966 thous. tonnes of crude oil for refining, including 2,363 thous. tonnes to Atyrau Refinery, 1,992 thous. tonnes to Pavlodar Refinery, and 611 thous. tonnes to Shymkent Refinery. The refineries' combined output for the year was 4,893 thous. tonnes of refined products, including 60% of light products, 22% of dark products, 0.8% of petrochemicals, and 17% of other oil products.

Refinery output of oil products derived from KMG's own oil in 2022, thous. tonnes

Oil products	Atyrau Refinery	Pavlodar Refinery	Shymkent Refinery	Total	Average oil product wholesale prices over 12M 2022, KZT per tonne
Light[1]	1,284	1,241	426	2,951	191,453.50
Dark[2]	646	327	99	1,071	181,615.34
Petrochemicals[3]	38	0	0	38	405,172.46
Other	362	392	80	834	37,837.07
Total	**2,329**	**1,960**	**604**	**4,893**	**166,674.85**

1 — Light products include motor petrol, diesel fuel, and jet fuel.
2 — Dark products include fuel oil, vacuum gas oil, bitumen, and heavy petroleum feedstock.
3 — Petrochemicals include benzene and paraxylene.

KMG sells oil products wholesale after the oil purchased from Ozenmunaigas, Embamunaigas, Kazakhturkmunay and Urikhtau Operating is refined at refineries in Kazakhstan. From January to December 2022, KMG sold 4,908 thous. tonnes of oil products, primarily light products and fuel oil (79%).

The bulk of oil products was sold domestically (4,091 thous. or 83% out of 4,908 thous. tonnes), and the remainder was exported (816 thous. tonnes). The share of oil product exports in the total sales volume was down 3% year-on-year due to a ban on light product exports.

Wholesale of KMG oil products produced in the Republic of Kazakhstan, thous. tonnes

	2021			2022		
	Domestic market	Export	Total	Domestic market	Export	Total
Gasoline	1,195	–	1,195	1,333	7	1,340
Diesel fuel	1,291	57	1,348	1,513	–	1,513
Jet fuel	120	–	120	161	–	161
Fuel oil	241	542	783	265	588	853
Vacuum gas oil	–	166	166	–	105	105
Bitumen	83	–	83	125	–	125
Coke	79	66	144	56	65	121
Sulphur	3	17	20	5	14	19
Benzene	–	4	4	–	3	3
Paraxylene	–	25	25	–	34	34
Liquefied gas	162	1	163	204	–	204
Heating fuel	4	–	4	–	–	–
Process fuel	382	–	382	408	–	408
Other	18	–	18	22	–	22
Total	**3,577**	**877**	**4,454**	**4,092**	**816**	**4,908**

KMG supplies diesel fuel for agricultural field operations and provides social and production facilities, and institutions, with fuel oil during the heating season. In 2022, KMG also sold, through KazMunayGas-Aero and through exchange trading, jet fuel to local airports, airlines, and businesses. The rest is sold to third parties domestically or abroad. In April 2022, KMG exported AI-92 petrol (7 thous. tonnes). Exports of light oil products dropped by 85% compared to 2021 due to increased domestic consumption in the Republic of Kazakhstan. In 2022, oil product exports were dominated by dark oil products shipped to Europe. Diesel fuel, petrochemicals, coke, sulphur and butane were supplied to Europe, China, Nigeria, Russia, Uzbekistan and Tajikistan.

Export of oil products broken down by share and supply destination

Oil products	2021			2022		
	Volume, tonne	Country	Share, %	Volume, tonne	Country	Share, %
Fuel oil	541,967	Europe	100	585,152	Europe	100
Vacuum gas oil	165,724	Europe	100	105,467	Europe	100
High-purity paraxylene	25,172	China	100	33,763	China	100
K4, K5, E-K4 summer diesel fuel	19,198	Europe	34	–	–	–
	28,461	Uzbekistan	50	–	–	–
	9,465	Tajikistan	17	–	–	–
Benzene	3,523	Russia	100	1,684	Russia	53
	–	–	–	1,498	Africa	47
Total coke	28,790	China	59	18,066	China	30
	20,121	Russia	41	42,978	Russia	70
Calcined coke	10,819	China	65	780	China	20
	5,918	Russia	35	3,170	Russia	80
Sulphur	12,069	Europe	71	8,041	Europe	59
	4,885	Africa, Nigeria	29	5,577	Africa	41
Gas (Butane)	489	Tajikistan	50	–	–	–
	482	Russia	50	–	–	–
AI-92 K4 petrol	–	–	–	7,454	Europe	100
Heavy petroleum feedstock for carbon black production	–	–	–	2,630	Russia	100
Total:	**877,083**			**816,259**		

Refining in Romania

The core business of KMG International is hydrocarbon refining, as well as wholesale and retail sales of oil products. The KMG International-owned Petromidia Refinery is responsible for primary hydrocarbon refining, with the Vega Refinery focusing on secondary refining. The Petromidia and Vega Refineries operate according to the model where refineries purchase hydrocarbons for their own account, refine them and then sell them either wholesale or retail through an owned retail network of filling stations.

KMG International also owns a major petrochemical complex producing polypropylene and low- and high-density polyethylene (LDPE and HDPE). In addition, KazMunayGas Trading AG, the trading subsidiary of KMG International, is focused on trading in crude oil and oil products produced by KMG International refineries or by third parties.

In 2022, our refineries in Romania processed 5,631 thous. tonnes of hydrocarbons and other feedstocks and produced 5,512 thous. tonnes of oil products. The volumes increased by 14.8% and 14.1% respectively year-on-year on average. The year-on-year growth in crude oil refining and oil product production was attributable to the pandemic-related restrictions of 2021, as a result of which less imported SRGO was processed due to a slumping demand, and to an incident at Petromidia Refinery in July 2021 causing its shutdown.

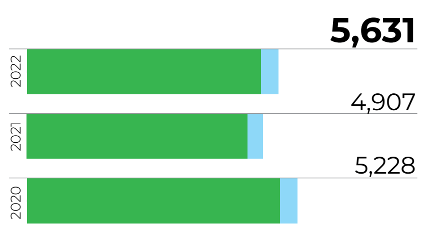
Petromidia Refinery's refining margin

Unit	2020	2021	2022
USD per tonne	-5	7.2	135
USD per bbl[1]	-0.7	1	17.8

Oil product output (net to KMG), thous. tonnes

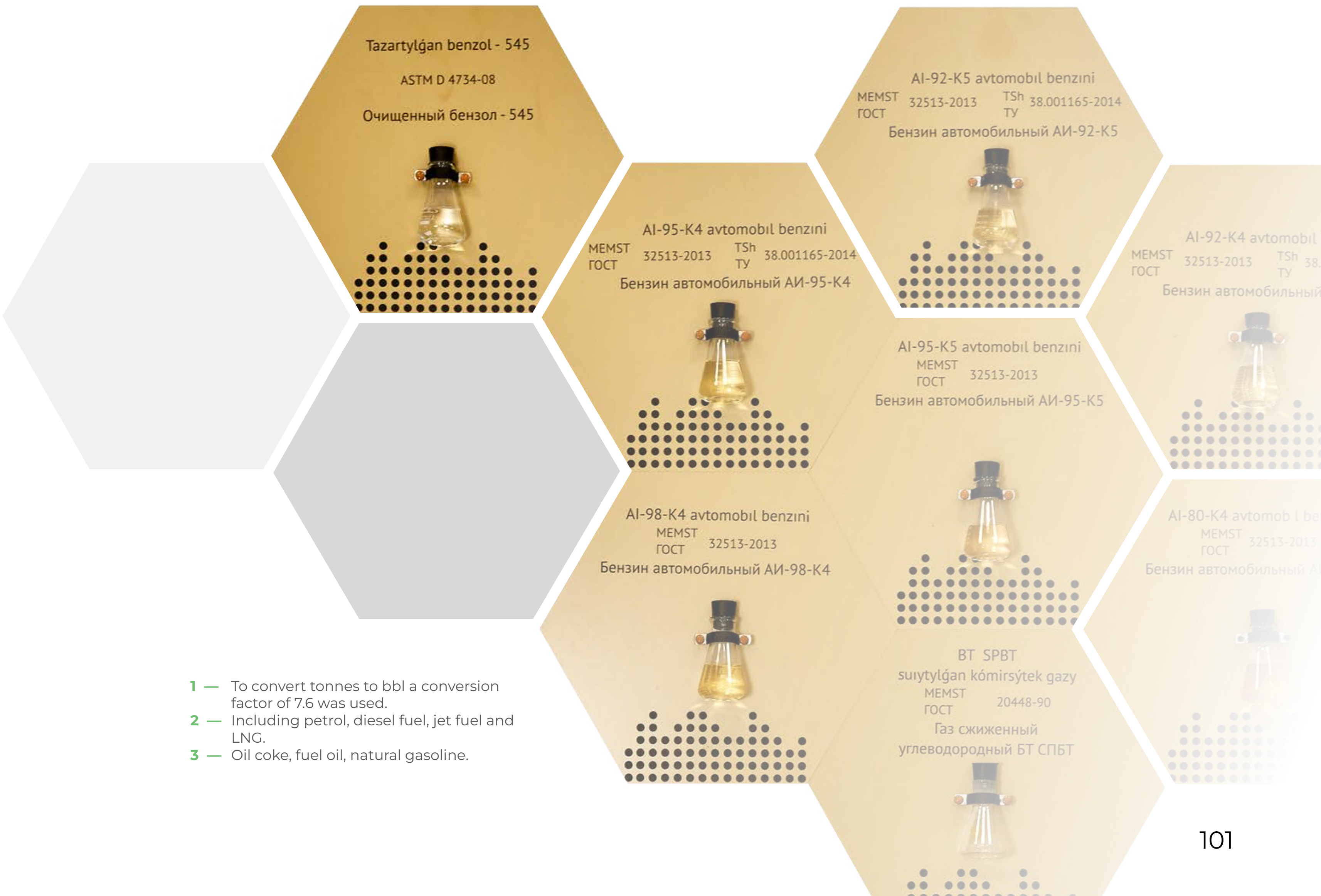
Refinery	2020	2021	2022
Petromidia Refinery	4,749	4,470	5,142
· Light[2]	4,009	3,590	4,075
· Dark[3]	575	530	889
· Other	165	152	178
Vega Refinery	361	320	370
· Dark	123	93	100
· Other	238	226	270
Total	**5,110**	**4,790**	**5,512**

Hydrocarbon refining volumes (net to KMG), thous. tonnes



	2020	2021	2022
Petromidia	4,864	4,586	5,258
Vega	364	321	373

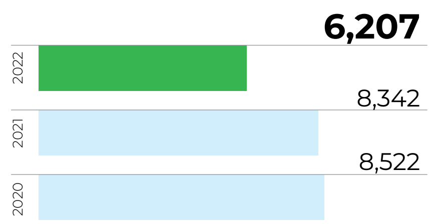
In 2022, Petromidia's refining margin calculated as the difference between Urals crude prices and oil product prices (petrol, diesel fuel, naphtha, liquefied gas, jet fuel, fuel oil, propylene, sulphur, and oil coke) amounted to USD 135 per bbl on the back of an unbalanced market structure resulting from the conflict in Ukraine and the events that ensued.



1 — To convert tonnes to bbl a conversion factor of 7.6 was used.
2 — Including petrol, diesel fuel, jet fuel and LNG.
3 — Oil coke, fuel oil, natural gasoline.

In 2022, crude oil volumes for resale marketed through KMG International's trading operations totalled 6.2 mln tonnes.

Crude oil for resale, thous. tonnes



KMG International's retail network

Romania's retail market is the most profitable market for KMG International's oil products.

To develop Romanian retail chain, in 2021 KMG's Investment Committee approved a project to build 44 new filling stations supported by the Kazakh-Romanian Investment Fund. 2022 saw the completion of eight stations on a major highway in Romania.

KMG International's share of the Romanian retail market in 2022 is estimated at 16.9%, up 0.6% year-on-year (16.3% in 2021 based on actual data).

At year-end 2022, KMG International's retail network was comprised of the following assets:

- Romania: 304 filling stations and 953 points of sale (DOEX, RBI, and Cuves). 8 CODO, 4 DODO, 19 DOEX, 2 new RBI, and 19 Cuves were opened;
- Neighbouring countries: 262 filling stations and points of sale, including 60 stations in Bulgaria, 105 stations in Georgia (8 stations added, while 19 stations were closed due to contract expiry) and 96 stations in Moldova (3 stations in rural regions were closed as loss-making).

Refinery development plans

With a historic focus on developing refining assets, while also given the previous years' market conditions and the Paris Agreement under the United Nations Framework Convention on Climate Change governing efforts to lower carbon dioxide concentrations in the atmosphere starting from 2020, a number of concerns arose with respect to the Group such as: 1) the Group's unbalanced asset portfolio and high exposure to refining margin volatility; 2) logistic limitations as investments in new refining capacities were not followed by the upgrade of logistics infrastructure to accommodate increased volumes; 3) a chain of filling stations disproportionate to increased production capacity.

Vertical integration, along with the accelerated intensive development of controlled sales channels in Romania and neighbouring countries, remain the key focus areas. Further refinery investments are to be limited to the previously approved projects, such as the conversion of a high-density polyethylene production unit into a polypropylene unit, while development projects must become part of KMG International's decarbonisation strategy.

New technologies, operational excellence and efficiency (case studies, results, future plans)

The Group has set about developing a decarbonisation strategy associated with the EU's commitment under the European Green Deal to reach climate neutrality by 2050. It has also continued to invest in asset integrity projects for Petromidia, Vega and the Petrochemical Complex in order to maintain their operational availability. The bulk of the projects focus on repairing and restoring the tank farm, ISCIR authorisation, as well as activities associated with the technological shutdown of 2022, with a greater emphasis on safety-related projects. Besides, due to the unusual market conditions and geopolitical landscape during 2022, we adapted and reacted according to the situation maximising fuel gas production and minimising steam costs.

New projects

CHP construction project: approved by KMG's Investment Committee on 16 March 2020, the project will provide all the necessary steam and electricity to Petromidia Refinery. Project progress update:

- completed design package: basic design, documentation to obtain construction permit for the CHP and natural gas pipeline; construction permit for the CHP and gas pipeline;
- equipment procurement: gas turbines, main and auxiliary transformers, other electric equipment;
- completed construction works: demolition of old buildings, foundations for all equipment, main control building, installation of transformers;
- ongoing construction works: main pipe racks, underground work, foundations for the natural gas pipeline, installation of gas turbines.

The 44 stations retail network construction project: KMG International's long-term strategy focuses on developing the retail segment by expanding on the Romanian market considered the most attractive for retail sales. The project's key mission is to increase the Company's share of the retail oil product market in Romania. KMG's Investment Committee approved the project on 4 November 2021. Project progress update:

- The new concept of highway filling stations was selected through a tender in 2021. As the highway is Romania's most important strategically-located transit route, a new state-of-the-art concept was developed to offer a larger store (up to 600 m2 compared to 240 m2 in the case of a standard filling station). The format features a restaurant and partnership with fast food operators, which will improve non-fuel profitability and image of the entire retail chain and the company as a whole. In 2023, six more highway sites have been won through a new open CNAIR tender to be approved and built during 2023.
- KMG International updated its annual filling station construction schedule planning to build 8/14/12/10 stations in 2022–2025 (compared to the original plan of building 16/16/12 stations in 2022–2024)
- In addition, as of year-end 2022: 1) land contracts have been signed for 19 sites in accordance with the permit, where 5 construction permits are expected to be obtained during 2023; 2) bidding is underway to acquire construction categories (services and equipment) for standard stations.

The Dolphin project for refineries is a programme to improve operational efficiency with a focus on continuous improvement, energy efficiency, maintenance, organisational efficiency, digitalisation, and process losses.

PETROCHEMICALS

KMG will be strongly involved in developing Kazakhstan's petrochemical industry with support from the government, which is expected to significantly boost the national economy as growth in the petrochemical sector will have a multiplier effect on the entire domestic market.

Polypropylene

KPI Inc.

Kazakhstan Petrochemical Industries Inc. Limited Liability Partnership (KPI) is the operator of Phase I of the first integrated gas chemical complex project in the Atyrau Region. Established in 2008, the Partnership is a member of the National Industrial Petrochemical Technopark, a special economic zone where the project is being implemented. The Partnership's abbreviated name is KPI Inc.

Project participants: National Company KazMunayGas with 49.5%; Samruk-Kazyna Ondeu with 49.5% (the sole member of Samruk-Kazyna Ondeu is Sovereign Wealth Fund Samruk-Kazyna. Samruk-Kazyna Ondeu was established to carry out the commission of the President of the Republic of Kazakhstan to implement projects in the chemical industry); Firm Almex Plus with 1% (a private investor, member of a major Kazakhstani holding group, Holding Group ALMEX).

In July 2018, KMG accepted the trust over KPI Inc. for the construction of a polypropylene complex in order to manage this investment project, given KMG's experience and expertise in the construction of large-scale projects.

On 13 June 2022, KMG acquired 49.5% of KPI Inc. as part of its strategic goal to diversify its business and expand its product portfolio, and, in particular, develop petrochemical projects which will be one of the key drivers for the Company in the future.

In November 2022, Samruk-Kazyna and SIBUR Holding entered into an agreement with conditions precedent on the acquisition of 40% in the capital of KPI Inc. The conditions precedent include infrastructure conclusions, marketing conditions and permits. It is expected that suspensive conditions will be fulfilled during 2023.

KPI polypropylene production was officially launched in November 2022 as part of Phase I of the integrated gas chemical complex construction project in the Atyrau Region. The facility has an annual capacity of 500 thous. tonnes of polypropylene, which is used as feedstock in mechanical engineering, medicine and electrical engineering, production of packaging materials, containers, fibre, pipes and fittings for hot water supply, office equipment, consumer electronics, consumer goods, outdoor and office furniture. Shipment of polypropylene is already underway.

KPI's project relies on modern technology, enabling the company to move ever closer to full digitalisation. Specialised IT solutions and corporate accounting systems will make it possible to keep highly accurate records – from the planning of operations to the sale of finished products to end customers.

The plant meets all environmental regulations. It takes in propane free of harmful impurities to turn it into propylene and then polypropylene all through the production chain. The processes are designed in a way that removes the possibility of harmful substances such as hydrogen sulphide, sulphur dioxide and aromatic hydrocarbons being produced.

The facility is sustainable in terms of water consumption, as it uses a circular water system to supply water to its processes. It is integrated with Karabatan Utility Solutions' water treatment facilities, which makes it possible to reduce water consumption through recycling and reusing of almost all wastewater.

Key objectives of KMG's petrochemical projects:

- **build the first gas chemical complex and establish a petrochemical cluster in the Republic of Kazakhstan;**
- **use the available large volumes of gas for the petrochemical complex;**
- **manufacture export-oriented products with high added value;**
- **produce polymers to diversify industry sectors.**

History of the Company

In 2018, the EPC contractor, China National Chemical Engineering Co. (PRC), was determined and debt financing (USD 2 bln from China Development Bank for 20 years at 5.8% per annum) was raised. On 28 June of the same year, the project was transferred to KazMunayGas for trust management. In July, the master plan was approved and 30% of the project 3D model was completed.

On 28 August, an order for the manufacture of a propane-propylene splitter – the biggest column (height – 105 m, diameter – 8.4 m, weight – 1,100 tonnes) – was placed with Atyrauneftemash. On 5 December, the first phase of the construction camp was completed, and the staff of the Client and the Contractor moved to Karabatan. On 25 December, the installation of 18,124 driven piles was completed for 45 facilities.

In January 2019, 60% of the plant's 3D model was completed. On 26 April 2019, Beijing hosted a reporting meeting on the integrated gas chemical complex construction project in the Atyrau Region (Phase 1 – polypropylene production) with the participation of the management of KazMunayGas, KPI Inc., and the management of China National Chemical Engineering, Co. (CNCEC). At their bilateral meetings, KMG and CNCEC noted the measures taken by the companies. In turn, CNCEC engaged Kazakh companies in construction, ordered equipment and metal structures from Kazakhstani manufacturers and contributed to organising the Local Content Forum for the project.

On 8 October 2019, Kazakhstan Petrochemical Industries and Air Liquide signed a dry compressed air and nitrogen supply and purchase agreement. According to the agreement, a modern and fully automated technical gas plant will be built. This, in turn, will ensure uninterrupted operation of production facilities of Kazakhstan Petrochemical Industries and the production of polypropylene, a petrochemical with high added value.

Transportation and installation of equipment

2019–2022 saw a most complex phase of delivering oversized and special cargo. The first equipment of the kind with a long lead time, three polymerisation reactors each weighing 97 tonnes, was delivered on 20 November 2019. The reactors for the polypropylene polymerisation unit were manufactured by COEK ENGINEERING N.V. in Belgium, shipped by sea from the port of Antwerp on 18 October 2019, and delivered in a very short time via the Baltic Sea and then through the Volga-Baltic Waterway to the Caspian port of Aktau.

On 27 January 2020, the largest item of industrial equipment was assembled – propane-propylene splitter column with a mass of over 1.100 tonnes, a height of 105 m, a diameter of more than 8 m, and a volume of 5.132 m3. It was made by Atyrauneftemash in Atyrau. The equipment was lifted by a 3.200-tonne hydraulic gantry and a 750-tonne auxiliary crawler crane.

On 6 March, M/S NOWOWIEJSKI was loaded with critical large-sized equipment made in South Korea – eight Catofin dehydrogenation reactors (manufactured by WOOYANG), four propane storage tanks (manufactured by GS Entec), five pressure vessels and heat exchangers (manufactured by GS Entec). The vessel made its way from the Port of Ulsan to Constanța, Romania, to reload the equipment onto offshore barges. In January and February 2021, seven convoys of oversized equipment arrived from the KCOI port (Mangistau Region) at the construction site. The following critical equipment was delivered: ethylene and propylene compressors (MAN, Germany), reaction gas compressor (Mitsubishi, Japan), waste heat boiler components (Hamon, China), extruder components (Coperion, Germany), regeneration air heater vessel (Zeeco, India), pressure vessels (KNM, China).

In September 2021, preparatory work for the pre-commissioning of the technical gas system was completed, including testing of the main drinking water supply manifold and drinking water intake at the Complex's drinking water station; individual testing of electrical and dynamic equipment (pumps) at the Complex's off-site facilities.

On 27 December, the new facility received its first batch of propane from Tengiz. In November, it received nitrogen and dry compressed air. In the summer, the Company electrified the main step-down substation and later took pre-desalinated, demineralised and process water from Karabatan Utility Solutions. The plant thus received all energy resources required for commissioning and subsequent start-up.

In December 2021, 100% of metal structures required for the project were delivered to the site.

On 1 April 2022, a gas compressor turbine was launched at the gas chemical complex for polypropylene production in the Atyrau Region. This was one of the most important stages in the commissioning of the facility.

On 27 April, a testing laboratory of SGS, a multinational company, was opened at KPI's integrated gas chemical complex under construction in the Atyrau Region.

On 10 July 2022, the plant started feeding propane to the process units. The Company then proceeded to the second phase of commissioning – loading the catalyst into propane dehydrogenation reactors.

Plant highlights

A capacity of 500 thous. tonnes of polypropylene per year represents:
- about 1% of global polypropylene production;
- 26.3% of total polypropylene production in the Russian Federation;
- more than total polypropylene production in Turkmenistan, Uzbekistan, and Azerbaijan.

Feedstock: propane from the Tengiz field, free of harmful impurities, thus minimising the environmental impact.

Technologies used: Catofin (propane dehydrogenation) and Novolen (propylene polymerisation) technologies by Lummus Technology Inc.

- Similar complexes have been built in five countries (Saudi Arabia, USA, Belgium, South Korea, and China).
- 77% of equipment was manufactured in Europe, the USA, South Korea, Japan, and India.

Project cost: total project cost – USD 2,630 mln, including EPC contract – USD 1,865 mln.

Funding: USD 2 bln (loan from China Development Bank, PRC).

New jobs:
- during construction (temporary) – over 4,300;
- during operation (permanent) – 1,100.
- General contractor: China National Chemical Engineering Co. (CNCEC, PRC).

Effect of the project:
- covering Kazakhstan's domestic demand (import substitution) for polypropylene (Kazakhstan market capacity is about 50 thous. tonnes per year);
- opportunities for SMEs to make higher value-added products from polypropylene for the construction, medical, automotive, food processing, textile industries, etc.;
- new jobs in SMEs and related industries;
- the contribution to the country's GDP will be up to 1%.

Current status

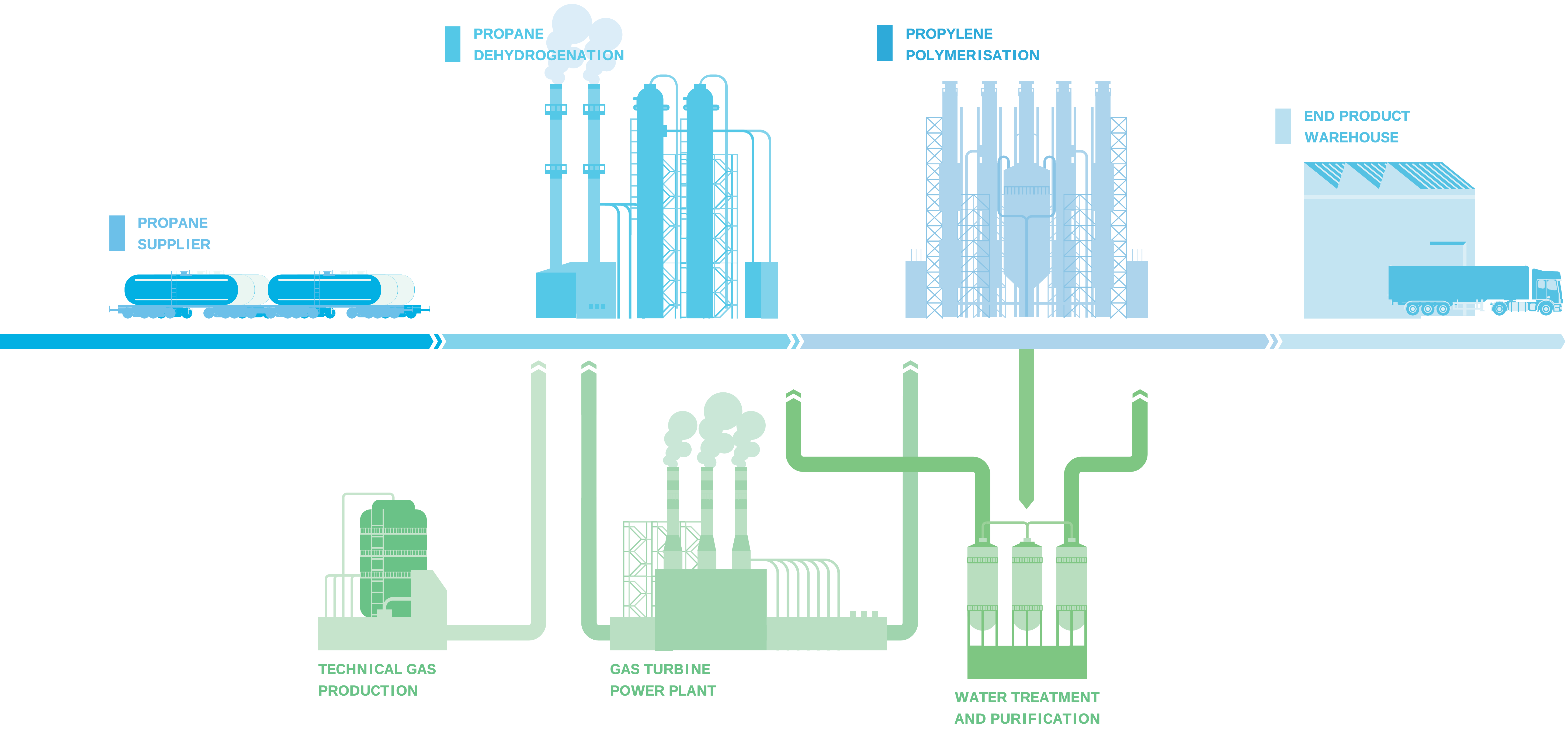
Currently, the overall progress of the project is 99.74%. Construction and installation have been completed, and off-site facilities, propane loading rack and propane storage park have been put into operation. Commissioning works are underway. The commissioning and start-up of the plant with the first batch of polypropylene is scheduled to be completed in November 2023.

2022 results

- On 8 November 2022, production facilities of the gas chemical complex were put into operation.
- On 7 November 2022, Samruk-Kazyna, KMG, and SIBUR signed binding documents providing for SIBUR's joining the polypropylene plant and polyethylene projects.
- In 2022, 32.3 thous. tonnes of polypropylene was manufactured.
- KPI Inc. together with the contractor, CNCEC, and the licensor, Lummus Technology, conducts comprehensive testing of process equipment/units to bring the whole complex to stable process parameters and identify bottlenecks in the operation of process units, as well as carries out performance guarantee tests to verify that the design parameters have been reached.

Expected deliverables

- creation of a petrochemical cluster in the Republic of Kazakhstan for the production of petrochemical products using feedstock from the Tengiz field;
- manufacture of export-oriented products with high added value, with polypropylene production to reach 514 thous. tonnes in 2023;
- production of polymers to diversify national industry sectors;
- headcount at KPI Inc. totals 628 employees.



PLANT OPERATION

Polyethylene

As part of Phase II of the integrated petrochemical complex construction, on 7 November 2022 KMG and SIBUR signed binding documents for joining the Polyethylene (PE) project. The move was in line with KMG's strategy to join forces with a strategic partner which is among Top 5 polymer companies in the world and has a strong track record of successfully delivering large-scale projects. Silleno, the project operator, is carrying out the transition to the FEED stage. The project's annual design capacity is 1,250,000 tonnes of polyethylene. The project is expected to be completed in 2028.

It will be required to supply feedstock (ethane) to the PE project. To this end, negotiations are ongoing with Tengizchevroil to consider building a gas separation unit with a capacity of 9.7 bln m^3 (the GSU) to create infrastructure for extracting ethane from dry gas. Preferential government funding for the GSU is also being worked out.

The PE project is implemented as part of the National Project «Sustainable economic growth aimed at improving the welfare of Kazakhstanis» and meets KMG's long-term strategic goals, which include improvement of the value chain efficiency, business diversification and expansion of the hydrocarbon product portfolio.

One of the main objectives for KMG and the entire oil and gas industry in Kazakhstan is the processing and commercialisation of re-injected associated gas, especially at the major oil and gas projects (Tengiz, Kashagan and Karachaganak). A number of projects in this field are underway in Kazakhstan, including the processing of propane (polypropylene production), ethane (polyethylene production) and butane (butadiene production) from the Tengiz field, as well as construction of gas processing facilities at the Kashagan field.

In addition to its advantageous location close to the feedstock production facility, the key competitive advantages of the PE project include:

1. high ethane fraction content (up to 14%) in the feedstock;
2. attractive cost of feedstock;
3. lower infrastructure costs, as they are split among several projects;
4. advantageous location and access to main markets;
5. accumulated KMG experience and expertise in implementing large-scale projects of refining facilities upgrade and construction.

Polyethylene and ethylene copolymers serve as the basis for a wide range of products widely used in the national economy: gas, hot and cold liquid pipes, fittings, films of all grades (food, packaging, bags, etc.), fibres, non-woven materials, monofilaments, film threads, packaging materials, technical, household and medical items, food contact materials, toys, etc., for the manufacture of various containers of large and small size, pallets, crates, etc.

Granulated polyethylene is a non-hazardous non-toxic product. It does not produce toxic emissions at room temperature and is not harmful to human health if in contact with skin. No special precautions are required for working with it. However, small polymer dust when breathed in and entering the lungs can cause sluggish fibrotic changes in the lungs. Due to its low conductivity, polyethylene can generate static electric charges.

When in a stable state, polyethylene is not harmful to the environment as it does not form toxic compounds at ambient temperature when exposed to atmosphere or wastewater where other substances or factors are present. Polyethylene and the additives it contains are known to cause no damage to the ozone layer.

The Company plans to supply finished products to both domestic and international markets. The capacity of Kazakhstan's domestic market is estimated at about 180.000 tonnes of polyethylene per year, with an expected annual growth rate of 4% on average. Target export markets include the CIS, China, Turkey, and Europe, where the consumption of polyethylene, including imported one, is also expected to go up. Located at the crossroads of transport corridors connecting Asia and Europe, Kazakhstan has a favourable trade, economic and strategic position.

To date, a feasibility study for the PE project has been prepared to international standards, with design and estimate documentation expected to be developed this year.

The Company has entered into licence agreements with Chevron Phillips Chemical and Univation Technologies, global leaders in this field, to use MarTECH® ADL and UNIPOL™ PE Process for manufacturing a wide range of products, including premium high-density polyethylene which is in consistently high demand worldwide.

Given its technical complexity, high capital intensity and a number of other factors, the PE project is planned to be implemented in partnership with other industry players, creating positive synergies for all its participants.

The pattern of the PE project financing is under development and involves a combination of borrowings and the Company's own funds.

The PE project is at an early stage and the final investment decision on it will take into account all objective factors, including payback and economic feasibility. To assess economic feasibility, KMG has minimum return and payback requirements for investment projects.

The PE project has significant social and economic benefits for the country as it will help maintain social stability in the region and create new jobs. In particular, about 8.000 jobs will be created during the construction and 875 permanent jobs – during the operation. The project is estimated to contribute 1.2% to the national GDP.

If approved, the PE project will improve the efficiency and diversification of the Company's business, as well as the competitiveness of the country's economy as a whole due to the production of advanced and high-margin products.

SERVICE PROJECTS

KMG coordinates service projects by maintaining current production levels, implementing new projects, and improving competitiveness as well as takes into account its leading role in maintaining social stability in the regions of its footprint. It should be noted that oilfield services are a socially sensitive sector. As some oilfield services are unprofitable, this inevitably leads to extra costs resulting from the need to retain employees regardless of current operational needs and meet all obligations under the collective bargaining agreement: benefits, medical insurance premiums, and upskilling costs.

Service infrastructure

KMG's service operations are supported by 10 key companies.

Key services:

- drilling and developing oil and gas wells;
- providing well services and workovers;
- transporting freight and passengers, providing field transportation and maintenance;
- providing maintenance, repair, set-up, and testing services for electrical installations and cathode protection; commissioning and routine servicing of electrical equipment;
- operating offshore and onshore drilling rigs, oil and gas production engineering, drilling services;
- servicing measuring equipment, automation systems, and telemechanics, providing telecoms, radio, cable or satellite TV services at oil fields; checking and repairing measuring equipment; and servicing security alarms;
- servicing transport GPS monitoring systems;
- building steel and fibreglass pipelines for oil transportation, building gas pipelines, and constructing oil and injection wells;
- reconstructing oil pipelines, water pipelines, and roads;
- producing and transporting drinking water, ensuring sea water transport;
- catering, maintaining social facilities, etc.

To maintain the current production levels, KMG holds annual activities aimed at ensuring efficient production, improving working conditions, and upgrading fixed assets.

Development projects

Satti jack-up floating drilling rig is the first drilling rig built entirely in Kazakhstan according to the world standards. On 25 January 2019, KMG and SOCAR signed the Memorandum of Understanding as well as Joint Venture Agreement on the rig operation to perform drilling at Absheron structure, Azerbaijan sector of the Caspian Sea, operated by BP. The upgraded rig capacity increased from 453 to 680 tonnes.

From 15 August 2021 to 5 June 2022, the rig successfully drilled three wells (NKX-1, VNEX-01, QBDX-01) on BP's SWAP structure. On 6 June 2022, the rig was installed at the CDC berth and hot stacked.

Implementation of the project will improve KMG's competitiveness, provide the opportunity to become one of the offshore drilling leaders, and raise professional qualification of the operational staff according to the global criteria.

To maintain and develop oilfield services in 2022 and beyond, KMG has defined the following strategic initiatives for improving the service quality that will contribute to oil production ramp-up:

- building an efficient target portfolio of oilfield services;
- making oilfield service companies breakeven.

To achieve these objectives, various activities are required, including automation of business processes, implementation of segregated accounting, initiatives to ensure high levels of staff competence, building an effective industrial relations system, increasing the efficiency of processes, API Q1 and Q2 certification.

As part of implementing the IR action plan in the Samruk-Kazyna Group, IR teams/departments were established in all oilfield service subsidiaries from the beginning of 2022 and, accordingly, employees responsible for the development of industrial relations were appointed by service subsidiaries and associates and by contractors. The aim of industrial relations is to maintain a favourable working environment with zero tolerance for adverse social and living conditions and all forms of workplace violence, and develop

internal communications and effective interaction with contractors. During the year, scheduled workplace, accommodation and catering audits of contractors were carried out and IR screenings were conducted. Remedial action plans were drawn up and implemented. Throughout the year, IR specialists together with top managers met with contractors' employees to address their issues and concerns in order to stabilise the social situation and dampen the protest mood among contractors' employees.

Certification to API Specification Q2 for oilfield service assets is designed to raise the quality of oilfield service to the level of compliance with the best and accepted practices of API international standards for the oil and gas industry. Work was carried out to implement and adapt the requirements of the API spec Q2 and an application for certification was submitted.

Subsidiaries and associates rendering oilfield services and prepared for certification:

- Oil Services Company;
- Oil Construction Company;
- MangistauEnergoMunay;
- OzenMunayService.

Implementation period:

- 2022–2026.

New projects

Construction of Ozenmunaigas' autonomous power station

The project was initiated in order to cut the cost of electricity, reduce oil production costs, minimise electricity losses during transportation and address the underproduction of oil due to emergency shutdowns and capacity shortages in the Mangistau Region's power system. The wear of the energy systems of Mangistau Atomic Energy Complex and Mangistau Regional Electricity Network Company exceeds 70%, as they have been in operation for more than 30 years, and the region faces a steady shortage of generating capacities. Ozenmunaigas has no back-up power supply sources. The combination of these factors results in power outages and mass downtime in the oilfield, disrupting the technological operation of oilfield facilities and regularly causing underproduction of oil. The project aims to provide an uninterrupted and stable power supply to Ozenmunaigas' oil production facilities, reduce the cost per unit of oil produced by cutting the cost of electricity, and ensure synergy for the power supply of the new KazGPZ facility.

Implementation period:

- 2021–2022 – development of feasibility study;
- 2023 – development of design and estimate documentation;
- 2023–2025 – construction of the autonomous power station.

Desalination plant construction

- The project of seawater desalination plant is being implemented in accordance with the Nationwide Action Plan and with the Comprehensive Plan of Socio-economic Development of Mangistau Region for 2021–2025. The purpose of the project is to provide Zhanaozen with fresh water for domestic and industrial use and reduce the load on the Astrakhan–Mangyshlak main water pipeline. The planned design capacity of the plant is 50.000 m^3 per day. The desalination plant construction forms an integral part of the comprehensive water supply project for Western Kazakhstan. The decision to implement the project was taken after reviewing the concept of reconstructing and expanding the main water pipeline to cover water shortages by 2025.
- Given the expected population growth and applicable standards, the population of Zhanaozen will consume about 49.8 thous. m^3 per day by 2030.

Implementation period:

- 2021–2022 – development of feasibility study;
- 2023 – development of design and estimate documentation;
- 2023–2024 – desalination plant construction.

INNOVATIVE TECHNOLOGY DEVELOPMENT

KMG Engineering

KMG Engineering is a scientific research centre of KMG (previously – KazMunayGas Research and Development Institute of Production and Drilling Technologies). It was founded in 2014 to provide comprehensive scientific and engineering support for exploration, production, and drilling of KMG's hydrocarbon resources. KMG Engineering has its head office in Astana and two branches: Atyrau Branch LLP in Atyrau and KazNIPImunaygas LLP in Aktau, which provide direct real-time support for KMG's assets.

Objectives of KMG Engineering LLP and its branches

In order to achieve objectives and initiatives set out in the KMG Development Strategy for 2022–2031, as well as address challenges identified earlier, KMG Engineering has defined strategic goals for its own development programme cascading them as follows:

- R&D advancement and new technology implementation to develop resource base;
- R&D support for reliable and efficient field operation;
- implementing advanced technologies as part of digital transformation;
- developing hydrogen energy projects and competencies;
- creating a continuous improvement system for KMG subsidiaries based on lean production methods and project management aimed at minimising losses and improving efficiency;
- maintaining and improving management systems based on unified rules and regulations.

To deliver against its strategic goals, KMG Engineering focuses on addressing end-to-end objectives in the areas of technology development, digitalisation, business process optimisation, IT, HR and risk management.

In order to achieve these objectives, KMG Engineering develops and implements competitive technologies and procedures conventional for the global industry, provides expert support to the use of these technologies and procedures across KMG's fields portfolio.

2022 results

Exploration

Following a series of regional studies, the Company developed five promising projects for running seismic surveys as part of subsoil exploration at Mugodzhary, Northern Ozen, Berezovsky, Zharkyn, and Bolashak. It also drafted a promising exploration project for Karazhar. KMG Engineering prepared oil and gas system parameters to evaluate exploration opportunities in unexplored Shu-Sarysu, Aral, Syr Darya, Balkhash and Ili sedimentary basins. We keep looking for ways to expand our resource base.

In order to draft geological reports for production and exploration projects, KMG Engineering conducted a comprehensive study of geological and geophysical data and prepared reports on four potential M&A projects, as well as express opinions and recommendations on 13 current objectives.

KMG Engineering completed a dynamic analysis of 3D seismic data for the Bekturly Vostochny, Asar and Akshabulak projects with detailed well description, AVO analysis and seismic inversion, which helped mitigate uncertainties with reservoir anisotropy and risks related to prospective target identification. Work continues to conduct a similar analysis for the Uzen-Karamandybas project with a view to further updating its seismic and geological model.

KMG Engineering completed geological and geophysical studies to reprocess and reinterpret seismic data for the Laktybai and Airantakyr projects. Similar studies continue for the Al-Farabi project.

As part of further exploration of production assets, KMG Engineering analyses, interprets and integrates geological and geophysical data to find opportunities for resource base expansion. It has identified a number of potential non-structural traps and prepared recommendations for exploration, developed and updated detailed further exploration programmes for 2022–2024 for Ozenmunaigas and Kazgermunai. Additional studies are conducted to add details to the seismic and geological model for the Uzen and Karamandybas fields.

KMG Engineering provided R&D assistance in the drilling, core sampling and testing of 15 appraisal, two exploration and eight production wells with further exploration functionality (including current declining wells from 2021), namely nine appraisal wells and one production well with further exploration functionality of Mangistaumunaigaz, one exploration and two appraisal wells of Embamunaigas, one prospecting and exploration well of Becturly Energy Operating, three production wells with further exploration functionality of Ozenmunaigas, three appraisal wells of Kazgermunai, one appraisal well of Kazakhturkmunay, and four production wells with further exploration functionality of Karazhanbasmunai.

KMG Engineering developed a total of 17 reports on reserves reestimation, increase and conversion, of which 12 have successfully been approved by the State Commission on Mineral Reserves of Kazakhstan and the remaining five await approval in 2023. Proved recoverable oil reserves from fields grew by 40.3 mln tonnes in total (net of reserves attributable to KMG). KMG Engineering continues developing 13 more reserves reports that will move to 2023.

An exploration plan for the Turgai Palaeozoic block has been developed and approved by the Central Commission for Exploration and Development of Mineral Reserves of Kazakhstan. Report on the supervision of exploration at Zhenis has been drafted and filed with the Ministry of National Economy of Kazakhstan. Post-subsoil use remediation plan for the Dead Kultuk (Ustyurt) block has been developed and reviewed by state supervisory authorities.

Production

To ensure stable production levels at assets under KMG supervision, the Company focuses on preventing the decline of basic production and intensifies rational recovery of residual hydrocarbon reserves. To achieve these objectives, KMG Engineering provides continuous R&D assistance in the drilling, production and treatment of recovered reserves.

The key ways to maintain basic production is to improve efficiency of production operations and economically unviable wells. This includes assessing efficiency of well interventions, identifying key factors of unsuccessful production, developing corrective measures for unsuccessful well interventions, as well as analysing and developing measures to improve efficiency of economically unviable wells.

To improve rational recovery of hard-to-recover reserves, KMG Engineering provided R&D assistance in implementing measures to enhance oil recovery and stimulate its production at low-permeable layers such as fractured carbonate deposits of the Alibekmola field, undrained reserves of low-permeability reservoirs of the Uzen field, and the Kenbay high-viscosity oil. It conducted lab studies for chemical enhanced oil recovery (EOR), made various sector production stimulation models using geological and hydrodynamic modelling and selected the best options in terms of technical and economic parameters.

To streamline approaches to and develop a single framework for applying measures to enhance oil recovery, the Company developed a Strategy for Selecting and Applying EOR Methods at Fields for KMG's Subsidiaries and Associates.

To identify production bottlenecks and hampering factors, KMG Engineering initiated and successfully implemented the Atlas of Production Bottlenecks at all KMG's Subsidiaries and Associates project. It provides a detailed description of all production bottlenecks arranged by factor and divided into technological and methodological issues. The project then studies possible solutions relying on gradual implementation of various R&D tools into the production processes. Based on identified issues, KMG Engineering developed a Review of Technological Bottlenecks and Recommended Solutions for Key Fields of KMG's Subsidiaries and Associates.

Well drilling and workover

KMG Engineering has the Online Drilling Competence Centre in place to monitor drilling and render geological and engineering support in real time. Implementation of an integrated drilling reporting system is also underway.

Drilling of new wells is one of the main ways to sustain oil production at the mature fields of KMG's subsidiaries and associates. In addition to vertical wells, the amount of horizontal wells drilled every year is increasing. The key advantages of horizontal wells include reduced total amount of wells at the fields, increased oil recovery, development of new oil reservoirs and high-viscosity oil.

In 2022, 24 horizontal wells were drilled at Embamunaigas and Mangistaumunaigaz fields, with the average reservoir penetration of 90%. 1D geomechanical models were created and updated for certain wells to optimise the drilling.

The works conducted at KMG's subsidiaries and associates resulted in the cementing strength of completed well production strings of 76% in 2022 compared to 72% in 2019–2021.

Well workover is the key to operability of the well stock.

Its efficiency is analysed by types of workovers. Well-work instructions are being developed to define the common procedure and technical requirements.

Continued efforts are taken to identify and implement advanced technologies to eliminate casing pressure and perform remedial cementing.

An audit is in progress to assess technical equipment of well workover teams working at Ozenmunaigas and Mangistaumunaigaz fields.

Major projects

Expert support for the FGP–WPMP projects in terms of checking the schedules and work fees, with recommendations provided as to the feasibility of a step-by-step launch of the Pressure Maintenance System facilities and full commissioning of the FGP sites.

Analysis of the KLPE Gas Separation Unit project FEED, with recommendations on how to improve design quality and streamline technological processes, and options for Basic Production capacity integration by TCO.

As part of expert support for Phase 2 of the Kashagan project, a study was performed comparing the location of the new plant in terms of accessible infrastructure, the length of oilfield and export pipelines with cost evaluation, and the environmental impact for further phases of field development.

When considering a matter of returning the Aktoty and Kairan fields at the meeting of the KMG Investment Committee, evaluations were made as regards the opportunity to inject raw gas from the Aktoty and Kairan fields to the Tengiz field formations, with an opinion on the fields' development prospects and a risk assessment.

A study was held and recommendations were provided regarding methanol recovery options, alternative water sources for process purposes at Karachaganak, and gas turbine suction air cooling at the gas turbine power plant of the Karachaganak Processing Complex.

Modern water insulation technologies were studied exploring possibilities to implement some of them at Karachaganak.

Assistance to operators as regards geological and hydrodynamic modelling and calculation of alternative options as commissioned by KMG, analysis and assessment of the drilling and production programme for fields of major oil and gas projects with recommendations on well trajectories and placement.

Analysis was made of 2023 production and contract plans and budgets for technical services contracts of major project operators with suggestions on streamlining and engagement of KMG Engineering branches.

Participation in consulting committees, workshops and meetings with major project partners and operators, with summarising reports and conclusions.

Works and technical services were rendered under respective contracts of the major projects.

Hydrogen energy development

KMG Engineering conducted a comprehensive analysis of global hydrogen energy development trends, studied possible applications of gas injection to produce hydrogen based on the Kashagan field, and developed an infographic guide on hydrogen energy.

As part of a memorandum of understanding between KMG Engineering and Green Spark Limited, the Company looked into technical ways to build a green hydrogen production system.

A confidentiality agreement on hydrogen transportation was signed with ERG Research and Engineering Centre.

In order to consult KMG on pilot projects in hydrogen energy, KMG Engineering together with the low-carbon development project office performed a search for potential partners on hydrogen initiatives.

As part of developing R&D cooperation in hydrogen energy, KMG Engineering held a number of meetings with both local and international organisations to attract hydrogen project financing.

It also took part in the meetings of Technical Committee for Standardisation No. 117 “Renewable Energy Sources and Alternative Energy” to discuss the hydrogen energy roadmap for Kazakhstan.

KMG Engineering employees received training under an international internship programme organised by Japan Cooperation Centre for Petroleum and Sustainable Energy and participated in two local and one international expeditions.

Organisational development and regulations

A pilot project was implemented on labour division among the operators of oil and gas production department 4 of Upstream Unit 4 at Ozenmunaigas. As a result, the level of satisfaction with work arrangement in the department grew from 18% to 95%. Thanks to the establishment of a dedicated scheduled preventive maintenance team and standardisation of maintenance and preventive repairs operations, the quality of maintenance improved, resulting in a 40% reduction in the number of repairs requests.

Representatives from each Ozenmunaigas directorate (42 people) underwent training under a four-day programme ALYP (lean production basics and project management) in order to launch individual projects on transformation and continuous improvement.

Employees of production units at Ozenmunaigas (190 people) received training in 5C workplace organisation, which helped streamline workplace environment in 18 work areas.

In line with the previously adopted internal documents, the Company developed standard drilling and development programmes and resource plans for 101 wells drilled in 2022 at the Zhetybai, Asar and Kalamkas fields.

The Company conducted express analysis of the current headcount in the following subsidiaries and associates: Kazakhturkmunay, Kazakhoil Aktobe, Kazgermunai, Mangistaumunaigaz, Embamunaigas, and Ozenmunaigas. Recommendations were prepared regarding the enhancement of the organisational structure and staff list.

Developing professional competencies of KMG Group employees

Module training programmes

In order to foster professional competencies, creative thinking and teamwork in tackling real business tasks, KMG Engineering has developed and is implementing module training programmes: Chief Geologist, Reservoir Engineer, Professional Foreman and Machine Operator. Programme participants are split into teams to work on projects of practical value for KMG’s subsidiaries and associates. Certified business couches from the CIS countries, Kazakhstan, and KMG Engineering experts are engaged in the module training. In 2022, the training was held for employees of KMG, Embamunaigas, Ozenmunaigas, Kazakhoil Aktobe, Kazakhturkmunay, Mangistaumunaigaz, and KMG Engineering.

Mandatory safety training

Since 2021, mandatory training sessions in occupational health and industrial and fire safety basics have been held on the platform of KMG Engineering. The distance learning platform offers three courses: Fire Safety Basics, Industrial Safety, and Occupational Health and Safety. The Industrial Safety course includes training in safe handling of hydrogen sulphide. The Occupational Health and Safety course covers electrical safety and first aid. In 2022, KMG Engineering obtained copyright certificates for the three courses.

Training using the distance learning platform was first launched in 2020 for Ozenmunaigas employees. Starting 2021, the platform has been used to train process managers, specialists and engineers of KMG, the head office and branches of KMG Engineering.

Student and young talent engagement

KMG Engineering has developed and is successfully implementing the KMGE School programme aimed at training qualified specialists in the most sought-after fields, supporting the education market and young talent. KMGE School provides for the selection of BA students of years three and four, who then get a special training programme consisting of at least three subjects and undergo a work experience practice at KMG Engineering. After completing the programme, its participants get jobs at KMG Engineering. In 2021, 21 KMGE School graduates were hired by KMG Engineering. In 2022, the programme took onboard 18 students from Satbayev University and Yessenov University majoring in materials science, seismology, geophysics and petrophysics, and hydrogeology.

FINANCIAL REVIEW

STATEMENT FROM THE DEPUTY CHAIRMAN OF THE MANAGEMENT BOARD FOR ECONOMICS AND FINANCE

DEAR INVESTORS, SHAREHOLDERS, COLLEAGUES AND PARTNERS,

Despite the volatility on financial markets, fast inflation, rate hikes from central banks around the world, and a challenging geopolitical situation, we managed to deliver strong performance in the reporting year.

This is relevant for both operating and financial results and achievement of our strategic goals and sustainable development objectives. That said, we often had to respond to a multitude of divergent factors.

Higher global oil prices and a positive trend in operating performance supported the growth of nearly all our financials in 2022. Our US dollar-denominated revenue increased by 24.3% to USD 18.8 bln, while EBITDA went up 16.4% to USD 5.5 bln, including our share in profit from joint ventures and associates coming in at USD 1.0 bln. Free cash flow excluding share buyback in KMG Kashagan B.V. reached USD 2.4 bln. In June 2022, we paid our shareholders a record KZT 200 bln in dividends for 2021.

A strategic milestone for our business was an IPO on KASE and AIX local stock exchanges. The IPO was worth KZT 154 bln, or 3% of the Company's equity – the largest ever on Kazakhstan's stock market. Orders from retail investors accounted for 52% of the placement. The IPO was priced at KZT 8,406 per share, implying a market capitalisation of USD 11 bln. In April 2023, the share price exceeded KZT 10,000, up more than 20% from the IPO date.

In September 2022, the Company increased its share in the Kashagan megaproject from 8.44% to 16.88% after acquiring Samruk-Kazyna's 50% stake in KMG Kashagan B.V. for USD 3.8 bln – one of the biggest deals for KMG in recent years. As regards the transaction background, KMG sold its 50% stake in KMG Kashagan B.V. to Samruk-Kazyna in October 2015. The transaction provided for a call option to buy back the stake in order to prevent the breach of Eurobond covenants. In 2017, the Amsterdam court levied attachment on Samruk-Kazyna's shares in KMG Kashagan B.V., including their disposal. In June 2022, as a result of the joint efforts from Samruk-Kazyna and the Government of the Republic of Kazakhstan, the Amsterdam court lifted the restrictions, enabling KMG to buy back the stake. The transaction was possible thanks to our previous work towards improving our financial standing, eliminating some burdensome Eurobond covenants, reducing and extending total debt, and upgrading the Company's credit ratings. The Company financed the deal on favourable terms through a bond issue and set-off of counter claims with payment in instalments. The deal received a positive feedback from the investment community and rating agencies, with Standard&Poor's upgrading the Company's rating to BB+ following the deal.

Our 2022 results prove that today KMG has a strong position and a massive potential as the nation's oil and gas major. At the same time, these achievements come on the back of our consistent efforts taken in the previous years to ensure the Company's financial stability. By strengthening its resilience and competitive edge, KMG is moving to the next level of growth, expanding the boundaries of its business, and adding value for all stakeholders.

Dauren Karabayev
Deputy Chairman of the Management Board – Chief Financial Officer of JSC NC KazMunayGas

Our 2022 results prove that today KMG has a strong position and a massive potential as the nation's oil and gas major. At the same time, these achievements come on the back of our consistent efforts taken in the previous years to ensure the Company's financial stability. By strengthening its resilience and competitive edge, KMG is moving to the next level of growth, expanding the boundaries of its business, and adding value for all stakeholders.

KMG'S CREDIT RATINGS

KMG intends to maintain investment-grade credit ratings and a strong credit profile, and to support its business image as a reliable borrower. In 2022, the Company's financial stability measures, including the share buyback in KMG Kashagan B.V. from Samruk-Kazyna, helped KMG retain its credit ratings.

Change in KMG's ratings

- On 28 January 2021, following the revision of its risk assessment for the oil and gas exploration, production and refining sector, S&P affirmed KMG's credit ratings at BB with a negative outlook.
- On 30 April 2021, S&P Global Ratings affirmed KMG's credit rating at BB with a negative outlook.
- On 12 August 2021, Moody's revised KMG's credit rating upwards from Baa3 to Baa2 due to an upgrade of Kazakhstan's sovereign rating. The rating outlook was changed from positive to stable.
- On 20 September 2021, Fitch Ratings affirmed KMG's long-term issuer default rating at BBB- (one notch below the sovereign rating) with a stable outlook.
- On 27 September 2022, Standard & Poor's upgraded the Company's rating to BB+, with a negative outlook, after the Company had exercised a call option to buy back a stake in KMG Kashagan B.V. from Samruk-Kazyna.
- On 9 March 2023, Standard & Poor's affirmed the Company's rating at BB+, and revised outlook from negative to stable reflecting the agency's rating action on Kazakhstan (the rating being affirmed at BBB-, with outlook revised from negative to stable).

KMG's credit ratings

Moody's	S&P	Fitch
Baa1	BBB+	BBB+
Baa2 (Stable)	BBB	BBB
Baa3	BBB-	**BBB- (Stable)**
Ba1	**BB+ (Stable)**	BB+
Ba2	BB	BB
Ba3	BB-	BB-

Kazakhstan's sovereign ratings

Moody's	S&P	Fitch
Baa2 (Stable)	**BBB-**	**BBB (Stable)**

For more details, see the Shareholder and Investor Relations section

KEY 2022 FINANCIAL RESULTS[1]

Revenue in 2022, USD mln (KZT bln)

2022	18,845 (8,686)
2021	15,161 (6,459)

Free cash flow excluding share buyback in KMG Kashagan B.V., USD mln (KZT bln)

2022	2,421 (1,116)
2021	1,774 (756)

EBITDA, USD mln (KZT bln)

2022	5,505 (2,538)
2021	4,730 (2,015)

Free cash flow including share buyback in KMG Kashagan B.V., USD mln (KZT bln)

2022	–179 (-82)
2021	1,774 (756)

Adjusted EBITDA , USD mln (KZT bln)

2022	4,358 (2,009)
2021	4,108 (1,750)

Total debt, USD mln (KZT bln)

2022	8,956 (4,143)
2021	8,676 (3,746)

Net profit, USD mln (KZT bln)

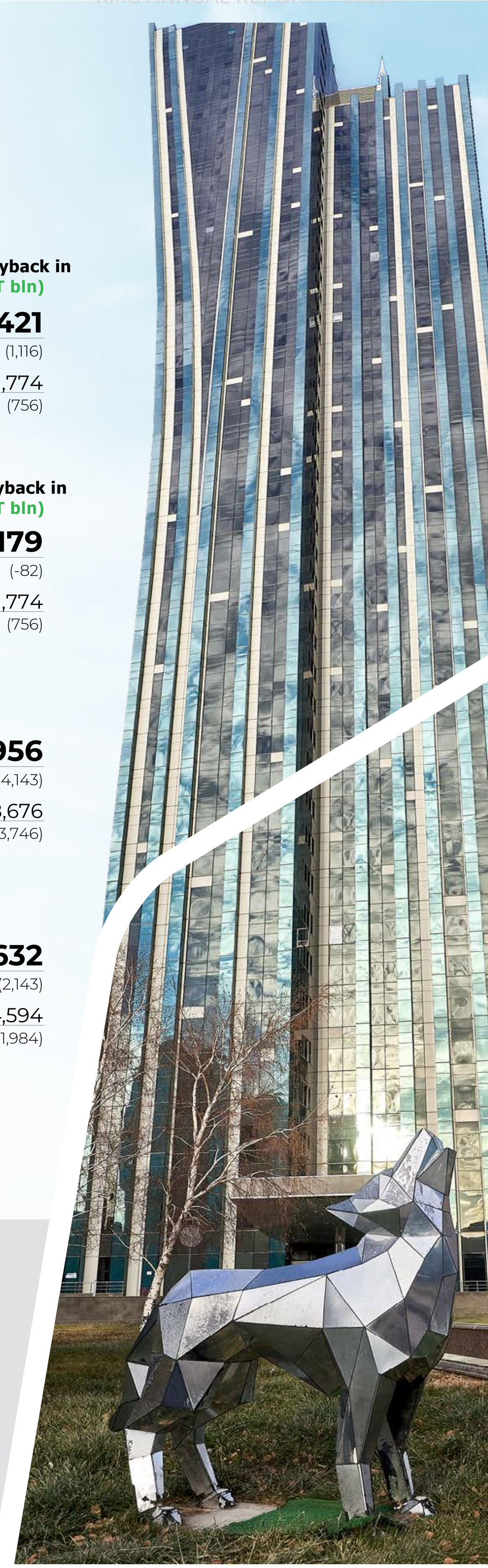
2022	2,858 (1,317)
2021	3,020 (1,287)

Net debt, USD mln (KZT bln)

2022	4,632 (2,143)
2021	4,594 (1,984)

up **34.5%**
revenue went up from KZT 6.4 bln in 2021 to KZT 8.6 bln in 2022

45.7%
higher share in profit of joint ventures and associates in 2022



1 — For reader convenience, amounts in USD were translated at the average exchange rate for the applicable period (average exchange rates for 2022 and 2021 were 460.93 and 426.06 KZT/USD, respectively; period-end exchange rates as of 31 December 2022 and 31 December 2021 were 462.65 and 431.80 KZT/USD, respectively).

Consolidated financial results according to IFRS

Indicator	Unit	2022	2021
Dated Brent oil	USD/bbl	101.32	70.91
Average exchange rate	KZT/USD	460.93	426.06
End of period exchange rate	KZT/USD	462.65	431.80
Revenue	KZT bln	8.686	6.459
	USD mln	18.845	15.161
Share in profit of JVs and associates	KZT bln	991	680
	USD mln	2.151	1.597
Net profit	KZT bln	1.317	1.287
	USD mln	2.858	3.020
Net profit for the period attributable to the Parent Company's shareholders	KZT bln	1.289	1.305
	USD mln	2.797	3.062
EBITDA[1]	KZT bln	2.538	2.015
	USD mln	5.505	4.730
Adjusted EBITDA[2]	KZT bln	2.009	1.750
	USD mln	4.358	4.108
Free cash flow[3]	KZT bln	1.116	756
	USD mln	2.421	1.774
Free cash flow (according to the dividend policy)[4]	KZT bln	(82)	756
	USD mln	(179)	1.774
Total debt[5]	KZT bln	4.413	3.746
	USD mln	8.956	8.676
Net debt[6]	KZT bln	2.143	1.984
	USD mln	4.632	4.594

For more details, see the Financial Statements section

1 — **EBITDA** = revenue plus share in profit of JVs and associates, net, minus cost of purchased oil, gas, oil products and other materials minus production expenses minus G&A expenses minus transportation and selling expenses minus taxes other than income tax.
2 — **Adjusted EBITDA** = revenue minus cost of purchased oil, gas, oil products and other materials minus production costs minus G&A expenses minus transportation and selling expenses minus taxes other than income tax plus dividends received from joint ventures and associates.
3 — **Free cash flow = cash flow from operating activities** (including dividends received from joint ventures and associates) minus acquisition of property, plant and equipment, intangible assets, investment properties, exploration and evaluation assets.
4 — **Free cash flow (according to the dividend policy)** means a consolidated cash flow from operations (including dividends received from joint ventures and associates but excluding net changes in working capital in respect of advances received for crude oil supplies) minus acquisition of fixed assets (including advances for fixed assets) minus acquisition of intangible assets minus acquisition of field development assets minus acquisition of evaluation and exploration assets minus acquisition of a stake in a subsidiary / joint venture plus proceeds from the sale of interests in a subsidiary / joint venture / associate (excluding proceeds from the denationalisation of the Company's assets as per the lists approved by Resolution No. 1141 dated 30 December 2015 and Resolution No. 908 dated 29 December 2020 of the Government of the Republic of Kazakhstan) based on performance in the reporting period;
5 — **Total debt** includes bonds and loans (short-term and long-term). Guarantees issued are not included in the calculation.
6 — **Net debt** = bonds plus loans minus cash and cash equivalents minus short-term and long-term bank deposits. Guarantees issued are not included in the calculation.

Consolidated statement of profit and loss

Indicator	Unit	2022	2021	Change	%
Revenue and other income					
Revenue from contracts with customers	KZT mln	8.686.384	6.459.335	2.227.049	34.5
Share in profit from joint ventures and associates, net	KZT mln	991.310	680.292	311.018	45.7
Finance income	KZT mln	120.587	85.226	35.361	41.5
Gain on sale of joint ventures	KZT mln	0	19.835	(19.835)	(100.0)
Other operating income	KZT mln	22.283	30.779	(8.496)	(27.6)
Total revenue and other income	**KZT mln**	**9.820.564**	**7.275.467**	**2.545.097**	**35.0**
Costs and expenses					
Cost of purchased oil, gas, oil products and other materials	KZT mln	(4.954.384)	(3.607.202)	(1.347.182)	37.3
Production expenses	KZT mln	(1.142.388)	(721.057)	(421.331)	58.4
Taxes other than income tax	KZT mln	(677.805)	(461.244)	(216.561)	47.0
Depreciation, depletion and amortisation	KZT mln	(506.585)	(523.044)	16.459	(3.1)
Transportation and selling expenses	KZT mln	(205.340)	(183.439)	(21.901)	11.9
General and administrative expenses	KZT mln	(160.168)	(151.392)	(8.776)	5.8
Impairment of property, plant and equipment, intangible assets and assets classified as held for sale	KZT mln	(708)	(20.724)	20.016	(96.6)
Exploration expenses	KZT mln	(12.113)	(79.083)	66.970	(84.7)
Finance costs	KZT mln	(306.846)	(262.823)	(44.023)	16.8
Net foreign exchange gain	KZT mln	40.925	17.565	23.360	133.0
Other expenses	KZT mln	(84.586)	(27.714)	(56.872)	205.2
Total costs and expenses	**KZT mln**	**(8.009.998)**	**(6.020.157)**	**(1.989.841)**	**33.1**
Profit before income tax	**KZT mln**	**1.810.566**	**1.255.310**	**555.256**	**44.2**
Income tax expenses	KZT mln	(493.247)	(321.248)	(171.999)	53.5
Profit for the year from continuing operations	**KZT mln**	**1.317.319**	**934.062**	**383.257**	**41.0**
Discontinued operations					
Profit after income tax for the year from discontinued operations	KZT mln	0	352.478	(352.478)	(100)
Net profit for the year	KZT mln	1.317.319	1.286.540	30.779	2.4
Net profit/(loss) for the year attributable to:					
the Parent Company's shareholders	KZT mln	1.289.118	1.304.761	(15.643)	(1.2)
the non-controlling interest	KZT mln	28.201	(18.221)	46.422	(254.8)
	KZT mln	**1.317.319**	**1.286.540**	**30.779**	**2.4**

Revenue

Revenue for 2022 was KZT 8.686 bln (USD 18.845 mln), up 34.5% year-on-year. The upward trend was mainly attributable to the growth of Brent crude price by 42.9% year-on-year, tenge's depreciation against US dollar by 8.2% year-on-year.

Share in profit of joint ventures and associates

The share in profit of joint ventures and associates in 2022 increased by 45.7% year-on-year to KZT 991 bln (USD 2.151 mln) mainly due to rising profit of Tengizchevroil by KZT 301 bln (USD 575 mln).

Costs

The cost of purchased oil, gas, oil products and other materials in the reporting period amounted to KZT 4.954 bln (USD 10.749 mln), up 37.3% year-on-year. This was largely due to an increase in crude oil and oil products prices.

Other expenses

Production costs in 2022 increased by 58.4% year-on-year to KZT 1.142 bln (USD 2,478 mln), driven, among other things, by growing payroll expenses across KMG's footprint.

Transportation and selling expenses totalled KZT 205 bln (USD 445 mln), up 11.9% year-on-year.

General and administrative expenses increased by 5.8% to KZT 160 bln (USD 347 mln) due to growing payroll expenses across KMG's footprint.

Taxes other than income tax went up by 47.0% to KZT 678 bln (USD 1.471 mln) mainly as a result of increased expenses on rent tax owing to higher oil prices and excise tax expenses.

Payroll expenses in 2022 amounted to KZT 528 bln (USD 1.145 mln), showing a 33.0% increase year-on-year, and were reflected in production expenses, transportation and selling expenses, and general and administrative expenses in the consolidated statement of comprehensive income.

Finance costs in 2022 amounted to KZT 307 bln (USD 666 mln), an increase of 16.8% year-on-year, mainly due to growing interest expense on loans and bonds amid weaker tenge and marginally higher interest rates.

Impairment of assets

According to the assessment of 2022, the loss on impairment of assets amounted to KZT 0.7 bln (USD 1.5 mln), down 96.6% year-on-year (from KZT 21 bln or USD 49 mln). The amount of loss on impairment includes a KZT 1.8 bln (USD 3.9 mln) impairment recorded for Barys, Berkut, Beket Ata and Turkestan vessels, and an impairment of minus KZT 1.1 bln (minus USD 2.4 mln) for other assets. The loss on impairment of assets was significantly lower in 2022 as KMG International recognised loss on impairment of property, plant and equipment based on the results of the audit of property, plant and equipment and undertook an impact assessment of the fire incident at the Petromidia Refinery (a subsidiary of KMG International) and recorded the loss on impairment of Petromedia's property, plant and equipment.

Net profit

Net profit for the period was KZT 1.317 bln (USD 2.858 mln) compared to KZT 1.287 bln (USD 3.020 mln) in 2021.

Net profit for the period attributable to the Parent Company's shareholders was KZT 1.289 bln (USD 2.797 mln).

CAPEX

In 2022, CAPEX on an accrual basis in the Company's segment reporting was KZT 535 bln (USD 1.161 mln), representing a 13.4% increase year-on-year – mostly in Oil and Gas Exploration and Production.

EBITDA

Consolidated EBITDA increased by 25.9% year-on-year to KZT 2.538 bln (USD 5.505 mln) compared to KZT 2.015 bln (USD 4.730 mln) in 2021.

Adjusted EBITDA increased by 14.8% to KZT 2.009 bln (USD 4.358 mln) compared to KZT 1.750 bln (USD 4.108 mln) in 2021.

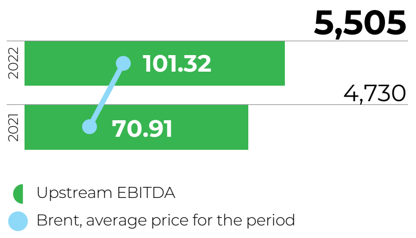
Given the vertically integrated operations of KMG, we analyse EBITDA broken down by the segments below. We analyse and report segmented information according to IFRS. Segment performance is evaluated based on revenues and net profit. The operating segments of KMG Group are structured and managed in a manner corresponding to the relevant types of products and services and encompass the strategic lines of business for different products and markets. The Company's operations comprise four main operating segments: oil and gas exploration and production, oil transportation, refining and sales of crude oil and oil products, KMG's Corporate Centre, etc. (oilfield service companies and other insignificant companies). KMG presents the Corporate Centre's activities separately, since KMG not only performs the functions of the parent company, but is also involved in operations (processing of crude oil at Atyrau and Pavlodar refineries, and further sale of oil products to both domestic and export markets).

The improvement in EBITDA by segment in 2022 was largely driven by an EBITDA increase of KZT 394 bln (USD 597 mln) in Oil and Gas Exploration and Production, and of KZT 169 bln (USD 315 mln) in Refining and Sales of Crude Oil and Oil Products amid higher crude oil and oil product prices.

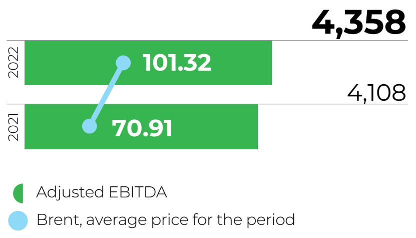
EBITDA by segment for 2021 and 2022

Segment	Unit	2022	2021	Δ
Oil and gas exploration and production	KZT mln	1.843.075	1.449.088	393.987
	USD mln	3.999	3.401	597
	%	73	73	0 p.p.
Oil transportation	KZT mln	238.237	211.356	26.881
	USD mln	517	496	21
	%	9	10	(1 p.p.)
Refining and sales of crude oil and oil products	KZT mln	458.194	289.422	168.772
	USD mln	994	679	315
	%	18	14	4 p.p.
Corporate Centre	KZT mln	60.570	71.449	(10.879)
	USD mln	131	168	(36)
	%	3	3	0 p.p.
Other	KZT mln	(39.404)	12.400	(51.804)
	USD mln	(85)	29	(115)
	%	(2)	1	(3 p.p.)
Elimination	KZT mln	(23.063)	(18.422)	(4.641)
	USD mln	(50)	(43)	(7)
	%	(1)	(1)	0 p.p.
EBITDA	**KZT mln**	**2.537.609**	**2.015.293**	**522.316**
	USD mln	**5.505**	**4.730**	**775**

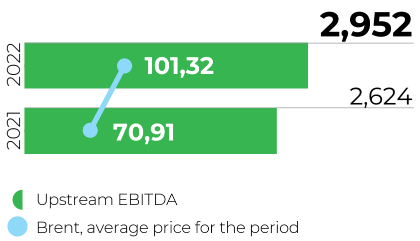
EBITDA in 2021 and 2022, USD mln



Adjusted EBITDA in 2021 and 2022, USD mln



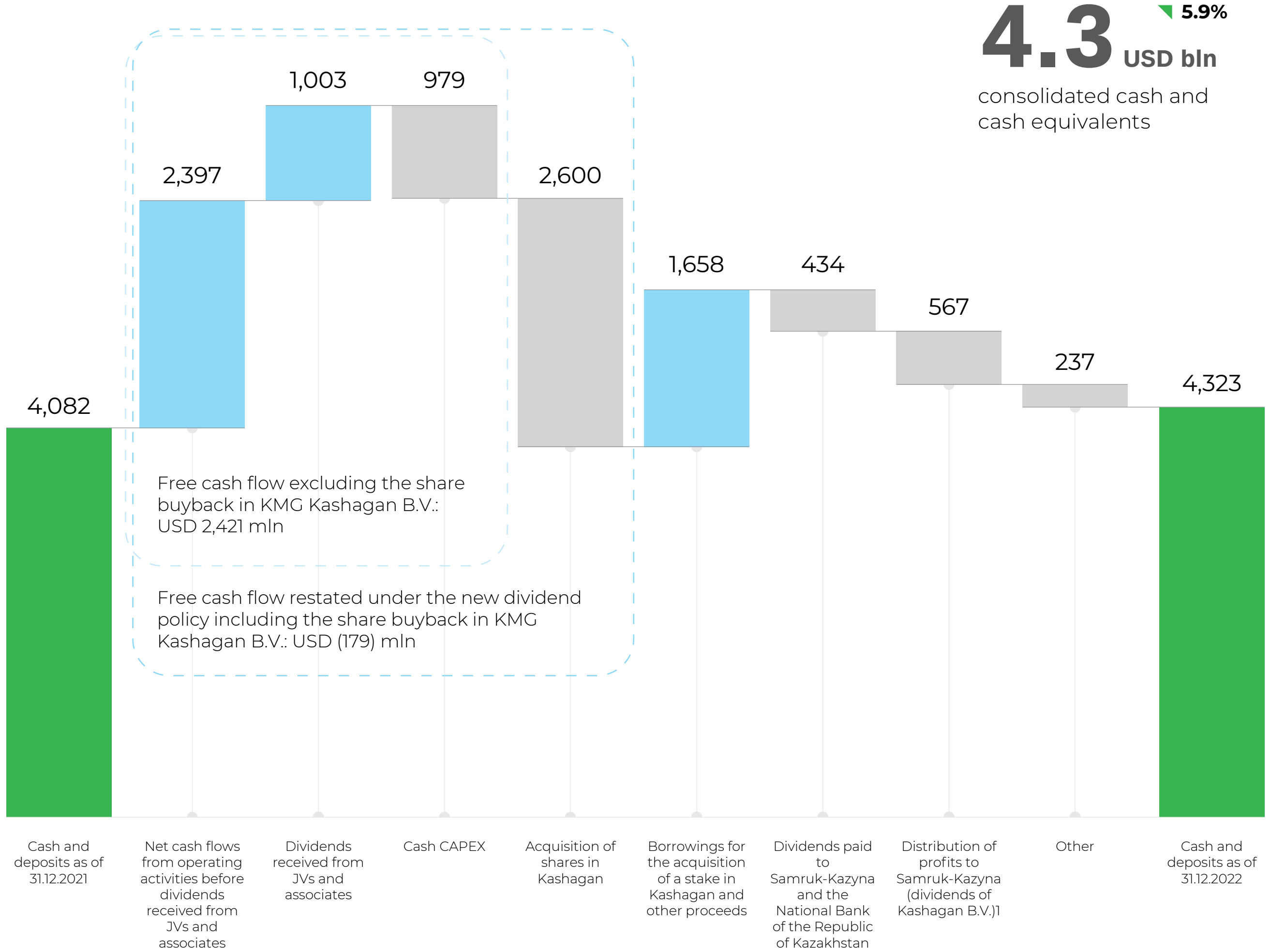
Adjusted EBITDA of the Oil and Gas Exploration and Production segment for 2021 and 2022, USD mln



Cash flows

Indicator	Unit	2022	2021	Change
Net cash flows from operating activities	KZT mln	1.567.307	1.209.475	357.832
Net cash flows used in investing activities	KZT mln	(2.302.309)	(1.084.028)	(1.218.281)
Net cash flows used in financing activities	KZT mln	287.753	(273.989)	(561.742)
Effects of exchange rate changes	KZT mln	65.759	26.482	39.277
Change in allowance for expected credit losses	KZT mln	114	(136)	250
Net change in cash and cash equivalents	**KZT mln**	**(381.376)**	**(122.196)**	**(259.180)**
Net change in cash and cash equivalents	**USD mln**	**(827)**	**(287)**	**(541)**

Cash flows, USD mln



4.3 USD bln ▼ 5.9%

consolidated cash and cash equivalents

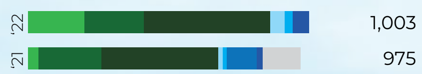
Cash and cash equivalents

Consolidated cash and cash equivalents, including deposits, increased by 13.5% year-on-year to KZT 2.000 bln (USD 4.323 mln) as of 31 December 2022. The increase in cash and cash equivalents is mainly due to a positive net cash flow from operating activities in the amount of KZT 1.567 bln (USD 3.400 mln), which was partially offset by an outflow of cash attributable to the acquisition of KMG Kashagan B.V.'s shares and payment of dividends to the shareholders. US dollar-denominated consolidated cash and cash equivalents increased by 5.9% to USD 4.323 mln compared to USD 4.082 mln as of 31 December 2021.

Dividends received

The Company is a parent company of the Group and receives dividends from its subsidiaries and associates, JVs and associated companies. The Company received dividends in the amount of KZT 462 bln (USD 1.003 mln) and KZT 415 bln (USD 975 mln) in 2022 and 2021, respectively. In 2022, dividends from Tengizchevroil amounted to KZT 208 bln (USD 451 mln), from Caspian Pipeline Consortium – KZT 99 bln (USD 214 mln), and from Mangistau Investment B.V. – KZT 92 bln (USD 200 mln).

Dividends received, USD mln



	2022	2021
Mangistau Investment B.V.	200	36
Caspian Pipeline Consortium	214	226
Tengizchevroil	451	416
Kazgermunai	50	17
Kazakhoil Aktobe	30	14
KazRosGaz	0	107
Other	58	21
KazTransGas	0	137

Dividends paid

In accordance with Samruk-Kazyna's resolution dated 20 June 2022, KMG paid dividends in the amount of KZT 202 bln (USD 438 mln), including KZT 200 bln (USD 434 mln) of dividends paid to Samruk-Kazyna and the National Bank of the Republic of Kazakhstan.

Statement of financial position

Item	Unit	2022	2021	Change
Assets				
Property, plant and equipment	KZT mln	6.989.837	6.725.910	263.927
Long-term bank deposits	KZT mln	59.229	56.058	3.171
Investments in joint ventures and associates	KZT mln	4.947.403	4.145.646	801.757
Other non-current assets	KZT mln	1.518.986	1.462.758	56.228
Short-term bank deposits	KZT mln	1.178.138	562.352	615.786
Cash and cash equivalents	KZT mln	762.817	1.144.193	(381.376)
Other current assets	KZT mln	1.193.894	1.759.740	(565.846)
Assets classified as held for sale	KZT mln	459	795	(336)
Total assets	**KZT mln**	**16.650.763**	**15.857.452**	**793.311**
Total assets	**USD mln**	**35.990**	**36.724**	**(734)**
Equity and liabilities				
Total equity	**KZT mln**	**9.873.450**	**10.016.906**	**(143.456)**
Total equity	**USD mln**	**21.341**	**23.198**	**(1.857)**
Liabilities				
Long-term loans	KZT mln	3.775.891	3.261.347	514.544
Other long-term liabilities	KZT mln	1.398.328	1.145.634	252.694
Short-term loans	KZT mln	367.443	484.980	(117.537)
Other short-term liabilities	KZT mln	1.235.651	948.585	287.066
Total liabilities	**KZT mln**	**6.777.313**	**5.840.546**	**936.767**
Total liabilities	**USD mln**	**14.649**	**13.526**	**1.123**
Total equity and liabilities	**KZT mln**	**16.650.763**	**15.857.452**	**793.311**
Total equity and liabilities	**USD mln**	**35.990**	**36.724**	**(734)**

Debt management

KMG's total debt is represented by bonds and loans. The debt portfolio mainly denominated in US dollars – the currency of core earnings. Accordingly, the "organic" hedging effect of FX risk is achieved without the need to use derivatives.

Total debt

Total debt[1] as of 31 December 2022 was KZT 4.143 bln (USD 8.956 mln), up 10.6% year-on-year in tenge terms (up 3.2% in US dollars) as a result of a KZT 751.6 bln bond placement to finance part of the share buyback in KMG Kashagan B.V.

To reduce the impact of FX risk on the Company's leverage, we entered into a deal to refinance a loan.

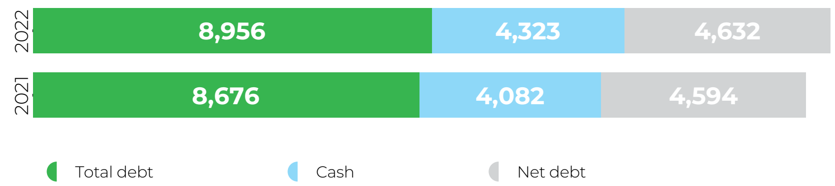
In January 2022, Atyrau Refinery made a full early repayment of a USD 604 mln (KZT 259 bln) loan from Eximbank, including interest. The loan was repaid using cash reserves created in November 2021.

In September 2022, the Company placed KZT 751.6 bln of bonds with a coupon of 3.0% per year and a maturity date in 2035. The bonds were purchased by Samruk-Kazyna as part of the deal to buy shares in KMG Kashagan B.V.

As of 31 December 2022, debt owed to Samruk-Kazyna was primarily attributable to the exercise of the Option totalling KZT 165 bln. The Company's total debt, including the above outstanding amount owed to Samruk-Kazyna in connection with the exercise of the Call Option to buy back a stake in Kashagan, stood at KZT 4.308 bln (USD 9.312 mln).

4.1 10.6% KZT trn

total debt as of 31 December 2022



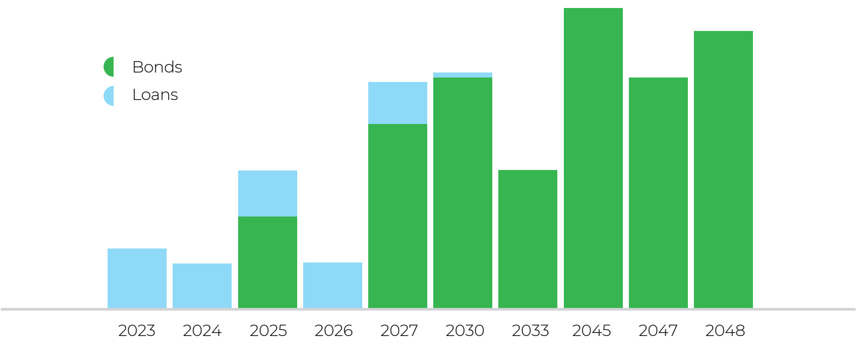
Net debt

2.1 8% KZT trn

net debt as of 31 December 2022

Net debt as of 31 December 2022 was KZT 2.143 bln (USD 4.632 mln), up 8% year-on-year in tenge terms.

Debt repayment schedule at par value, USD mln



	2023	2024	2025	2026	2027	2030	2033	2035	2047	2048
Bonds	0	0	500	0	1,000	1,250	750	1,625	1,250	1,500
Loans	329	248	248	252	226	26	0	0	0	0

1 — Excluding guarantees.

ENSURING SUSTAINABLE DEVELOPMENT

KMG'S PRINCIPLES OF SUSTAINABILITY MANAGEMENT

In its new 2022–2031 Development Strategy, KMG identified sustainability and gradual reduction in carbon intensity of production as one of its strategic goals. To that end, all business processes and decision-making must embed sustainability principles.

Our sustainability management is based on the following sustainable development principles:

Disclosure	we are open for meetings, discussion and dialogue; we are committed to building long-term cooperation with stakeholders based on mutual interests, rights and balance of the interests of the Company and stakeholders
Accountability	we recognise that we are accountable for our impact on the economy, environment and society
Transparency	our decisions and actions should be clear and transparent for stakeholders
Ethical behaviour	our decisions and actions are based on our values such as respect, honesty, disclosure, team spirit, trust, fairness and impartiality
Respect	we respect rights and interests of stakeholders resulting from the law, contracts, or indirectly, through business relationships
Rule of law	our decisions, actions and behaviour comply with the law of Kazakhstan and resolutions of the Company's bodies
Respect for human rights	we observe and promote human rights as provided by the Constitution of the Republic of Kazakhstan and international documents
Intolerance for corruption	we declare intolerance for any manifestation of corruption in interaction with all stakeholders
Unacceptability of conflict of interest	personal interests of an official or employee should not have effect on unbiased fulfilment of their job duties and functions
Personal example	each of us in our daily actions, behaviour and decision-making promotes the principles of sustainable development; officers and employees in management positions should act as role models in terms of adopting sustainability principles

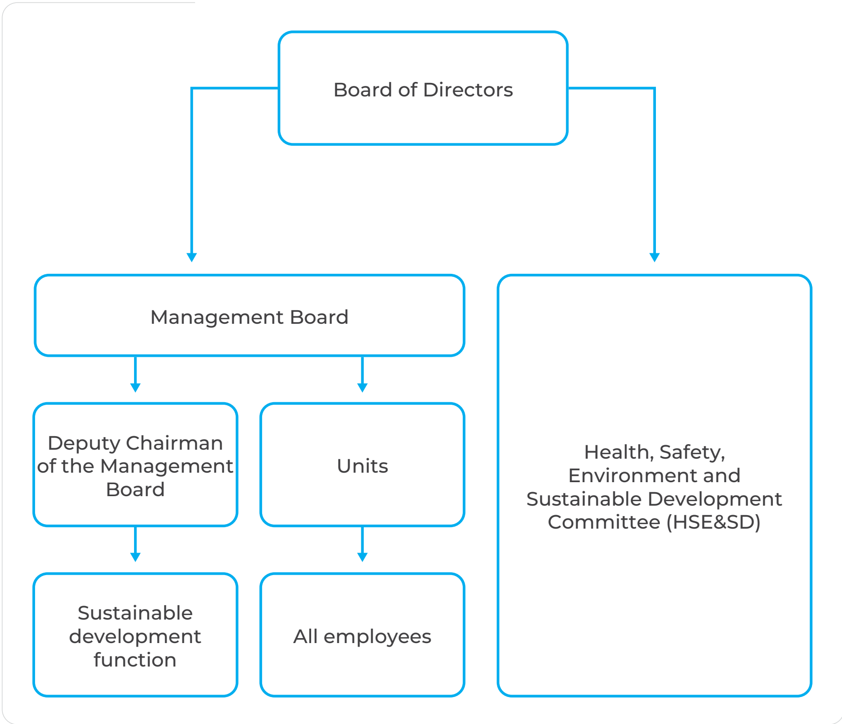
COMPREHENSIVE APPROACH TO ENSURING KMG'S SUSTAINABLE DEVELOPMENT

The Board of Directors of KMG engages in strategic oversight and control over implementation of sustainable development principles. It also approves the Company's annual Sustainability Report.

The Health, Safety, Environment and Sustainable Development Committee (HSE&SD) of the Board of Directors considers and managers sustainability matters, develops recommendations on sustainability policy, annual Sustainability Report, action plans and other internal documents on sustainability that fall within the remit of the Board of Directors, implements ESG aspects of sustainable development, builds a governance system to oversee sustainability, defines sustainability goals and KPIs, monitors KMG's progress in the area of sustainability, and integrates sustainability into KMG's key processes.

The Management Board is responsible for proper execution and implementation of the Company's sustainability principles, policies, standards, and action plan. It also monitors KMG's sustainability activities and progress against goals and KPIs in this area.

Deputy Chairman of the Management Board, who is responsible for sustainable development, coordinates approaches to achieve goals and KPIs in sustainability initiatives and oversees the implementation of corporate sustainability standards and the preparation of sustainability reports.



The sustainable development function of KMG's Strategy and Portfolio Management Department is responsible for initiating, coordinating and implementing the sustainable development management system, supporting its integration into the Company's business, providing methodology support in sustainability matters, annual preparation and approval of the Sustainability Report, assisting the Company's units as needed in identifying and managing sustainability risks and in developing a stakeholder map and ways of interaction, as well as training in sustainable development.

Units of KMG are responsible for implementing the sustainable development management system, identifying sustainability risks, developing a stakeholder map and ways of interaction, running sustainable development initiatives, and preparing information for the Sustainability Report as per international standards.

All employees of KMG, at their respective level, implement sustainability principles and policies by acting as role models and following respective policies and standards.

LIST OF KEY DOCUMENTS THAT GOVERN SUSTAINABILITY AT KMG GROUP

E environmental

- Environmental Policy
- Emissions Management Policy
- KMG's 2022–2031 Low-Carbon Development Programme
- Sustainable Development Policy
- Corporate Water Resources Management Standard
- Corporate Standard for Assessing the Environmental Impact of Planned Activities
- Guidelines on Health, Safety and Environment Management System
- KMG's Crisis Management Regulations
- Quality Manual

S social

- HR Policy 2018–2028
- Standard Regulations on the Unified System of Internal Communications
- Standard Rules for Rendering Social Support
- Standard Regulations on Interactions between SACs and Contractors Working on the Sites of JSC NC KazMunayGas
- Golden Rules code for employees
- Occupational Health and Safety Policy
- Policy on Safe Operation of Land Vehicles
- Human Rights and Public Relations Policy
- Corporate Standard for Occupational Health and Hygiene Management
- Corporate Standard for Process Safety Management
- Corporate Standard for Building HSE Capabilities
- Corporate Standard for Engaging Contractors on HSE
- Corporate Standard for Provision of Workwear, Footwear and Personal Protective Equipment
- Corporate Unified Occupational Health Management System
- Regulations on the Application of Korgau Card
- Regulations for Safe Operation of Land Vehicles

G governance

- Corporate Governance Code
- Code of Corporate Social Responsibility
- Sustainable Development Concept
- Sustainability Management Guidelines
- Sustainability Report Development Rules
- Code of Business Ethics
- Anti-Corruption Standards
- Anti-Corruption Policy
- Information Security Policy
- Confidential Informing Policy
- Conflict of Interest Management Policy for Employees and Officers
- Internal Control System Policy
- Corporate Risk Management System Policy
- KMG's Rules for Conducting Anti-Corruption Monitoring and Internal Analysis of Corruption Risks
- KMG's Corporate Regulations for Physical Security and Counter-Terrorism Protection
- Internal Control System Regulations
- KMG's Economic Security Regulations
- Information Security Management System Manual

ESG RISK RATING

An ESG risk rating was approved by KMG's Board of Directors as a corporate KPI for 2022, reflecting the Company's intent to manage material ESG risks and commitment to sustainability principles in the international oil and gas market. Achievement of the corporate KPI includes addressing the key ESG matters within KMG Group.

Sustainalytics assessed KMG's ESG risk management at 28.4. The Company's risk of exposure to ESG factors is medium. KMG maintained the rating despite materialised occupational health risks. The Company got high praise from experts for its engagement with local communities in the regions of operation, tax transparency, and commitment to preserving the environment and biodiversity. Moreover, the expert report recognised KMG Group's corporate governance and adherence to high standards of business ethics.

KMG will keep streamlining its activities to meet the highest sustainability standards. We will take steps to prevent and eliminate workplace accidents, consistently reduce GHG emissions, and work more to improve social and environmental conditions across our footprint. KMG has developed and approved an action plan to improve its ESG rating, which includes 65 measures that cover and factor in environmental and social risks for the business, as well as corporate governance risks for the Company. In 2023, KMG intends to update the plan based on measures already implemented.

Particular attention is paid to enhancing the sustainability culture. Sustainability training courses are held on a regular basis for employees of the Corporate centre and subsidiaries and associates.

In 2022, KMG did the following to improve its ESG rating:
- approved an Action Plan to implement the Low-Carbon Development Programme for 2022–2031;
- approved KMG's Sustainable Development Policy;
- approved KMG's Human Rights and Public Relations Policy;
- put in place and run an accessible complaint review mechanism;
- conducted tax reporting under GRI 207 and BEPS Action 13;
- disclosed the Report on Payments to Government Bodies for public access on the corporate website;
- improved gender balance in the Board of Directors by adding an independent director Assel Khairova;
- disclosed information on fatalities involving contractors in the 2021 Sustainability Report.

Action plan to improve KMG's ESG rating for 2023:
- develop and approve a strategic document on sustainable development;
- approve KMG's Water Resources Management Programme;
- complete the Tazalyq project;
- finish the upgrade and expansion of the Astrakhan–Mangyshlak water pipeline;
- take measures to eliminate historical oil waste and remediate oil-contaminated lands;
- conduct tax reporting under GRI 207 and BEPS Action 13;
- disclose the Report on Payments to Government Bodies for public access on the corporate website;
- disclose the accomplishments under the Comprehensive Plan of Socio-economic Development of Mangistau Region for 2021–2025 in the Sustainability Report;
- develop and approve an internal document on area closure and remediation;
- prepare for initial TCFD disclosure;
- develop and approve a Charity Policy for KMG and its subsidiaries and associates;
- keep disclosing information in the Sustainability Report under GRI 2021.

MORNINGSTAR | SUSTAINALYTICS

28.4

ESG risk rating from Sustainalytics

COMMITMENT TO UN GLOBAL COMPACT PRINCIPLES AND 17 SUSTAINABLE DEVELOPMENT GOALS

WE SUPPORT UN GLOBAL COMPACT

KMG's approach to sustainable development is based on aligning the Company's interests and plans with the basic principles of the UN, universal human values, global trends, and development priorities in Kazakhstan.

KMG reiterates its commitment to all the ten principles of the UN Global Compact.
- **Principle 1.** Businesses should support and respect the protection of the internationally proclaimed human rights.
- **Principle 2.** Businesses should make sure that they are not complicit in human rights abuses.
- **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.
- **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.
- **Principle 10.** Businesses should work against corruption in all its forms, including extortion and bribery.

SUSTAINABLE DEVELOPMENT GOALS

KMG is committed to all the **17 Sustainable Development Goals of the United Nations (UN SDGs).**

We prioritise six SDGs and fourteen targets in line with our strategic goals and priorities and report on our contribution to their achievement.

They are aligned with strategic and business initiatives implemented by KMG.

Implementation of sustainable development goals at KMG

SDGs

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

Priority targets	KMG's contribution
3.6. By 2020, halve the number of global deaths and injuries from road traffic accidents	**Travel Management project** In order to improve transport safety and foster a safe driving culture, the Travel Management project is planned to be rolled out across KMG's subsidiaries and associates. **Next steps:** · analysing the maturity of processes in subsidiaries and associates with account of the level of automation and availability of GPS trackers; · preparing individual programmes to develop transport management processes in each subsidiary and associate; · introducing the transport management system in phases with a focus on road safety. **Outcome** The Travel Management pilot project run at Embamunaigas (EMG) was successfully completed with the following results: · speed limit violations reduced by 62%; · 591 speed limit signs installed/updated on roads of EMG production units; · a rating on the basis of scores for the driving style and recorded violations introduced; · an up-to-date electronic map of field and unpaved roads and coordinates of EMG field facilities drawn; · a new functionality implemented (trip tickets, deviations from the route, online notifications).
3.8. Achieve health coverage, including access to quality essential healthcare services, and access to safe, effective, quality, and affordable essential medicines and vaccines.	**Employee health management** KMG will develop an Employee Health Management Programme that will focus on: · prevention of occupational diseases; · development of minimum standards for healthcare and provision of medical assistance to employees of production facilities; · regular health monitoring on KMG Group's employees; · improving the quality of healthcare and promoting a healthy lifestyle among employees. **Health insurance** Medical examinations and vaccination of employees are carried out on a regular basis. **10 Steps to Better Health initiative** Caring for the health and well-being of our employees is a priority for KMG and is critical to our productivity, competitiveness and business continuity. Primarily aimed at increasing physical activity and removing unhealthy eating habits, the initiative has proved effective in delivering strong health outcomes for the Company's employees. **Outcome** 100% of KMG's employees are covered by health insurance.
3.9. Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.	**Korgau Card** The Korgau Card programme is aimed at identifying and reporting unsafe conditions / unsafe behaviour / unsafe actions / hazardous factors.

SDGs

Ensure access to affordable, reliable, sustainable and modern energy, improve energy efficiency and increase the share of renewable energy

Priority targets	KMG's contribution
7.1. Ensure access to affordable, reliable and modern energy services	KMG Group's key strategic energy saving and energy efficiency initiatives include process equipment upgrades, deployment of energy saving technologies, optimisation of heat generation and consumption, and the development of the Group's own generation assets, including RES-based ones. The 2031 Low-Carbon Development Programme was approved and its priority focus areas defined. **Improved energy efficiency:** · introducing the best available technologies (BAT); · upgrading boiler and furnace equipment; · upgrading process units consuming thermal energy; · upgrading machinery; · implementing management programmes to streamline the operation of machinery and pumping equipment by introducing variable speed drives (VSD); · installing thermal insulation on core and auxiliary equipment; · optimising the transport fleet; · introducing automated fuel and energy accounting and management systems; · establishing energy management services.
7.b. Expand infrastructure and upgrade technology for supplying modern and sustainable energy services	**Renewable energy projects:** · 1 GW wind power plant jointly with Total Eren; · 120 MW hybrid power plant jointly with Eni; · 50 MW wind power plant in Astana jointly with Eni; · small solar power plants with a total capacity of 6.9 MW at subsidiaries and associates; · purchase of International Renewable Energy Certificates (I-REC) to certify the consumption of power generated from renewable energy sources. **Outcome** On 31 May 2022, KMG approved an Action Plan to implement its 2031 Low-Carbon Development Programme. **Achieving energy efficiency gains of 541,029 tonnes of reference fuel by:** · saving 426,421 thous. kWh of electricity, saving 292,541 Gcal of heat, saving 439,246 tonnes of fuel resources measured in tonnes of reference fuel; · generating at least 60,978 thous. kWh of green electricity by the Group's own small-capacity renewable energy power plants operated by its subsidiaries and associates. – Achieving a 15% share of renewable energy in KMG's energy consumption. – Implementing renewable energy projects with a total capacity of at least 300 MW. – Having 100% of subsidiaries and associates covered by energy management services.

For more details, see the Low-Carbon Development Programme section.

SDGs

8 DECENT WORK AND ECONOMIC GROWTH

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

Priority targets	KMG's contribution
8.5. Achieve full and productive employment and decent work for women and men, including for young people and persons with disabilities, and equal pay for work of equal value	**Outcome** KMG employs more than 44,000 people across its regions of operation, including 82% of men and 18% of women
8.6. Substantially reduce the proportion of youth not in employment, education or training	Zhas Maman programme run by Atyrau Refinery and Pavlodar Refinery to attract and develop young talent. Dual training: a programme offering training, internship and further employment with KMG Group. **Outcome** As part of the recruitment and development programme for young professionals skilled in production occupations, in 2019–2021, Atyrau Refinery hired 9 out of 23 people enrolled in the programme, and Pavlodar Refinery hired 10 people out of 14 people enrolled. As part of the dual training programme, in 2019–2021, EMG hired 2 out of 114 people enrolled in the programme, Atyrau Refinery hired 7 out of 56 people enrolled, and Pavlodar Refinery employed 41 out of 57 people enrolled.
8.8. Protect labour rights and promote safe and secure working environments for all workers	**Standard Rules for Rendering Social Support** Social support for employees of KMG subsidiaries and associates is set out in their collective bargaining agreements and the Rules for Rendering Social Support. To unify the types and standards of social support across all KMG Group enterprises, the Standard Rules for Rendering Social Support to Employees of KMG Subsidiaries and Associates were adopted.

For more details, see the Personnel Development section.

SDGs

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote sustainable industrialisation and foster innovation

Priority targets	KMG's contribution
9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being	KMG's Digital Transformation Programme promotes the expansion of scientific research and development of technological capabilities across industrial sectors. KMG invests heavily in relevant scientific research and local capacity building. The development of domestic technological capacities to ensure industrial diversification will also have a positive impact on the climate situation in the country. **Development of the ABAI Information System** Under the project, all production data of KMG Group will be centralised in a single Big Data database and will be processed and analysed using AI and machine learning. The ABAI information system will comprise 17 standalone modules, each designed to tackle specific operating issues. **Outcome** **Five pilot modules of ABAI developed and tested:** · ABAI Database, · Visualisation Centre, · Complications Monitoring, · Technological Mode, · Selection of Downhole Pumping Equipment. **Effects achieved:** · production increased thanks to more efficient process operations at Kazgermunai; · number of well services reduced owing to reduced number failures of downhole pumping equipment at Mangistaumunaigaz; · accuracy of chemical dosing improved based on the actual corrosion rate at fields of Ozenmunaigas; · 12 types of reporting formats automated (oil production measurements, production profile by well, etc.). For more details, see the Digitalisation and Transformation section.
9.4. Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes	The 2031 Low-Carbon Development Programme was approved, with the following priority areas in energy efficiency defined: · streamlining energy management and establishing energy management services; · introducing automated fuel and energy accounting and management systems; · exploring possibilities to implement breakthrough innovations across the assets of specific subsidiaries and associates; · introducing the best available technologies (BAT); · upgrading machinery; optimising and upgrading the transport fleet. **Outcome** Targets set for 2031: · 100% of subsidiaries and associates covered by energy management services; · 10% energy intensity reduction from the 2019 level; For more details, see the Low-Carbon Development Programme section.

SDGs

Take urgent action to combat climate change and its impacts

Priority targets	KMG's contribution
13.2. Integrate climate change measures into policies, strategies and planning.	**Corporate methodology for measuring GHG emissions** In order to standardise approaches to the recording, monitoring and reporting of GHG emissions and to provide uniform guidelines for their calculations, KMG developed and approved a corporate methodology for monitoring and recording GHG emissions. **Low-Carbon Development** A department for low-carbon development has been set up. **Green Office** Company-wide green initiatives are being actively promoted, and the Green Office principles, including the introduction of separate waste collection, water and energy saving in the office, etc., are being gradually implemented. **Outcome** KMG approved an Action Plan to implement the 2022–2031 Low-Carbon Development Programme. KMG's GHG emissions reduction potential is 2,893,460 tonnes of CO_2, including direct emissions of 2,189,483 tonnes of CO_2 and indirect emissions of 703,977 tonnes of CO_2e, which is 27% of the 2019 emissions. A Competence Centre for Hydrogen Energy was set up at KMG Engineering. As part of a pilot project to deploy carbon capture, utilisation and storage (CCUS) and explore the potential for CO_2 injection to enhance oil recovery from depleted oil reservoirs, we have screened the CO_2 emission sources and are now screening fields to select a reservoir suitable for CO_2 injection.
13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.	**Internal carbon pricing framework** KMG developed and implemented an Internal Carbon Pricing Programme with a view to providing additional incentives for subsidiaries and associates to reduce their emissions as well as fully assessing the impact of carbon-related regulations on its financial and economic performance. **CDP** The Company calculates its carbon footprint and posts its Climate Questionnaire on the website of the CDP (formerly Carbon Disclosure Project). **Task Force on Climate-related Financial Disclosures (TCFD)** KMG signed an agreement with the EBRD to review the Company's resilience to climate-related risks and prepare for making disclosures consistent with the TCFD recommendations.

SDGs

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

Priority targets	KMG's contribution
15.3. Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.	KMG implements projects and initiatives aimed at curbing discharges and reducing fresh water withdrawal from natural sources: **CDP** The Company calculates its water footprint and posts its Water Security Questionnaire on the website of the CDP. **TAZALYQ** Atyrau Refinery is heavily focused on Tazalyq, a large-scale project designed to improve the environment in the city of Atyrau. **Construction of desalination plants** **A formation water desalination plant** is a unique project to address the water supply issue in the Mangistau Region. The plant will free up at least 6.2 mln m3 of the Volga River water annually to help develop the region. **A desalination plant near the Kenderly recreational zone**, Mangistau Region. Its planned capacity is 50,000 m³ per day. **Land remediation** The Company works to ensure recovery of historical oil wastes and oil-contaminated soil treatment. **Outcome** **TAZALYQ**: 10% reduction in water intake from the Ural River, reuse of 15% of the factory's treated plant effluents. In 2022, areas of evaporation fields previously used to store the sewage from sectors 1 and 2 were drained. **2024 target**: complete elimination of historical oil waste; in 2019–2022, the Company treated 2.1 mln tonnes of oil waste.
15.5. Take significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and protect and prevent the extinction of threatened species.	**Forest-climate projects** As part of KMG's Low-Carbon Development Programme until 2031, forest-climate projects are expected to be implemented, delivering benefits for terrestrial ecosystems. **Mitigation hierarchy to manage biodiversity risks** In its planning and operations, the Company relies on mitigation hierarchy to manage biodiversity risks, with four key steps in place: avoidance, minimisation, rehabilitation/restoration, and offset. **Outcome** Target set for 2031: forest-climate projects to be implemented across 2,000 ha.

KMG prepares an annual Sustainability Report in line with GRI standards. KMG's 2022 Sustainability Report is available on the Company's website

The Company's annual Sustainability Report also serves as Communication on Progress for the UN Global Compact

SUSTAINABLE DEVELOPMENT KPIs OF KMG'S MANAGEMENT

In order to deliver against strategic sustainability targets for 2022, the following motivational KPIs were approved for the Chairman of the Management Board (corporate KPIs) related to the introduction of the sustainable development management system:

Implementation of investment projects, including the Tazalyq sustainability project, a new desalination plant in Kenderly, a new gas processing plant in Zhanaozen, along with the upgrade and expansion of the Astrakhan–Mangyshlak water pipeline.

- Lost Time Incident Rate (LTIR),
- ESG risk rating.

Corporate sustainability KPIs for 2023 are more ambitious than those set for 2022:

- A comprehensive OHS indicator aimed at reducing LTIR, and identifying and communicating, among other things, unsafe workplace conditions and hazardous factors across the Group.
- Carbon footprint reflecting the evolution of KMG's GHG emissions in the reporting year relative to the baseline year of 2021.

For deputy Chairmen of the Management Board, the following sustainability KPIs are planned for 2023:

- implementation of investment projects, including a number of sustainability projects;
- delivery against the Action Plan to implement the 2022–2031 Low-Carbon Development Programme for relevant domains;
- an ESG rating at 29.

LOW-CARBON DEVELOPMENT PROGRAMME

Reducing our carbon footprint is key to KMG's future sustainability

Today, decarbonisation of industry as part of climate change mitigation has solid positions on global political, investment and trade agenda.

Reducing the carbon footprint is the critical factor in fighting global warming.

The sustainability and long-term horizon of decarbonisation are set forth by the Paris Agreement on climate change, which sets a global goal to hold temperature increase to 1.5 °C by 2100 and achieve a reduction of CO2 emissions of 25% by 2030, 70% by 2050, and 100% by 2070 (full decarbonisation).

Kazakhstan in turn supports international initiatives to step up efforts and enhance ambitions towards achieving the Paris Agreement goals, taking on voluntary commitment to have greenhouse gas emissions reduced by 15% by 2030 from the 1990 level.

In November 2020, President of the Republic of Kazakhstan Kassym-Jomart Tokayev spoke at a climate change conference and announced that Kazakhstan is ready to take action on climate change and achieve carbon neutrality by 2060. To that end, a Doctrine for Carbon Neutrality of Kazakhstan by 2060 was drafted in 2022.

KMG developed a Low-Carbon Development Programme for 2022–2031 as a single low-carbon development agenda that streamlines the Company's efforts in the realm of carbon footprint reduction.

As part of implementing KMG's 2022–2031 Low-Carbon Development Programme approved in November 2021, the Company developed and approved an Action Plan for 2022–2031.

The Action Plan includes a number of initiatives aimed at reducing GHG emissions and focused on four areas: energy efficiency, renewable energy, methane monitoring, and organisational measures. Implementation of these initiatives will help achieve the goal of reducing KMG's GHG emissions by 15% by 2031 set out in the Company's Low-Carbon Development Programme.

As part of the Action Plan implementation, a GHG Emission Monitoring and Reporting Methodology and the Internal Carbon Pricing (ICP) Programme have been developed.

The methodology defines key approaches to the recording and monitoring of GHG emissions across KMG subsidiaries and associates and provides a unified methodological basis for measuring GHG emissions across KMG subsidiaries and associates.

The methodology was developed in accordance with the Environmental Code of the Republic of Kazakhstan, as well as international standards for calculating GHG emissions applicable to ESG reporting.

The main goal of developing the ICP Programme is to assess and minimise the Company's financial risks associated with the tightening of carbon regulations, as well as to reallocate some investments from carbon-intensive projects to low-carbon ones. The introduction of internal carbon pricing is seen as a strategic tool to manage the risks associated with the impact of climate-related regulations on the Company's operations and to create additional opportunities for upgrading production capacities and achieving KMG's GHG emission reduction targets.

The ICP Programme describes key areas for ICP mechanisms, approaches to their implementation, relevant global experience, as well as general proposals on the ICP use across KMG with a view to shaping further development of the Company's GHG emissions management system. The detailed development of mechanisms and their implementation in KMG's internal regulations are scheduled for 2023.

In 2022, KMG and Chevron (NYSE: CVX), through its subsidiary Chevron Munaigas Inc., announced a memorandum of understanding to explore potential lower carbon business opportunities in Kazakhstan.

KMG and Chevron plan to explore the potential for joint projects in carbon capture, utilisation and storage (CCUS), methane leakage management and energy efficiency.

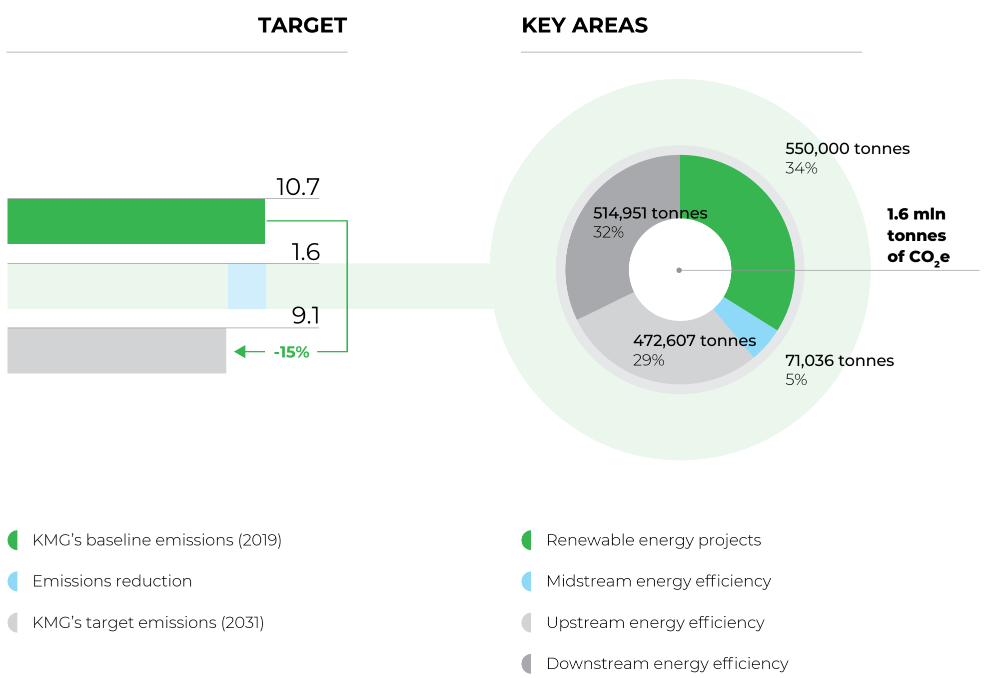
The cooperation between KMG and Chevron is part of both companies' efforts to support Kazakhstan's commitment to achieving carbon neutrality by 2060.

In June 2022, KMG and the EBRD signed a memorandum of understanding regarding strategic cooperation on decarbonisation.

The aim of the cooperation is to support KMG in reducing its carbon footprint by implementing its Low-Carbon Development Programme and to enhance its effectiveness.

The parties will focus on enhancing KMG's reporting capabilities in line with the TCFD recommendations and on exploring opportunities for financing projects to reduce our carbon footprint, including those in areas of energy efficiency, renewable energy, low-carbon hydrogen generation and the use of carbon dioxide capture and storage technologies.

KMG's 2022–2031 low-carbon development programme



ADDITIONAL MEASURES

I. Carbon capture, storage and utilisation (CCUS) technologies
II. Electric vehicles
III. Methane leak detection and repair (LDAR) programme
IV. Forest-climate projects
V. Routine flaring
VI. Hydrogen energy

Target indicators

KMG's strategic focuses in carbon footprint reduction

№	Indicator	Baseline year indicator (2019)	Target indicator (2031)
Key indicator			
1	Reduction of direct and indirect CO_2 emissions	10.7 mln tonnes of CO_2e	-15% (1.6 mln tonnes of CO_2e)
Targets			
2	Reduction of carbon intensity		–10%
	Hydrocarbon production	147.6 tonnes of CO_2e / thous. toe of produced hydrocarbons	132.9 tonnes of CO_2e / thous. toe of produced hydrocarbons
	Large refineries	330.3 tonnes of CO_2e / thous. tonnes of oil	297.3 tonnes of CO_2e / thous. tonnes of oil
	Bitumen production	54.4 tonnes of CO_2e / thous. tonnes of oil	49 tonnes of CO_2e / thous. tonnes of oil
	Gas processing	1.1 tonnes of CO_2e / thous. m^3 of gas	1 tonne of CO_2e / thous. m^3 of gas
	Transportation	9.3 tonnes of CO_2e / thous. tonnes of oil	8.3 tonnes of CO_2e / thous. tonnes of oil
3	Reduction of carbon intensity		–10%
	Hydrocarbon production	2,281.3 MJ / thous. toe of produced hydrocarbons	2,053.2 MJ / thous. toe of produced hydrocarbons
	Large refineries	3,732.4 MJ / tonne of oil	3,359.2 MJ / tonne of oil
	Bitumen production	650.1 MJ / tonne of oil	585.1 MJ / tonne of oil
	Gas processing	3,296.5 MJ / thous. m^3 of gas	2,966.7 MJ / thous. m^3 of gas
	Transportation	120.9 MJ / tonne of oil	108.9 MJ / tonne of oil
4	Share of renewable energy in KMG's electricity balance from the baseline	0.005% (211 MWh)	15% (600.000 MWh)
5	Routine flaring	0.43%	0% (29.8 thous. tonnes of CO_2e)
6	Implementation of the Programme for Quantification, Control, Detection and Repair of Methane Leaks (LDAR)	0%	100% coverage of subsidiaries and associates engaged in production
7	Forest-climate projects	0	2,000 ha (10–16 thous. tonnes of CO_2e annually)
8	Introduction of the energy management service	Partial coverage of subsidiaries and associates	100% coverage of subsidiaries and associates
9	Carbon Disclosure Project climate rating	C (knowledge of climate impacts and issues)	A/A- (implementing current best practices)
10	Annual allocation of funds for implementation of low-carbon projects	0	At least 10% of CAPEX (USD 130–150 mln)

In 2022, 49 low-carbon development initiatives were implemented as planned, with annual fuel and energy savings totalling 1.504 mln GJ, including 33,448 thous. kWh in electricity, 1,531 Gcal in heat, 25,292 tonnes in boiler and heating fuel, and 7,570 thous. m³ of natural gas. This translates into a 106,965 thous. reduction in CO_2 emissions.

Intention to embed TCFD reporting

- KMG has formally announced its intention to embed reporting consistent with the TCFD principles, with a focus on assessing climate-related risks and their financial impact on the Company's operations.
- To prepare the initial disclosure, KMG has signed a memorandum of understanding with the EBRD for strategic cooperation on decarbonisation, whereby the EBRD will support KMG in drafting its first TCFD report.

HEALTH, SAFETY AND ENVIRONMENT

Industrial safety, occupational health and environmental protection

For all Samruk-Kazyna companies, 2022 was declared the Year of Safety. KMG is committed to sustainable development and takes a responsible attitude to the environment and social stability across its footprint. The Company's topmost priority is employee safety.

Sustainability principles inform the Company's economic, environmental and social development. One of KMG's key ESG challenges is carbon emissions from operating activities and emissions from using the Company's products.

Aware of the nature and scale of our footprint, we strive to build our operations on such important principles as sustainable use of natural resources, health and safety of employees in all business lines and local communities, and environmental protection.

We have made a significant progress in improving environmental protection thanks to effective corporate standards, an eco-friendly corporate culture and continuous improvements in management. We aim to achieve a zero footprint, which means no impact on the environment whatsoever.

Participation in initiatives and programmes

WORLD BANK GROUP
The World Bank's Zero Routine Flaring by 2030 initiative

SUSTAINABLE DEVELOPMENT GOALS
UN 17 Sustainable Development Goals initiative

CDP
CDP climate programme

Global Methane Initiative
Global Methane Initiative

Caspian Environmental Protection Initiative — CEPI

Performance highlights

Social highlights

Indicator	2020	2021	2022
Lost Time Incident Rate (LTIR)	0.29[1]	0.31	0.36
Fatal Accident Rate (FAR)	0.00	2.93	1.00
Fatalities	0	1	1

Environmental highlights

Indicator	2020	2021	2022
NO_X emissions, tonnes per 1.000 tonnes of produced hydrocarbons	0.22	0.24	0.31
SOx emissions, tonnes per 1.000 tonnes of produced hydrocarbons	0.23	0.22	0.21
APG flaring rate, tonnes per 1.000 tonnes of produced hydrocarbons	2.2	2.1	1.5

1 — Data without hours worked of KazTransGas.

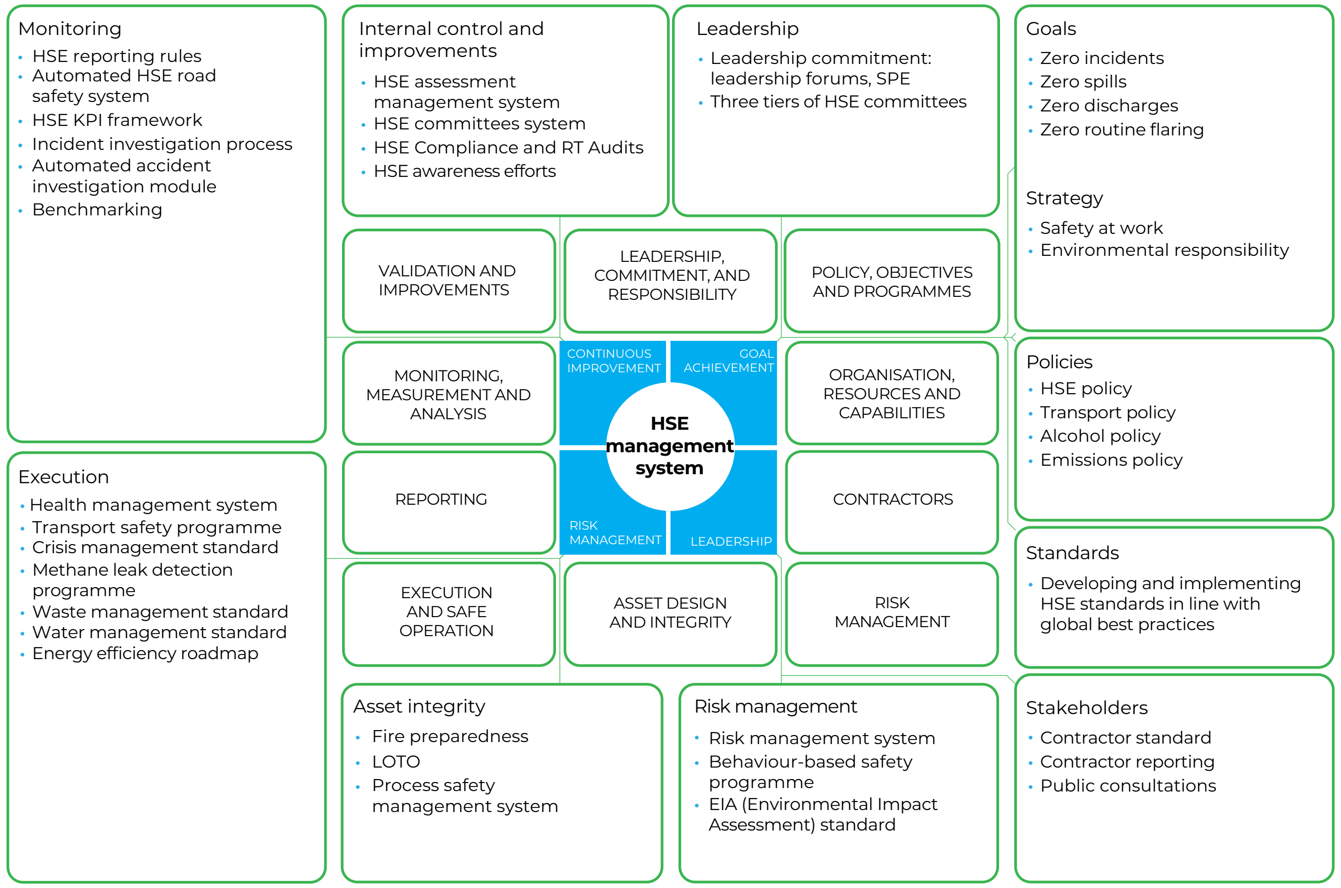
Health, safety and environment management system

The health, safety and environment management system is designed to Kazakhstan's statutory requirements, ISO 14001 and ISO 45001 international industry standards, global best practices and guidelines, and recommendations of the International Association of Oil & Gas Producers (IOGP).

It covers ten areas and relies on four pillars: leadership, goal achievement, risk management, and continuous improvement.

Since 2006, KMG operates an integrated quality, environmental, and occupational health and safety management system compliant with ISO 9001, ISO 14001, and ISO 45001. KMG's significant energy users are certified to ISO 50001. The effectiveness of the HSE management system is verified by independent auditors on a regular basis.

To improve its management system, KMG has its HSE MS certified to ISO 45001.



Environmental responsibility and safety

KMG Group's goals in HSE management are directly related to its Development Strategy. KMG's Development Strategy until 2031 covers strategic initiatives to promote greater environmental responsibility. KMG Group's environmental priorities include management of air emissions, water resources and production waste, flaring reduction, and land reclamation.

Management teams at JSC NC KazMunayGas and its subsidiaries take a zero tolerance approach to losses and harm caused by environmental pollution. In accordance with the new Environmental Code, KMG's Environmental Policy was updated in 2021 to ensure the collection, accumulation, storage, analysis, and dissemination of environmental information. In addition, JSC NC KazMunayGas enhanced its commitment to the sustainable use of natural resources and compliance with biodiversity conservation measures.

In an effort to minimise raw gas flaring, in 2015 the Company supported the World Bank's initiative Zero Routine Flaring by 2030.

In reducing our air emissions, we focus on increasing associated petroleum gas utilisation while minimising flaring. Raw gas flaring reports under the Initiative are submitted on an annual basis to the World Bank's representative office in Kazakhstan.

As a result of its efforts to improve environmental performance and ensure openness and transparency in that area, KMG has topped, for the sixth consecutive year, the Environmental Transparency Rating of Oil and Gas Companies in Kazakhstan compiled by independent experts from the World Wildlife Fund (WWF), Creon Group, and Analytical Credit Rating Agency.

The Company remains committed to being an environmentally responsible business, further enhancing its environmental protection management system, maintaining dialogue with all stakeholders on this matter, and thus delivering on its commitments as stated in the Company's Environmental Policy.

2022 highlights

SOx emissions intensity
0.21
(IOGP — 0.20)

NOx emissions intensity
0.31
(IOGP — 0.33)

Associated petroleum gas (APG) flaring rate
1.5
(IOGP — 9.4)

APG utilisation rate
98.8%

Recovery of historical waste and remediation of oil-contaminated soils
693.7 thous. tonnes
(540.5 thous. tonnes in 2021)

Increase in energy consumption
4%
(from the 2021 baseline)

CDP score
C

CDP water security score
C

Environmental performance indicators, tonnes per 1.000 toe of produced hydrocarbons

Year	2020	2021	2022
SOx emissions intensity	0.23	0.22	0.21
NOx emissions intensity	0.22	0.24	0.31
Raw gas flaring rate	2.2	2.1	1.5
Raw gas utilisation, %	98	98	98.8

PRIORITY ENVIRONMENTAL PROJECTS

Eliminating legacy pollution

Elimination of historical pollution, as well as sources of negative environmental impact (idle wells, wastewater reservoirs, landfills and other production facilities).

Reducing atmospheric emissions

Reduction in emissions through improved technology solutions, e.g. replacing fuel oil with fuel/natural gas used as a process furnace fuel, using next-generation additives, tree planting and land improvement at production facilities, replacing equipment, expanding gas processing capacity, installing gas processing units, etc.

Project: Tazalyq

The Tazalyq project provides for the upgrading of Atyrau Refinery's wastewater treatment facilities as well as the reclamation of the Tukhlaya Balka evaporation fields.

Formation water desalination plant at the Karazhanbas field

The plant plays a strategic role in the region and is expected to make the field self-sufficient in terms of water supply and free up significant amounts of water for local residents.

Automated environmental monitoring information system (AEMIS)

The project's purpose is to create a shared information space in environmental protection. It seeks to provide a shared information resource in environmental protection, increase transparency and expediency while also minimising human error to avoid potential environmental fines.

The AEMIS focuses on:
- automated generation of environmental reports to government agencies;
- maintaining the database of authorisation regulations and calculating environmental emission fees;
- prompt response to potential excess emissions by timely eliminating faults in production processes;
- day-to-day environmental monitoring based on environmental controls on production sites;
- generating HSE KMG-synchronised corporate reports.

Recovery of historical oil wastes and oil-contaminated soil treatment

Complete disposal of historical oil waste and oil-contaminated soil treatment through 2024.

KMG is aware of the importance of its environmental impact and strives to minimise it.

In 2022, a number of activities were implemented to ensure environmental safety, such as working to dispose of historical oil waste and decontaminate oil-contaminated soils, stepping up efforts to promote environmental protection issues among employees, participating in tree planting events, developing action plans to reduce atmospheric emissions, implementing environmental protection programmes, and other activities.

In June 2022, KMG took part in a conference on Responsible Business for Sustainable Development attended by ecologists from more than 180 of the country's industrial enterprises and global organisations. The event was aimed at strengthening cooperation and facilitating experience sharing between the enterprises and global organisations on pressing environmental, climate change and regulation issues. It was timed to take place shortly before World Environment Day on 5 June.

A number of our subsidiaries and associates installed automated air monitoring systems in sanitary protection zones and near pollution sources to control the environment.

Employee training in environmental management

People are our most important asset, so HSE training remains top of mind for KMG Group. Therefore, mandatory staff education, training and upskilling in occupational health, industrial and fire safety and environmental protection are priority training areas for KMG.

Starting from 2021, KMG's Corporate Centre employees undergo mandatory training in occupational health and industrial and fire safety basics. The sessions are held on the platform of KMG Engineering.

In 2022, KMG Group spent a total of KZT 504,548.6 thous. to train 79,071 employees, including HSE training in the following key business segments: KZT 243,410.7 thous. in the upstream business; KZT 40,642.6 thous. in the midstream business; KZT 100,115.4 thous. in the downstream business; KZT 116,316.4 thous. in the service business, and KZT 4,063.5 thous. in the Corporate Centre.

The companies that have their own training facilities/centres include Ozenmunaigas (Zhanaozen), KazTransOil (Aktau) and Oil Services Company (Aktau).

KZT 504 mln

spent on KMG Group employee training

Employee training expenses

Indicator	2020	2021	2022
Employees trained	89,715	61,678	79,071
Amount in KZT '000	578,891	498,714	504,548.6

HSE training by key business segment

Business segment	Number of employees	Amount in KZT '000
Upstream	35,370	243,410.7
Midstream	7,488	40,642.6
Downstream	16,075	100,115.4
Service	19,919	116,316.4
KMG Corporate Centre	219	4,063.5

7 AFFORDABLE AND CLEAN ENERGY 13 CLIMATE ACTION

Energy saving and energy efficiency programmes

Using energy resources and improving energy efficiency

KMG's energy saving and energy efficiency efforts are based on the methodology set out in ISO 50001 Energy management systems, an internationally recognised best-practice framework for systemic energy management.

In December 2022, as part of its Low-Carbon Development Programme for 2022–2031, KMG approved the Energy Policy applicable to all its subsidiaries, associates and contractors.

The Policy supports energy efficient procurement and projects, defines roles and responsibilities in energy management, and promotes economically feasible best available techniques, international practices, standards and administrative resolutions to improve energy efficiency and saving. An integral part of KMG's 2022–2031 Low-Carbon Development Programme, the Policy lays foundation for setting and reviewing energy-related goals and objectives.

In December 2022, all KMG subsidiaries and associates approved similar policies and aligned their internal documents with KMG's Energy Policy.

Energy consumption

The Company's Corporate Centre collects and analyses energy consumption and energy efficiency-related data, monitors the dynamics, identifies opportunities for improvement, and conducts year-on-year and peer benchmarking (IOGP).

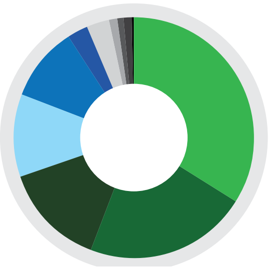
In 2022, total energy consumption amounted to 132.11 mln GJ (4,341.5 thous. tonnes of reference fuel), up 4% year-on-year, including 13.23 mln GJ in electricity, 3.54 mln GJ in heat, 1.56 mln GJ in motor fuel, and 113.78 mln GJ in boiler and heating fuel (with oil refinery gas, natural gas, stripped gas and associated petroleum gas accounting for 34%, 22%, 14% and 11% of the total energy consumption, accordingly). The total energy consumption is divided among three business segments: Upstream, Midstream, and Downstream.

An increase in energy consumption is due to the Kalamkas gas turbine power plant reaching its nominal capacity after repairs, and a 20% rise in oil refining at PKOP.

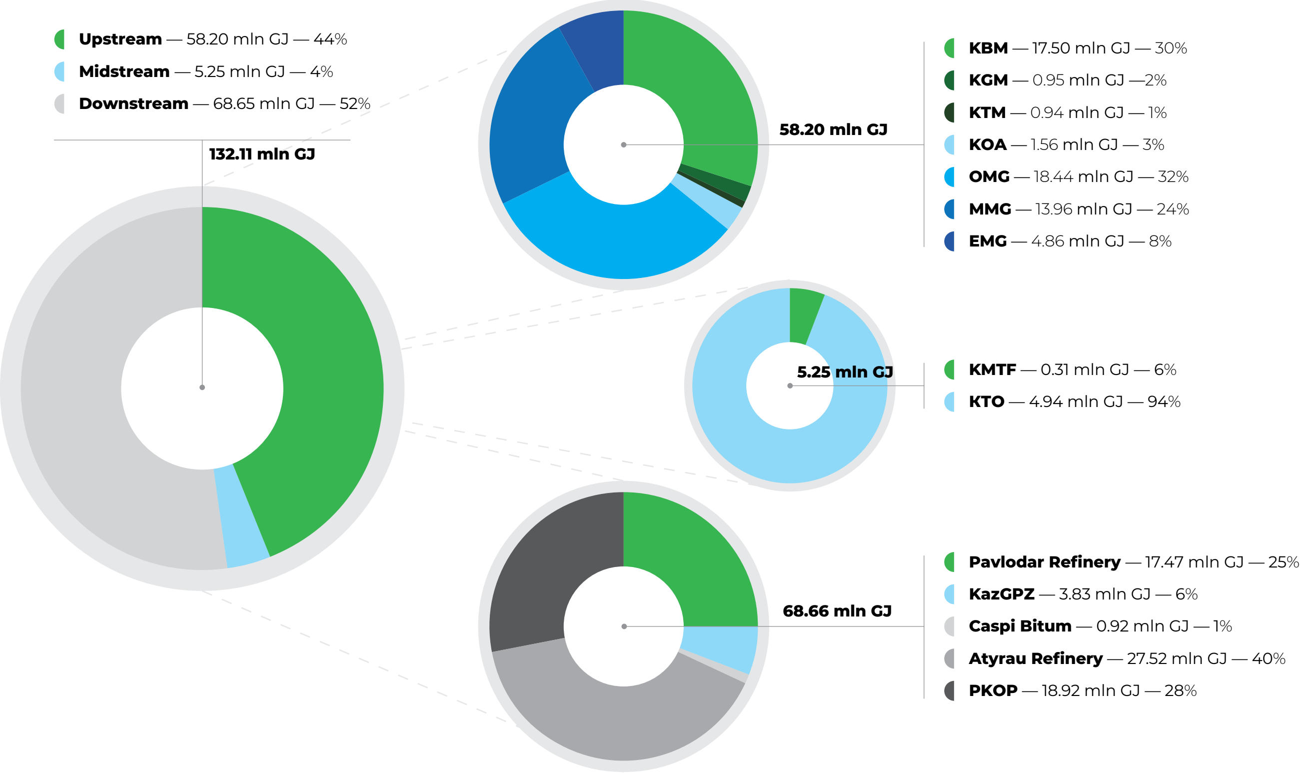
In 2022, KMG Group's self-generated energy amounted to 702.6 mln kWh in electricity and 4,841 thous. Gcal in heat.

In accordance with the Rules for Determining the Tariff for the Support of Renewable Energy Sources, Atyrau Refinery and Mangistaumunaigaz purchased in 2022 from Financial Settlement Center of Renewable Energy LLP for internal use 11,929 thous. kWh of electricity produced by renewable energy facilities. In 2022, PKOP solar panels generated 75 thous. kWh of electricity for street lighting.

Energy consumption by resource type



Energy consumption by business segments



Reducing energy consumption

A total of 265 initiatives were implemented under KMG's Energy Saving and Energy Efficiency Action Plan for 2017–2021, producing an aggregate fuel and energy saving effect of 101,478 tonnes of reference fuel (about 3 mln GJ), an equivalent of 229,490 tonnes of CO2 in emission cuts. Overall spending under KMG's Energy Saving and Energy Efficiency Action Plan for 2017–2021 was KZT 10,801 mln.

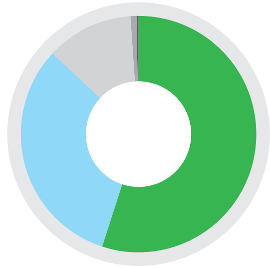
KMG Group's key strategic energy saving and energy efficiency initiatives include process equipment upgrades, deployment of energy saving technologies, optimisation of heat generation and consumption, and the development of the Group's own generation assets, including APG-fired generation.

In 2022, 49 initiatives were implemented as part of the Action Plan to implement the Low-Carbon Development Programme.

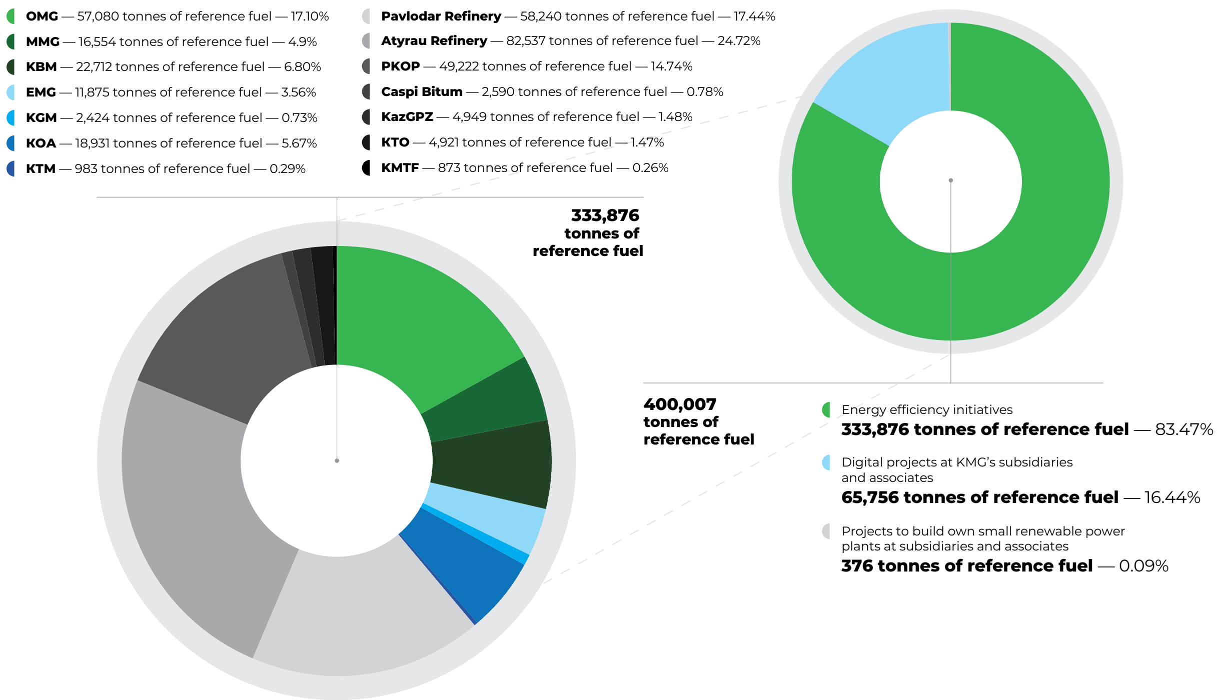
The estimated annual fuel and energy savings amounted to 2.057 mln GJ, which in physical terms corresponds to 33,448 thous. kWh of electricity, 1,531 Gcal of heat energy, 25,292 tonnes of boiler and heating fuel and 21,732 thous. m^3 of natural gas, an equivalent of 136,703 tonnes of CO2 in emission cuts. Overall spending on the energy saving and energy efficiency initiatives was KZT 10,355 mln.

In December 2022, Samruk-Kazyna approved an Energy Saving and Energy Efficiency Programme until 2027, with more than 55% of its energy saving potential represented by KMG as estimated in the Action Plan to implement the Low-Carbon Development Programme approved by the Company's Management Board in May 2022.

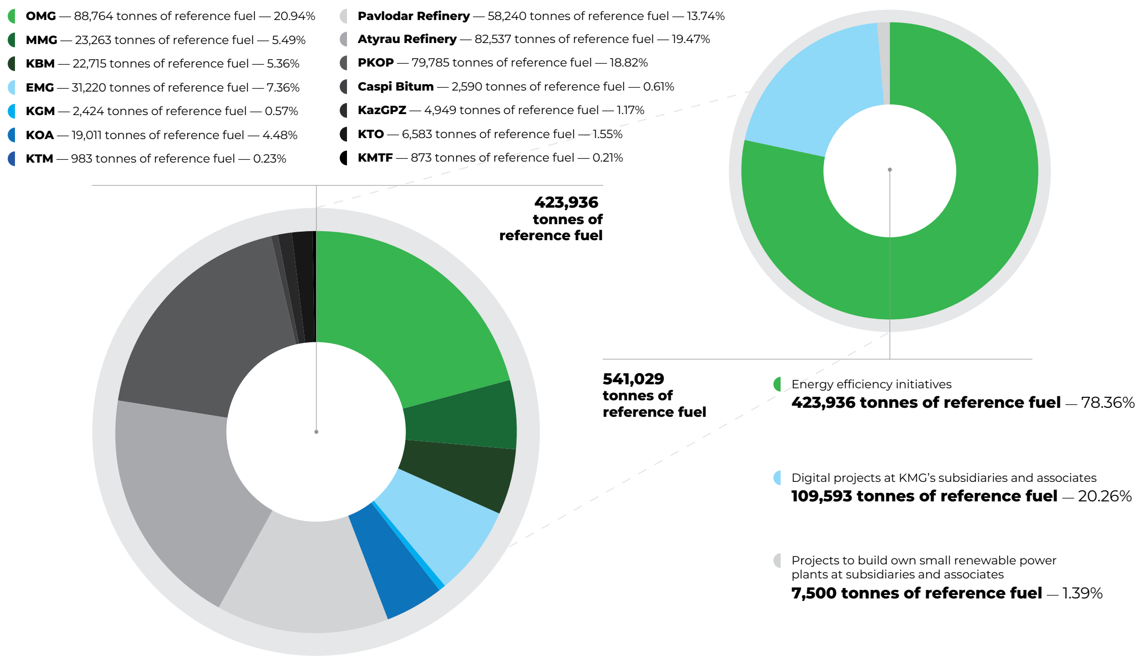
Structure of the energy saving potential under Samruk-Kazyna's Energy Saving and Energy Efficiency Programme until 2027, tonnes of reference fuel



In particular, the action Plan states KMG's energy saving potential for 2027 at 400 thous. tonnes of reference fuel (about 11.7 bln GJ), or 10.2% of its total energy consumption in 2021. Energy saving initiatives at subsidiaries and associates account for 83.5% of this potential, while 16.4% is associated with digital projects.



At the same time, the Action Plan to implement KMG's Low-Carbon Development Programme for 2022–2031 embraces around 300 initiatives to be carried out at subsidiaries and associates. By 2031, energy savings from these initiatives are expected to total 541 thous. tonnes of reference fuel (15.85 mln GJ), or 13.7% of KMG's overall energy consumption in 2021.



Energy intensity

In 2022, KMG Group's energy consumption in the upstream sector averaged at 2.78 GJ per tonne of hydrocarbon production, still 85% above the International Association of Oil & Gas Producers (IOGP) average for 2021, i.e. 1.5 GJ per tonne of hydrocarbon production.

KMG Group's average does not reflect the status quo because of a severe distortion owing to high energy intensities at OMG and KBM. KBM's energy consumption per tonne of produced hydrocarbons is 4.5 times higher than the IOGP global average, as production at the Karazhanbas field requires the use of steam and hot water to displace oil from subsoil reservoirs. At OMG, the measure is more than double the IOGP global average as a result of high dissolved paraffin concentrations and the rheological properties of oil, which means that it needs to be heated during production and transportation in both winter and summer.

Renewable energy

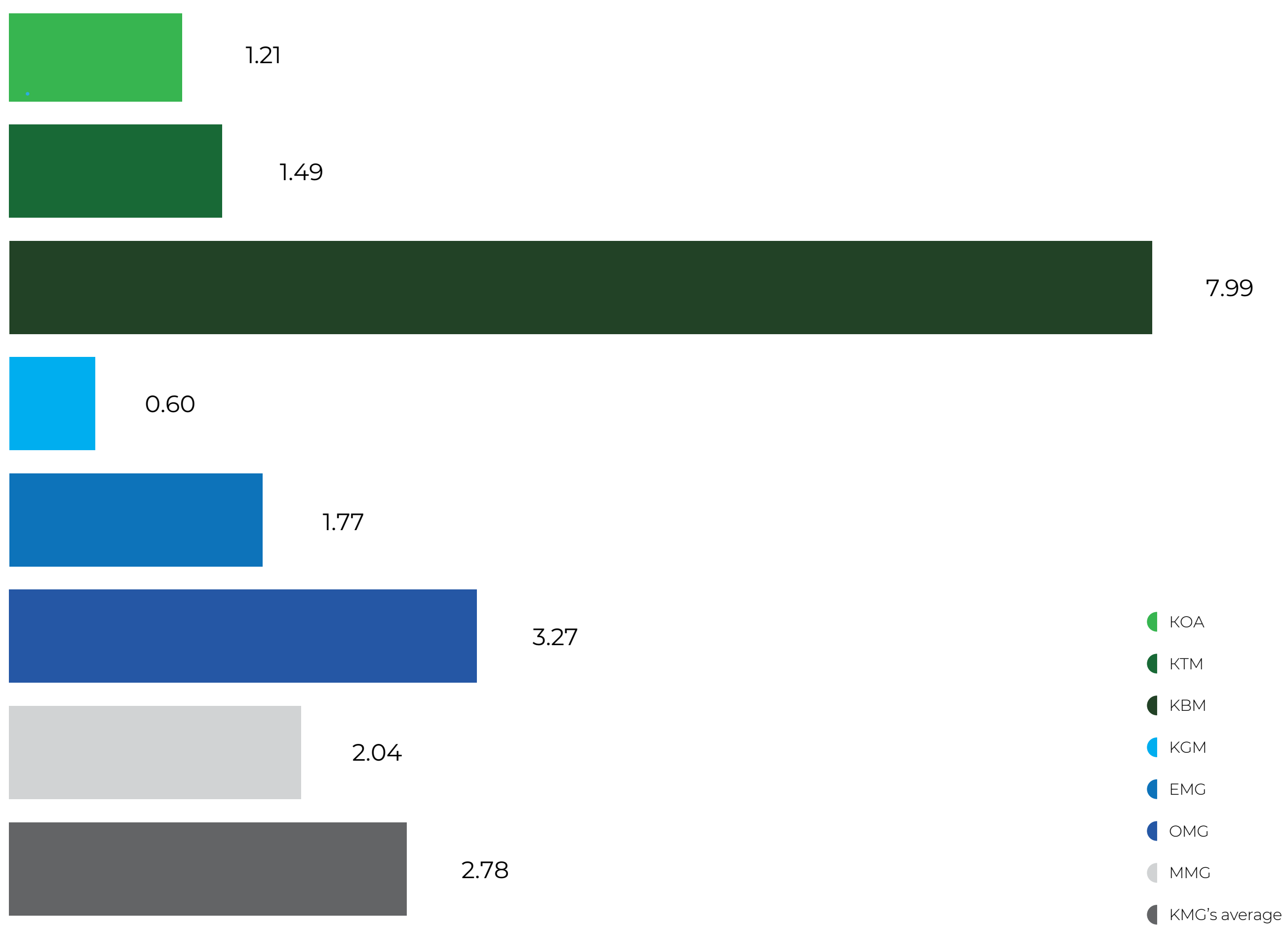
In addition to energy efficiency and energy saving, the Action Plan to implement KMG's Low-Carbon Development Programme places a special emphasis on renewable energy projects and the offset policy, which are expected to help reduce our carbon footprint by 550 thous. tonnes of CO_2.

Currently, KMG has started to develop a feasibility study and explore the wind power potential in the Zhambyl Region, where a 1 GW wind power plant with an energy storage system is planned to be built jointly with Total Eren and Samruk-Kazyna.

The unit capacity of the future wind power plant will account for a half of the total capacity of all existing renewable energy power plants in the country.

KMG carries out similar work to construct a 120 MW hybrid power plant (solar + wind) in the Mangistau Region jointly with Eni.

Energy intensity



Climate change and greenhouse gas emissions

Management

KMG's long-term Development Strategy prioritises the following climate-related initiatives:

1. Greenhouse gas emissions management
2. Reduction of routine flaring
3. Improvement of GHG emissions intensity per unit of production and overall energy efficiency;
4. Reduction of methane leaks
5. Increased financing for green projects

The global trend to fight climate change is increasingly affecting companies across the world. In furtherance of the government policy on the low-carbon development of the country, KMG has approved its 2022–2031 Development Strategy, which meets high safety standards and the sustainable development principles. According to KMG's Development Strategy, gradually reducing the carbon footprint is one of the Company's key priorities.

In addition to the Programme's main focus on improving the energy efficiency of the operating processes and implementing renewable energy projects, the Company is also planning to implement additional decarbonisation measures, specifically: carbon capture, utilisation and storage (CCUS) projects, development of hydrogen energy, and implementation of forest-climate projects.

Risks and opportunities

The corporate risk management system is a key component of the corporate governance system, and is used to identify, evaluate, monitor and mitigate potential risks that may hinder the achievement of strategic goals. The Company implements a range of initiatives to minimise such risks, with risk reports submitted to the Board of Directors on a quarterly basis.

Indicator	2019	2020	2021
Scope 1 direct emissions, tonnes CO_2	7,360,760	6,736,684	6,902 065[1]
Location-based Scope 2 indirect emissions, tonnes CO_2e	3,304,832	3,448,136	3,340,709
Market-based Scope 2 indirect emissions, tonnes CO_2e	3,359,945	3,508,371	3,314,720

Information disclosure

In the CDP's Climate Change Questionnaire, KMG discloses direct and indirect greenhouse gas emissions data, greenhouse gas management issues, and key risks and opportunities for all KMG assets, including international assets in Romania and Georgia, starting from 2019.

In July 2022, the KMG Climate Change 2021 Questionnaire was published. According to the report, the direct carbon dioxide emissions at KMG Group's level totalled 6.9 mln tonnes of CO_2 in 2021.

The greenhouse gas emissions data were verified by independent accredited organisations' reports for each subsidiary or associate. Data for 2022 will be disclosed in KMG's CDP report to be published in 3Q 2023. We are committed to enhancing our disclosures and seek to ensure consistency and comparability when preparing them.

For more details on air protection, see the Sustainability Report.

1 — Of that amount, 6,734,279 mln tonnes of CO_2 were verified, with the remaining 167 thous. tonnes of CO_2 coming from units not covered by quotas calculated by the Company.

Efficient use of raw gas

The management of pollutant and greenhouse gas emissions and the reduction of gas flaring are among the priority tasks for KMG Group. According to the approved Environmental Policy, the Company strives to achieve zero routine gas flaring and reduce atmospheric emissions from flares. In reducing our GHG footprint, we focus on increasing raw gas utilisation and recovery while minimising flaring. The measures taken so far under our raw gas processing and development programmes have increased internal gas use for heat and electricity generation. This contributed to a reduction in emissions of pollutants and greenhouse gases generated by the combustion and dispersion of raw gas.

In 2022, raw gas utilisation rate was 98.8%, with flaring 89% below the 2017 level at 1.5 tonnes per 1,000 tonnes of produced hydrocarbons (2.1 tonnes in 2021 and 2.2 tonnes in 2020), down 29% year-on-year and 84% lower than the IOGP industry average.

In 2015, KMG supported the World Bank's Zero Routine Flaring by 2030 initiative. KMG strives to minimise raw gas flaring. Raw gas flaring reports under the Initiative are submitted on an annual basis to the World Bank's representative office in Kazakhstan.

Raw gas flaring

Indicator	2020	2021	2022
Total raw gas flaring, mln m^3	57.6	52.5	35.7
Raw gas utilisation, %	98	98	98.8
Raw gas flaring rate, tonnes per 1,000 tonnes of produced hydrocarbons	2.2	2.1	1.5

For more details, see KMG's Sustainability Report

Waste management

KMG's production operations generate production and consumption waste. KMG Group develops and implements a set of measures to improve the waste management system, keeps records of waste generated and accumulated, including contractors' waste, and performs the safe accumulation of waste until it is recovered or disposed of. In 2022, KMG's expenses for the recovery of waste generated and accumulated totalled KZT 14.37 bln.

It is important to emphasise that in selecting waste recovery methods, priority is given to modern technologies, including those that cause no secondary pollution of the environment.

On 6 August 2019, a memorandum of cooperation was signed by and between the Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan and KMG with historical oily waste disposal and oil contaminated soil remediation commitments until 2024, inclusively. The memorandum covers Mangistaumunaigaz, Ozenmunaigas, and Karazhanbasmunai.

Starting September 2019, inventories of contract lands were conducted to determine waste characteristics, the content of oil products in the waste, and the waste volume. On the basis of the inventories data, the relevant remediation projects for oil-contaminated soil were developed and agreed upon with the government authorities, with safe and efficient technologies for oily waste disposal selected and recommended and schedules drawn up for oil-contaminated soil remediation through the year 2024, inclusively.

In addition, although Embamunaigas and Kazakhturkmunay are not covered by the commitments under the memorandum, they work to eliminate historical pollution too.

All of the above companies have entered into long-term contracts with organisations specialising in the disposal of historical oily waste and clean-up of oil-contaminated soil.

In 2022, a total of 693.7 thous. tonnes of historical waste was disposed of at KMG subsidiaries' and associates' facilities, with their disposal sites remediated.

For more details on waste management, see KMG's Sustainability Report.

Asset retirement obligations

Oil and gas assets

Under the terms of certain contracts, in accordance with legislation and regulatory legal acts, KMG has legal obligations to dismantle and liquidate fixed assets and restore land plots at each of the fields. In particular, KMG's obligations include the gradual closure of all non-productive wells and actions to permanently terminate operations, such as dismantling pipelines, buildings and reclamation of the contract area, as well as decommissioning and obligations to prevent environmental pollution at the production site.

The Company calculates asset retirement obligations separately for each contract. The amount of the liability is the present value of the estimated costs that are expected to be required to settle the liability, adjusted for the expected inflation rate and discounted using average long-term risk-free interest rates on government debt of transition economies, adjusted for risks inherent in the Kazakhstan market.

As of 31 December 2021, the carrying amount of the Company's provision for liabilities to liquidate oil and gas assets was KZT 67 bln (31 December 2020: KZT 66 bln) (for details, see Note 4 in the consolidated financial statements).

Oil and gas trunklines

In accordance with the Law of the Republic of Kazakhstan On Trunk Pipeline, which entered into force on 4 July 2012, KMG's subsidiary KazTransOil has a legal obligation to liquidate the trunkline after the end of operation and implement subsequent measures to restore the environment, including land reclamation. The provision for the obligation to abandon pipelines and land reclamation is estimated based on the cost of dismantling and reclamation works calculated by KMG. As of 31 December 2022, the carrying amount of KMG Group's provision for the obligation to abandon pipelines and reclaim land of the Company amounted to KZT 41 bln (as of 31 December 2021: KZT 36 bln) (for details, see Note 4 in the consolidated financial statements).

Environmental remediation

KMG also makes estimates and makes judgements on creating provisions for obligations for environmental clean-up and rehabilitation.

Environmental costs are capitalised as an expense based on or attributable to their future economic benefits.

The Company's environmental remediation provision represents management's best estimates based on an independent assessment of the expected costs required for KMG Group to comply with the existing Kazakh and European regulatory frameworks. As of 31 December 2021, the carrying amount of the provision for environmental liabilities was KZT 63 bln (31 December 2020: KZT 65 bln) (for details, see Note 26 in the consolidated financial statements).

Water protection

Water is an integral part of all KMG production processes. In its activities, the Company strives to reduce water consumption, increase water use efficiency, drive up water reuse and recycling, improve the quality of effluents, and minimise the impact on natural water bodies.

KMG is a vertically integrated company engaged in the production, transportation, and processing of hydrocarbons. All processes consume a lot of water. KMG takes water from surface and underground sources, municipal water supply systems, and the Caspian Sea. Wastewater from KMG's operations mainly goes to specialised receivers: storage ponds, and evaporation and filtration fields. Those facilities are technical structures designed for natural treatment of wastewater and preventing environmental pollution.

Operations that do not have their own storage facilities transfer wastewater to dedicated companies for treatment and disposal. The quality standards for discharged water established by environmental laws are met through the use of mechanical and biological methods of effluent treatment. However, no wastewater is discharged into surface natural water bodies.

In 2023, KMG Group's Water Resources Management Programme is planned to be developed and approved.

The Tazalyq project is one of the key ongoing environmental initiatives of Atyrau Refinery. It includes two stages, which are an upgrade of the refinery's mechanical treatment facilities and the channel for wastewater treated to standard quality (construction of a pipeline), and reclamation of the evaporation fields (860 ha).

The fields upgrade is phased, dividing the 860 ha site into four sectors.

- The first phase (from June 2021 to August 2022) involved the draining and remediation of sectors 1 and 2 and construction of the pipeline, which took the channel's place.
- During the second phase (from September 2022 to December 2023), sectors 3 and 4 will be drained and remediated to complete the reclamation of the Tukhlaya Balka evaporation fields.

The pipeline to Atyrau's sewage treatment plants has been laid in full. Sectors 1 and 2 of the fields have been drained completely, with a biological agent now being introduced there. The fields reclamation is expected to be completed in late 2023.

Construction of desalination plants near the Kenderly recreational area, Mangistau Region

KMG is implementing a project to build a 50,000 m3 per day seawater desalination factory with a trunk pipeline next to the Kenderly recreational area. The purpose of the project is to provide drinking water to the population of the city of Zhanaozen to address the existing water shortage and reduce the load on the Astrakhan – Mangyshlak main water pipeline. At the moment, the project is planned to be implemented in 2021–2024.

Karazhanbasmunai

On 1 July 2022, test operation started at the formation water desalination plant at the Karazhanbas field. The strategically important facility is now running in normal mode in line with technical standards.

Karazhanbasmunai uses Volga River water from the Astrakhan – Mangyshlak water pipeline. The plant is set to make the field self-sufficient in terms of water supply and free up significant amounts of water for local residents. At full capacity, it will boast a throughput and output of 42.5 thous. and 17 thous. m3 per day respectively.

This facility creates a multiplicative effect in a variety of areas. In addition to providing water supply, it is expected to help Karazhanbasmunai increase production volumes, reduce the need for well workovers and services, and cut cratering rates.

CDP

KMG Group's water footprint and water management disclosures were posted on the CDP's website as part of the 2021 Water Security Questionnaire. Data for 2022 will be disclosed in 3Q 2023.

For more details, see KMG's published reports, which are publicly available at: CDP 2021 Water Security Questionnaire

For more details on KMG's water management and related projects, see KMG's Sustainability Report.

Occupational health and safety

KMG and its subsidiaries and associates prioritise the life and health of employees over the results of production activities and put a special emphasis on the elimination of hazardous production factors in occupational health and safety.

KMG's Occupational Health and Safety Policy seeks to engage every employee in building a robust safety culture. Management teams at KMG and its subsidiaries and associates take a zero tolerance approach to losses and damage caused by accidents (including traffic accidents), emergencies, as well as by the use of alcohol, narcotic drugs, psychotropic substances or their analogues. KMG is committed to ensuring compliance with both national laws and relevant international and national standards. The Company will continue to work to ensure a high level of production safety in accordance with global standards and best practices.

Accident and fatality rates

Indicator	2022	2021	2020	IOGP[1]
Lost Time Incident Rate (LTIR), per mln person-hours	0.36	0.31	0.29[2]	0.19
Fatal Accident Rate (FAR), per 100 mln person-hours	1.00	2.93	0.0	0.29

2022 highlights

As one of the industry leaders in Kazakhstan, KMG places a strong emphasis on health and safety of its employees and local communities across its footprint. According to our employees, the Company creates safe working conditions and complies with the highest standards to ensure health and safety at the workplace.

In 2022, the number of work-related fatalities decreased by 67% year-on-year (from 3 fatal accidents in 2021 to 1 in 2022). There was one fatal work-related accident where one employee died (as a result of a rupture of the Aktau–Zhetybai water pipeline of the Water Production and Transportation Department, Mangistau Region).

The number of injuries associated with workplace accidents went up by 12.5% year-on-year (from 32 injuries in 2021 to 36 in 2022).

The number of road accidents dropped by 4.5% (from 22 in 2021 to 21 in 2022), while the number of fires fell by 83% (from 6 in 2021 to 1 in 2022).

Key highlights	Unit	2020	2021	2022	Change 2022/2021	%
Accidents	Acc.	30	28	35	7	25
Number of injuries	People	32	32	36	4	12.5
Including fatalities	People	0	3	1	–2	–67
Road accidents	Acc.	14	22	24	2	9
Fires	Acc.	6	6	1	–5	–83

1 — Available data on the International Association of Oil & Gas Producers (IOGP) performance indicators for 2021 (https://www.iogp.org/).
2 — Data without hours worked of KazTransGas.

Process safety management

As part of its efforts to implement KMG Group's Corporate Standard for Process Safety Management and improve safety culture at subsidiaries and associates, the Company held workshops at its Corporate Centre and major subsidiaries and associates (Ozenmunaigas, Mangistaumunaigas, Embamunaigas) for managers and engineering and technical employees responsible for industrial safety (128 employees in total).

During these workshops, employees were informed on measures to organise and ensure safety of production processes / manage barriers taking into account best global practices in the oil and gas industry (TCO) and the IOGP recommendations.

In addition, the participants reviewed case studies of preventive safety barriers for each of KMG's business segments with due regard to the nature of relevant operations.

The final part of the workshops focused on the main tools (ways) to check and assess barriers in KMG subsidiaries and associates (based on existing methods, programmes and practices), and the roles and responsibilities of KMG's and its subsidiaries and associates' staff in managing process safety/barriers.

In 2023, along with further work in this area the Group plans to start implementing the IOGP Process Safety Fundamentals across KMG subsidiaries and associates.

Transport safety

In terms of road accident statistics, noteworthy are risk factors for accidents that are beyond control of the Company. One such factor is a large number of vehicles – more than 11,000 across the Company. The second factor is the geography of the Company's subsidiaries scattered across the Republic of Kazakhstan, as well as their location in big cities and towns where there is a high risk of road accidents due to the fault of a third party. For example, 14, or 58%, of 24 road accidents that occurred in 2022 were caused by third parties.

To reduce the risk of road accidents, the Company implemented the following set of measures to ensure transport safety.

- In 2022, 368 employees of KMG subsidiaries and associates (Karazhanbasmunai, Oil Transport Corporation, KMG-Security) were trained in defensive driving.
- An action plan to improve transport/road safety at KazMunayGas was drafted and submitted for consideration.
- A Trip Management project was piloted by Embamunaigas. Given the positive effect in terms of Embamunaigas transport safety following the launch of the Trip Management automated vehicle monitoring system, the Trip Management project is to be rolled out in stages from 2023 to 2025 to Ozenmunaigaz, Mangistaumunaigaz, Karazhanbasmunai, KazTransOil, Oil Services Company, Oil Transport Corporation, and KMG Service.

Fire safety

In 2022, one fire occurred in KMG Group (in 2021, there were six fires, of which three fires resulted in injuries, fatalities and significant material damage), in the area of 8 m2 in the technical trailer on the territory of the Drilling Works Department, with no injuries and the damage of KZT 195,000. The fire was caused by violations in the operation of electrical equipment.

To strengthen compliance with fire safety requirements, KMG developed and approved the Integrated Fire Safety Action Plan for 2022–2024, providing for short-, medium-, and long-term measures as well as preventive initiatives.

In accordance with the integrated plan and in preparation for the fire season, a comprehensive fire drill was held at Mangistaumunaigas field on 1 April 2022. The event was attended by the Vice Minister for Emergency Situations of the Republic of Kazakhstan, management teams of the Emergency Situations Department in charge of four Kazakhstan regions, and KMG Health, Safety and Environment Department.

On 7 October 2022, the representatives of Samruk-Kazyna, the Ministry of Emergency Situations and the Ministry of Energy attended similar fire drills at the Mangistau Oil Pipeline Department of KazTransOil.

The reporting year saw scheduled fire drills held in all subsidiaries and associates.

In May and September 2022, KMG Corporate Centre conducted fire drills involving people evacuation and extinguishing of a simulated fire in the building.

To provide methodological assistance and ensure fire safety, KMG subsidiaries and associates drafted and circulated letters explaining fire safety standards and reminding of increased fire safety measures during fire, heating, and holiday seasons. Regional seminars on measures to improve fire safety in KMG Group were also held in Astana, Zhanaozen, Aktau and Atyrau.

The following initiatives are planned for 2023 to improve fire safety:

- implementing mid-term measures under the Integrated Fire Safety Action Plan for 2022–2024;
- checking the preparedness of subsidiaries and associates and private firefighting services to prevent and extinguish fires at the Company's facilities.

Digitisation of HSE processes

Trip Management project

The reporting year saw the completion of a pilot project to implement an automated vehicle monitoring system. The Trip Management project initiated to improve transport safety, foster a safe driving culture, and establish a single centralised digital platform yielded the following results:

- speed limit violations reduced by 62%;
- 591 speed limit signs installed/updated on roads of EMG production units;
- a rating on the basis of scores for the driving style and recorded violations introduced;
- an up-to-date electronic map of field and unpaved roads and coordinates of EMG field facilities drawn;
- a new functionality implemented (trip tickets, deviations from the route, online notifications).

KMG plans a phased rollout of the Trip Management project to other subsidiaries and associates. Next steps:

- analysing the maturity of processes in subsidiaries and associates with account of the level of automation and availability of GPS trackers;
- preparing individual programmes to develop transport management processes in each subsidiary and associate;
- introducing the transport management system in phases with a focus on road safety.

Improving the HSE management system

To protect the life and health of employees during the operation and maintenance of land vehicles, prevent road accidents and reduce their severity, the Group updated and approved the Policy for Safe Operation of Land Vehicles and the Regulations for Safe Operation of Land Vehicles. All subsidiaries and associates initiated and approved similar internal documents. The requirements of the Policy and Regulations were explained and communicated to all employees via email and/or at briefings.

On 1 March 2022, KMG officially joined Vision Zero, a global campaign for zero accidents.

It presents a transformational approach to prevention that integrates the three dimensions of safety, health and well-being at all levels of work. The Vision Zero concept developed by the International Social Security Association (ISSA) is flexible and can be adjusted to the specific safety, health or well-being priorities for prevention in any given context.

It implies a sequence of actions required for employers to keep workers as safe as possible and create optimal working conditions for them, while also calling for stronger employee accountably for keeping both themselves and their colleagues safe.

In 2018, KMG decided to join the International Association of Oil and Gas Producers (IOGP) as a full member.

Over the years of its membership in IOGP, KMG has learnt and applied IOGP best global practices and recommendations, which has had a positive effect on KMG's performance and overall HSE management system, as well as KMG's capabilities and rating on the international scale. In 2022, KMG adopted IOGP's universal Life-Saving Rules to replace group-wide Golden Rules previously in effect.

Since 1991, IOGP has analysed 2,000 fatal accidents at some 100 IOGP member companies and identified the most frequent safety violations.

To prevent these violations, nine vital life-saving rules have been drafted to inform workers of actions they can take to protect themselves and their colleagues from fatalities.

For more details on occupational health and safety, see KMG's Sustainability Report.

Occupational health and hygiene

The Company manages occupational health and hygiene matters in accordance with Kazakh laws and international occupational health standards. KMG is strongly focused on employee health protection and improvement, irrespective of the specific production process involved.

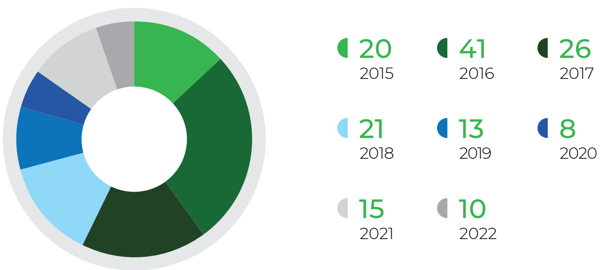
The number of non-injury related fatalities among employees of subsidiaries and associates reduced by seven incidents, or 46%, year-on-year, the main reason behind these fatalities being cardiovascular diseases.

As part of strategic initiative 24 Personnel Health Management under the KMG Development Strategy for 2022–2031, the Company developed and approved internal documents on occupational health and hygiene:

- Employee Health Management Programme;
- Corporate Standard on Mandatory Medical Examinations;
- Regulations on Drafting a Group-wide Standard Programme of Occupational Hygiene.

To pursue relevant goals, KMG Group will approve an Employee Health Management Action Plan for 2023–2025.

Fatalities not related to injuries



For more details on employee health management, see KMG's Sustainability Report.

PERSONNEL DEVELOPMENT

Social responsibility

KMG's Code of Corporate Social Responsibility is developed according to the Company's Development Strategy to ensure social stability of operations, provide social support to employees, contribute to the development of the regions of operation, promote social partnership, and grow human capital.

The Company achieves its key social responsibility objectives through the existing systems of internal communications between employers and employees, cooperation with local executive bodies and trade unions, and fair collective bargaining with employees.

KMG complies with the legal and regulatory requirements applicable in the Republic of Kazakhstan, as well as with international laws and treaties regulating oil companies, and is aware of its responsibility to shareholders, communities, and investors for the impact on the economy, environment, and society, for the creation of long-term business value, and for sustainable growth in the long run. All employees of the Company have the right to safe and healthy working conditions, recognition and fair evaluation of their contribution to the Company, assistance in enhancing their professional skills, and an open and constructive discussion of the quality and effectiveness of their work. The Company has a zero tolerance policy for discrimination by nationality, race, religion, age, gender, political beliefs or other grounds.

We promote meritocracy, fairness, and integrity while providing every employee with a workplace conducive to new achievements and assessing their respective contributions to the Company's overall success based on merit. We also foster a culture of understanding and engagement, and support among our employees at all levels.

Social stability

KMG strives to ensure social stability at its enterprises through a constructive dialogue with employee representatives and aims to prevent any protests. We make ongoing comprehensive efforts to maintain social stability, including measures implemented under the group-wide social policy. Among other things, we carry out scheduled activities to improve social stability in subsidiaries and associates, compile a Social Stability Index, leverage internal communications, engage with contractors.

To maintain social stability at our enterprises, we are implementing a 2022 action plan to enhance social stability at subsidiaries and associates.

The action plan relies on Samruk Research Services surveys carried out by the Social Partnership Centre at Samruk-Kazyna for all major KMG subsidiaries and associates.

In 2022, KMG's integrated index under Samruk Research Services was 74%.

Overall, social stability across KMG's teams was assessed as satisfactory. In terms of social well-being, there was a decline in employee satisfaction with the level of wages, which was directly related to the last year's increase in prices for basic food and non-food products.

In 2022, there were 11 cases of dissatisfaction among employees of KMG subsidiaries and associates at the beginning of the reporting year against the background of the January events in the country as a whole. The reason for the said dissatisfaction was an increase in liquefied gas prices due to the transition to the market pricing mechanism, which in turn intensified the protest sentiment among employees of KMG subsidiaries and associates. In February 2022, some employees of Ozenmunaigas suspended work in Zhanaozen requesting a wage increase of at least 40%. Following negotiations with trade union leaders and meetings with employees, KMG made a decision to increase wages by 30% vs 2021 to stabilise the situation, ensure seamless operation of facilities and prevent further conflict escalation.

Alongside this, all KMG subsidiaries and associates developed their own road maps for five years (2023–2027) to improve employees' working conditions and recreation. In 2023, KMG subsidiaries and associates plan to build over 40 social infrastructure facilities (canteens, administrative and production buildings, accommodation camps, etc.) and overhaul 115 social infrastructure facilities.

At the beginning of the year, there was a widespread dissatisfaction among third-party contractors over employee wages. To ensure social stability in the regions of operation, including the Mangistau, Atyrau, and Pavlodar regions, we worked to reduce the wage gap between KMG subsidiaries and associates and their contractors. To this end, 199 additional agreements were signed for the Mangistau, Atyrau, and Pavlodar regions. For more details, see the Subsidiary and Associate Interaction with Contractors subsection.

Employee headcount

KMG Group employs more than 47,000 people across its regions of operation. The actual headcount for KMG Group at the end of 2022 was 47,526 people, of whom 44,688 were full-time employees, while 2,838 employees were outstaffed.

1 — Samruk Research Services is a sociological survey that reveals employees' mood, their social harmony, and the level of protest sentiment. In addition, the index helps identify matters of concern for employees of individual enterprises.

Indicator	Unit	2020	2021	2022
Actual headcount for KMG Group (consolidated)	Employee	60,173	47,437	47,526

Indicator	Unit	2020	2021	2022
· Male	%	81	82	82
· Female	%	19	18	18
Blue-collar employees	%	92	92	92
White-collar employees	%	8	8	8
Employees aged 31 to 50, including:	%	60	59	59
· Male	%	80	81	81
· Female	%	20	19	19
Employees aged over 50, including:	%	28	29	30
· Male	%	82	81	81
· Female	%	18	19	19
Employees aged under 30, including:	%	12	12	11
· Male	%	83	86	86
· Female	%	17	14	14
Jobs created	jobs	961	945	88
Of average headcount	%	1.6	2.1	0.2
Employment terminated[2]	employee	3,513	2,757	3,123
Managers at all levels, including:	%	11	11	10
· Male	%	82	82	82
· Female	%	18	18	18
Turnover rate for KMG Group	%	6	6	7[2]

Given that the Company operates in harsh and hazardous conditions, 82% of employees are male and 19% are female. Blue-collar employees account for 92% of the total headcount, while white-collar employees make up 8%.

In terms of age, the majority of employees (59%) are between 31 and 50 years old, and of those 81% are male and 19% are female.

Employees aged over 50 account for 30% of the total headcount; 81% of them are male and 19% are female.

The share of young people aged under 30 is 11% of the total headcount, including 86% male and 14% female employees.

In 2022, KMG created 88 jobs, which accounts for 0.2% of the average headcount. The number of employees whose employment was terminated in the reporting period is 3,123.

The percentage of employees who are managers at all levels is 10% of the total headcount. 18% (2021: also 18%) of managers are female and 82% (2021: also 82%) are male.

The 2022 turnover rate for KMG Group was 7% (2021: 6%).

2 — Includes employees from consolidated companies with an ownership interest of 51% or above.

DEVELOPMENT OF THE COMPANY'S REGIONS OF OPERATION

KMG contributes to social and economic development in its regions of operation. We actively cooperate with local authorities, maintain an ongoing dialogue with key stakeholders, and focus on training and development of young skilled talent. We also run social initiatives for KMG Group's employees and are committed to supporting domestic producers through off-take agreements. Among other things, KMG Group companies invest in the development of socially important facilities, construction of sports complexes, and regional social and economic development under subsoil use contracts and the Comprehensive Development Plan.

The subsoil use contracts signed by KMG subsidiaries provide for significant investment in developing the regions of operation and social support to vulnerable population groups. The Company's subsidiaries and associates also provide funds to local executive bodies, which are further distributed in line with the needs of local communities under agreements and memoranda concluded with the akimats of the respective regions. On top of that, KMG makes timely progress on its commitments under the Zhanaozen Comprehensive Development Plan. In 2022, the Group allocated over KZT 12 bln to its regions of operation, with the main share of contributions towards the development of the Atyrau and Mangistau regions coming from KMG Kashagan B.V., a 100% subsidiary of KMG from 15 September 2022. The funds were allocated by the Group's entities as follows:

- Ozenmunaigas allocated KZT 1,700 mln to finance the development of social infrastructure in Zhanaozen and the Karakiya District.
- Embamunaigas contributed KZT 831 mln for the construction of schools in Kulsary (the Zhylyoi District) and Atyrau.
- Kazgermunai invested KZT 149 mln in social, economic and infrastructure development of the Kyzylorda Region.
- Karazhanbasmunai allocated KZT 480 mln to support social, economic and infrastructure development of the Mangistau Region as part of an agreement with the local akimat.
- Kazakhoil Aktobe contributed KZT 169 mln to the social, economic and infrastructure development of the Aktobe Region, with another KZT 46 mln coming from Kazakhturkmunay. In addition, Kazakhturkmunay transferred KZT 44 mln to the Mangistau Region's akimat under the contract signed.

In the reporting period, social projects worth over KZT 8 bln were completed using the funds of KMG Kashagan B.V., such as the improvement of microdistricts, construction of a 500-bed student hostel in Aktau, and the construction of a three-storey 60-apartment block of flats in Kulsary, Atyrau Region. The reporting year saw the commencement of projects to construct a 50-bed family outpatient clinic in the Bereke microdistrict, an 80-bed annex to the regional children rehabilitation centre, a kindergarten for 160 children in the Orleu residential area (Taskala-2) in Atyrau, a three-storey 60-apartment block of flats in the Miyaly village of the Kyzylkoga District, a three-storey 60-apartment block of flats in the Makhambet village of the Makhambet District, and a three-storey 60-apartment block of flats in the Akkystau village of the Atyrau Region. The construction of the Schoolchildren Palace for kids and teenagers in Aktau started in 2021 and is currently underway.

Indicator	2020	2021	2022
Funds transferred to local executive bodies (under subsoil use contracts), KZT bln	4.5	8[1]	11.7[2]

1 — This amount includes KZT 5 bln transferred to local executive bodies and KZT 3 bln allocated under the Zhanaozen Comprehensive Development Plan.
2 — The main share of KMG's contributions towards the development of the Atyrau and Mangistau regions came from KMG Kashagan B.V., a 100% subsidiary of KMG from 15 September 2022.

Charity and sponsorship

Samruk-Kazyna Trust Social Development Foundation, Samruk-Kazyna Group's unified charity operator, is responsible for the Company's charitable and sponsorship activities.

Samruk-Kazyna Trust's charitable initiatives focus on assisting people and communities in the social and medical sectors, developing media and cultural communities, fostering human resources, enhancing labour and inter-ethnic relations, investing in sustainable development, and supporting regional business initiatives.

The 2022 budget covered 43 projects totalling KZT 10.4 bln, of which four projects were completed or are ongoing taking into account KMG's needs:

- Zharylkau non-governmental foundation – a KZT 168.9 mln project to upgrade the infrastructure and equipment of Zhanaozen's secondary schools;
- IQanat Educational Foundation – an IQanat-Zharkyn Bolashak project totalling KZT 253 mln;
- Bilim Foundation – a Zharkyn Bolashak project worth KZT 292.5 mln;
- Construction Company corporate foundation – a KZT 1.01 bln project to build sports grounds in Zhanaozen and Zhetybai.

In 2022, the Management Board of Samruk-Kazyna Trust Social Development Foundation approved the Rules for Planning, Review and Pre-Approval of Charitable Support (Charitable Projects) by Samruk-Kazyna Group entities. These Rules sets limits to donations from KMG and its subsidiaries and associates. In 2023, KMG plans to adopt a charity policy drawing on these Rules.

In 2022, the Foundation's Board of Directors resolved to expand the Charity Programme of Samruk-Kazyna, with certain social projects implemented by:

- Ozenmunaigas – a KZT 8,224,545 project to build a Schoolchildren Palace in Zhanaozen of the Mangistau Region with an estimated capacity of 500 children per shift;
- Embamunaigas – 1) construction of a special school for 150 disabled children in the Zhylyoi District of the Atyrau Region, totalling KZT 591,832,863; 2) construction of four multifunctional sports grounds in the settlements of Dossor and Makat (Makat District), Mukur (Kyzylkoga District), Akkistau (Isatay District, Atyrau Region) for a total of below KZT 706,228,840.

KMG subsidiaries also provided charitable assistance to local communities in the Atyrau, Mangistau, Aktobe, Kyzylorda, Turkestan, Pavlodar, West Kazakhstan regions and the city of Astana for over KZT 2.5 bln.

Student and young talent engagement

KMG Group pays special attention to engaging with students and young specialists. We actively cooperate with educational institutions in the regions of operation with due regard to the industry's development trends and modern technological requirements.

A dual education programme is running on a permanent basis at Embamunaigas, Pavlodar Refinery, Atyrau Refinery and Karazhanbasmunai in Aktau. In 2022, 26 graduates of the programme got jobs at KMG production facilities.

KMG Engineering, an R&D company, runs a niche expertise training programme for young specialists jointly with the Safi Utebayev University of Oil and Gas in Atyrau. Ten students of the Oil and Gas University are currently taking classes under the programme; they also receive advance training and get hands-on experience at KMG Engineering.

In 2022, KMG together with Mangistaumunaigas implemented a unique project to train the unemployed youth of the Mangistau Region on the basis of Sh. Yessenov State Engineering and Technology University. This project met the need to ensure the stability of social, labour and economic relations and to achieve strategic goals and objectives in sustainable development, namely, to reduce unemployment in the Mangistau Region.

Mangistaumunaigas helped deliver an educational programme featuring intensive training for the unemployed. This helped them master the knowledge and skills needed for further employment and adaptation at the workplace. The programme resulted in 223 people finding jobs with Mangistaumunaigas – first jobs for most of them.

In addition, KMG Group cooperates with Kazakhstan's universities and vocational schools to organise and conduct pre-graduation internships and work placements for students.

Unified internal communications system

To promote dialogue between employers and employees, improve the social and psychological environment for the Group's staff, nurture ongoing contact with employees and ensure a feedback mechanism across KMG enterprises, a unified system of internal communications between employers and employees is in place. Among other things, it rests on reporting meetings between KMG's subsidiaries' chief executive officers and employees at least twice a year. At the meetings, CEOs inform employees about the current situation as regards economics, work scopes, production targets, occupational health and safety, HR and social issues, and answer their questions.

Other types of internal communications include:
- ad-hoc meetings between management and trade unions/employees to discuss urgent issues requiring immediate decisions;
- corporate information website and newspaper;
- a screen for video announcements; a box for employees' proposals;
- teambuilding: professional skills competitions, sporting events, corporate parties, etc.

The Regulations enable any employee to ask questions and receive a timely response.

In 2022, 20 subsidiaries and associates with blue-collar employees held about 80 reporting meetings. Common questions raised by employees at the meetings were wage increases, the employment of personnel's children, specific questions on health care, and those related to improving working conditions, including the need to repair or construct buildings and facilities. All questions were answered and relevant decisions were made.

Social support for employees

KMG Group has a Standard Collective Bargaining Agreement Form for Group companies that defines the types of social support for employees of KMG subsidiaries and associates and rules for providing it.

According to KMG Group collective bargaining agreements, there are 35 types of social support. In the reporting period, all the terms and conditions of collective bargaining agreements were met and maintained across all KMG enterprises, regardless of their financial and economic situation. In 2022, KMG signed updated collective bargaining agreements with Karazhanbasmunai, the Water Production and Transportation Department, Ken-Kurylys-Service, Kazakhturkmunay, Atyrau Refinery, PetroKazakhstan Oil Products, MangistauEnergoMunay and Munaytelecom due to the expiry of their terms; many social benefit amounts were raised as per the current standards for KMG Group. The amount of social benefits significantly increased compared to previous periods.

In 2022, KMG Group companies spent approximately KZT 24 bln on social support for their employees, including social support for unemployed retirees.

Parameter	2020	2021	2022
Social support for employees, KZT bln	21	22	24

Distribution of social support for employees of KMG Group

Indicator	%
Health insurance for employees and their families	33
Financial assistance to retirees	17
Recreation / improvement of employees' housing conditions / attendance of sports institutions	15
Financial assistance related to the birth of children / pregnancy and childbirth / parental leave / payment for preschool institutions / purchase of school supplies for the start of the school year	13
Financial assistance to large families and low-income families / workers in special need / disabled people, workers with a spouse and/or children with disabilities from childhood (1st, 2nd and 3rd groups) / in connection with the death of an employee / employee's family members / due to general inability to work or disability / financial assistance to pay for medical treatment / internationalist soldiers (Afghans) / participants in the liquidation of the Chernobyl accident, Semipalatinsk Test Site / temporary disability benefit based on preferential conditions	8
Anniversary / retirement age benefits	6
Other types of social support	8

In 2022, KMG Group conducted 177 audits of contractors for compliance with labour laws, of which 156 were scheduled and 21 were ad hoc. The audits identified salary and employment at KMG subsidiaries and associates as the key labour issues.

177 audits

conducted by KMG Group in 2022

Subsidiary and associate interaction with contractors

KMG approved regulations on interactions with contractors to ensure labour guarantees for their employees.

To make contractors deliver on their labour commitments, 21 KMG subsidiaries and associates included the regulations' requirements in their contractual obligations

To centralise this work, the Corporate Centre set up a contractor relations office, with relevant structural units (IR) established at subsidiaries and associates. These units monitor and control compliance with labour laws and the provision of social and living conditions.

In the Mangistau Region, 12 subsidiaries and associates established standalone IR units, while in one subsidiary IR is part of other units.

In the Atyrau Region, three subsidiaries and associates launched standalone IR functions.

In the Aktobe Region one subsidiary set up an IR function and two others integrated it with other domains.

Subsidiaries and associates in Pavlodar and Kyzylorda regions and Shymkent combine contractor relations with other functions.

All subsidiaries and associates have officers in charge of checking contractors for compliance with the applicable labour laws.

From the start of 2022, to ensure social stability in the Mangistau, Atyrau, and Pavlodar regions, KMG took steps to reduce the wage gap between KMG subsidiaries and associates and their contractors. For this purpose, the following measures were put in place:
- wages of contractor employees were increased,
- a decision was made to adjust contractors' wages annually for inflation, in line with those of the client,
- guaranteed social benefits for contractor employees were introduced.

These activities were coordinated with the Interdepartmental Headquarters for Addressing Issues of the Zhanaozen, Atyrau and Pavlodar regions.

To formalise these changes and an increase in contractual prices, KMG subsidiaries and associates of the Mangistau Region signed 158 additional agreements with contractors. Measures taken to increase wages cover more than 19 thous. employees. On average, wage increases range from 35 to 40%. In monetary terms, the signed additional agreements total KZT 37.2 bln.

Additionally, 12 agreements were signed in the Atyrau Region. Measures taken to increase wages cover over 1.3 thous. employees. On average, wage increases range from 13% to 76%. In monetary terms, the amount of signed additional agreements stands at KZT 3.5 bln.

In the Pavlodar Region, 29 additional agreements were signed. Measures taken to increase wages cover more than 2.4 thous. employees. On average, wage increases range from 14% to 56%. In monetary terms, the signed additional agreements total KZT 5.9 bln.

Company-wide events

KMG Group holds various events every year. For example, we organise a corporate sports competition and the Uzdyk Maman competition to promote a healthy lifestyle and professional development

Uzdyk Maman professional skills competition

Akshabulak and Nuraly fields of Kazgermunai hosted the competition that took place from 3 to 7 October 2022. Among the participants were the representatives of 17 KMG subsidiaries and associates specialising in 13 areas: operators of oil and gas production, well testing operators, reservoir pressure maintenance operators, oil treatment operators, processing unit operators, well workover and servicing teams, fitters, electric and gas welders, electricians, chemical analysis laboratory technicians, compressor operators and lathe operators.

Those who came first in KMG subsidiaries' internal competitions took part in the corporate one.

During a theory test, participants completed an online form. There was a special KMG commission that drew up regulations for practical assignments and approved equipment, tools, and workplaces. The results of the practical section were reviewed by the jury from among the production personnel of KMG enterprises.

The awards ceremony took place at the Bekezhanov Drama Theatre and featured a performance by musicians from the Kyzylorda Region.

The winners were awarded with Uzdyk Maman medals and diplomas. They were also invited to the KMG meeting timed to coincide with Kazakhstan's Republic Day and attended by the Chairman of KMG Management Board. A total of more than 230 people took part in the event, including 120 competitors.

KMG sports competition

In 2022, KMG Group held a corporate sports competition for team building purposes.

Eight groups of over 1,600 people from 33 enterprises took part in the two-stage competition. The first qualifying stage for eight groups distributed by location of subsidiaries and associates ended on 18 July 2022. The final part of the competition, which ran from 8 to 12 August 2022 in Atyrau, saw some 400 representatives of subsidiaries and associates as participants.

Competitions were held in minifootball, volleyball, basketball, table tennis, tennis, chess, swimming, togyzkumalak, Arkan Tartu, and athletics.

The Super Cup went to the team of NC KMG.

PRIORITY AREAS OF OUR SOCIAL POLICY

Training and professional development programmes

The main objective of the Company's personnel development programmes is to ensure the progressive success of KMG by promoting employee efficiency improvements based on the knowledge, skills and competencies that fully meet corporate needs and contribute to the Company's strategic goals.

Leadership Training Programme

The Company is proceeding with its MANSAP project to develop the Succession Plan for Key Positions within KMG Group.

Jointly with the Moscow School of Management SKOLKOVO we implemented the Leadership Training Programme, a succession development plan for A pool positions. Pool contenders successfully completed the programme modules focusing on strategy implementation and change management skills.

The Company also developed and launched a succession development programme for B pool positions – On the Path to Improvement. This programme is geared towards the Company's strategic goals and a competence and value model. The development of relevant skills will help leaders from the middle management team deliver on KMG's strategy.

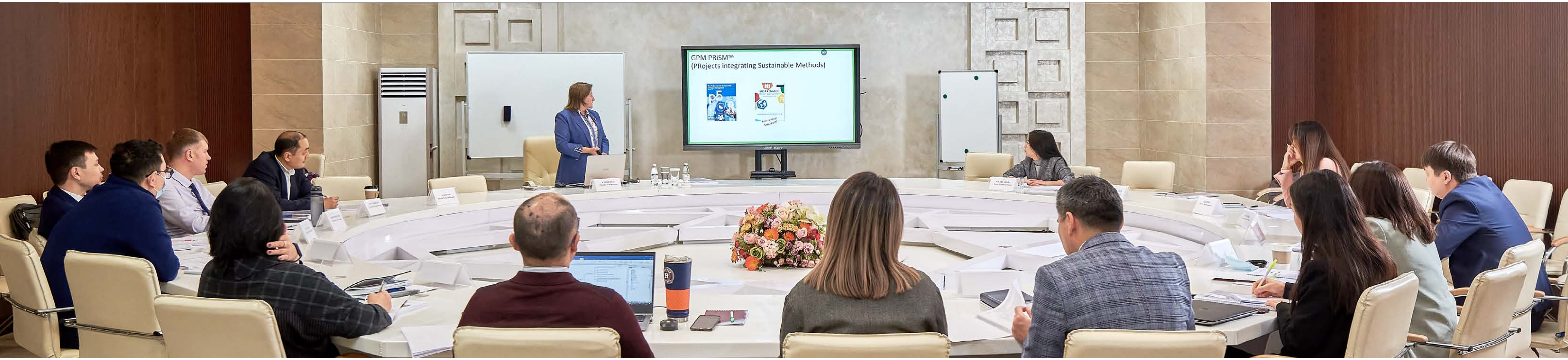
The key focus areas of the programme are as follows:
- Leadership and Communications;
- Resilience Culture Management;
- Safety Culture Management;
- Strategic Leadership;
- Project Management.

The leadership programmes are available to both top managers and engineering personnel. As a way to raise awareness about key industrial relations challenges and tendencies, nurture production leadership skills and create an on-site leadership role model, Ozenmunaigas is running a comprehensive training programme for senior and middle management.

The programme kicked off with the launch of its first module (School of Industrial Relations) in autumn 2022. Today it also serves as a communication and discussion platform for the managers of KMG and its subsidiaries and associates, as it helps to improve corporate culture and streamline communications. More than 400 employees of Ozenmunaigas have completed the training so far.

On top of that, the Company put in place communications, time management and financial literacy programmes designed to improve the skills of line managers at production companies and professional associations. One of the key focus areas has been strengthening communications and corporate culture within KMG Group, and fostering dialogue between the management team and employees.

For example, with a view to engaging the management and personnel in a constructive dialogue the Company organised meetings between KMG's management team, including Magzum Myrzagaliyev, the Chairman of the Management Board, and trade union leaders at the Company's subsidiaries such as Ozenmunaigas, Mangistaumunaigaz and Karazhanbasmunai. The meetings were attended by the managers of subsidiaries and representatives of trade union organisations. They were held in the form of training sessions and incorporated team-building techniques, while also leveraging a variety of facilitation and team coaching tools.



Sustainability training

Sustainable development matters, including energy transition, GHG emissions, decarbonisation, green project management and others, are of critical importance for the Company and its strategic goals. Every year, our employees improve their expertise and skills in this area in line with global standards and trends.

In 2022, KMG offered its employees training in Green Project Management to raise awareness about best sustainability practices in project management with inputs from the management and professionals of the Corporate Centre and subsidiaries.

Key employees in charge of strategic projects undergo certification under international project management standards (IPMA and GPM) on an annual basis.

To expand staff capabilities, KMG organises training sessions and workshops in various areas of low-carbon development. In October 2022, together with Chevron New Energies experts, KMG held a three-day workshop on Carbon Capture and Storage Technologies.

In November 2022, 45 employees from the Corporate Centre and subsidiaries engaged in energy efficiency management and GHG emission monitoring attended a two-day workshop on Energy Transition and Management of GHG Emissions.

KMG employees also take part in training sessions from international companies to improve their competencies.

Mandatory safety training

Since 2021, KMG Corporate Centre employees take mandatory training in occupational health and industrial and fire safety basics on the platform of KMG Engineering.

KMG Engineering competence centre has a licensing agreement to provide relevant training and issue standardised certificates. In-house employee training enables the Company to adapt its programmes to ongoing internal needs and to ensure uninterrupted employee access to training materials.

As a way to prevent road accidents at production sites, the Company launched Defensive Driving training programmes for KMG Group's drivers in line with the international RoSPA standard (UK). In 2022, the programme was completed by more than 350 drivers from Karazhanbasmunai, Oil Transport Corporation and KMG-Security who transport employees and hazardous goods. Going forward the Defensive Driving programme is expected to cover drivers of all categories across KMG Group.

New Procurement and Supply Management Procedures at Samruk-Kazyna and E-Procurement IT System 2.0

As part of its transparency policy, the Company pays special attention to procurement activities. To enhance the competencies of procurement professionals at KMG Group's Corporate Centre and subsidiaries, we launched a dedicated programme – New Procurement and Supply Management Procedures at Samruk-Kazyna and E-Procurement IT System 2.0.

So far, the programme has covered over 450 employees from 37 KMG companies.

For more details on employee training, see KMG's Sustainability Report.

SUPPLIER RELATIONS

Efficient procurement system

Ensuring efficient procurement while striving to comply with sustainability principles is an integral part of KMG's activities, which contributes to the achievement of strategic and operational goals.

The key principles of KMG Group's procurement activities include compliance with laws and internal requirements, transparency of procurement procedures, promotion of fair competition, and provision of equal opportunities for counterparties. At the same time, KMG implements a number of initiatives in procurement to support domestic manufacturers as part of the Programme to Promote the Modernisation of Existing and Creation of New Production Facilities.

Procurement management at KMG companies is governed by two documents:

- Law of the Republic of Kazakhstan No. 47-VII ZRK On Procurement by Certain Quasi-Public Sector Entities dated 8 June 2021 (the "Law"), which became effective on 1 January 2022. The Law sets out the key principles and conditions of procuring goods, works and services required for the business and statutory operations of companies from the quasi-public sector, including those owned by Samruk-Kazyna;
- Procedure for Carrying out Procurements by Joint-Stock Company Sovereign Wealth Fund Samruk-Kazyna and Companies Where JSC Samruk-Kazyna Directly or Indirectly Holds Fifty or More Percent of Voting Stock (Equity Stake) on the Right of Ownership or Trust Management (the "Procedure"), approved by Resolution of the Fund's Board of Directors No. 193 dated 3 March 2022. The Procedure was developed in furtherance of the Law's Article 14 and sets out key procurement principles and approaches, the general procurement management procedure, procurement management competence of the Fund and the Fund's operator for procurement, main requirements for procurement processes, the definition of applicable procurement methods, and grounds for the application of single-source procurement, while also specifying the procurement processes related to procurement category management, procurement planning, supplier selection and management, and management of supply contracts.

To maintain and enhance transparency and efficiency in line with the most advanced international procurement standards and technologies, KMG Group uses the E-Procurement IT System portal (the "E-Procurement IT System") providing unhindered access (with certain exceptions, primarily related to state secrets) to procurement information to all stakeholders and ensuring equal opportunities for all participants in the procurement process.

The E-Procurement IT System enables automation and standardisation of all procedures within the procurement cycle (from planning to contract management) to cut the time needed to perform relevant tasks and reduce human factor. E-procurement facilitates market access and thus contributes to improved efficiency, increased competition and reduced administrative burden and operating expenses.

In addition to the public dissemination of information on procurement procedures and procurement contracts, including details of invitations to bid and the terms and conditions of contracts, the E-Procurement IT System envisages the advance establishment of requirements for participation in a competitive procurement, including selection criteria, bidding rules and publication thereof, while ensuring an efficient internal control system, including challenging the results of procurement in case of non-compliance with the rules or procedures established by regulations.

1 — Among other things, the specifications include applicable terms and requirements for the the applicable documents and procedures.

Total procurement volume

KZT **1,085** bln
total procurement volume in 2022, net of VAT

The total procurement volume in 2022 amounted to KZT 1,085,234 mln, net of VAT.

Reducing supplies from a single source and increasing the share of competitive procurement play an important role in KMG's procurement activities. Competitive procurement includes open tenders, requests for quotations, and competitive negotiations. In 2022, competitive procurement under contracts signed within KMG Group's annual procurement plan amounted to KZT 512 bln. Over the past three years the share of competitive procurement has reached 49%, which demonstrates KMG's commitment to fair competition and sustainable development goals.

Despite our commitment to developing a competitive market, the share of non-competitive procurement carried out within the framework of intra-group cooperation and/or procurement from a single source apparently prevails.

Competitive procurement, KZT bln, net of VAT[1]

Year	Goods		Works and services		Total	
	Total amount	Share, %	Total amount	Share, %	Total amount	Share, %
2018	137	7	375	19	511	26
2019	169	12	326	23	495	36
2020	168	15	252	23	420	38
2021	162	15	285	27	447	42
2022	237	23	275	26	512	49

The total volume of goods, works and services supplied, including long-term procurement contracts, and the share of local content for the year

Year	Goods		Works and services		Total	
	Total amount, KZT bln	Share of local content, %	Total amount, KZT bln	Share of local content, %	Total amount, KZT bln	Share of local content, %
2020	472	71	1,354	86	1,826	82
2021	273	57	943	85	1,216	78
2022	410	58	1,290	90	1,700	82

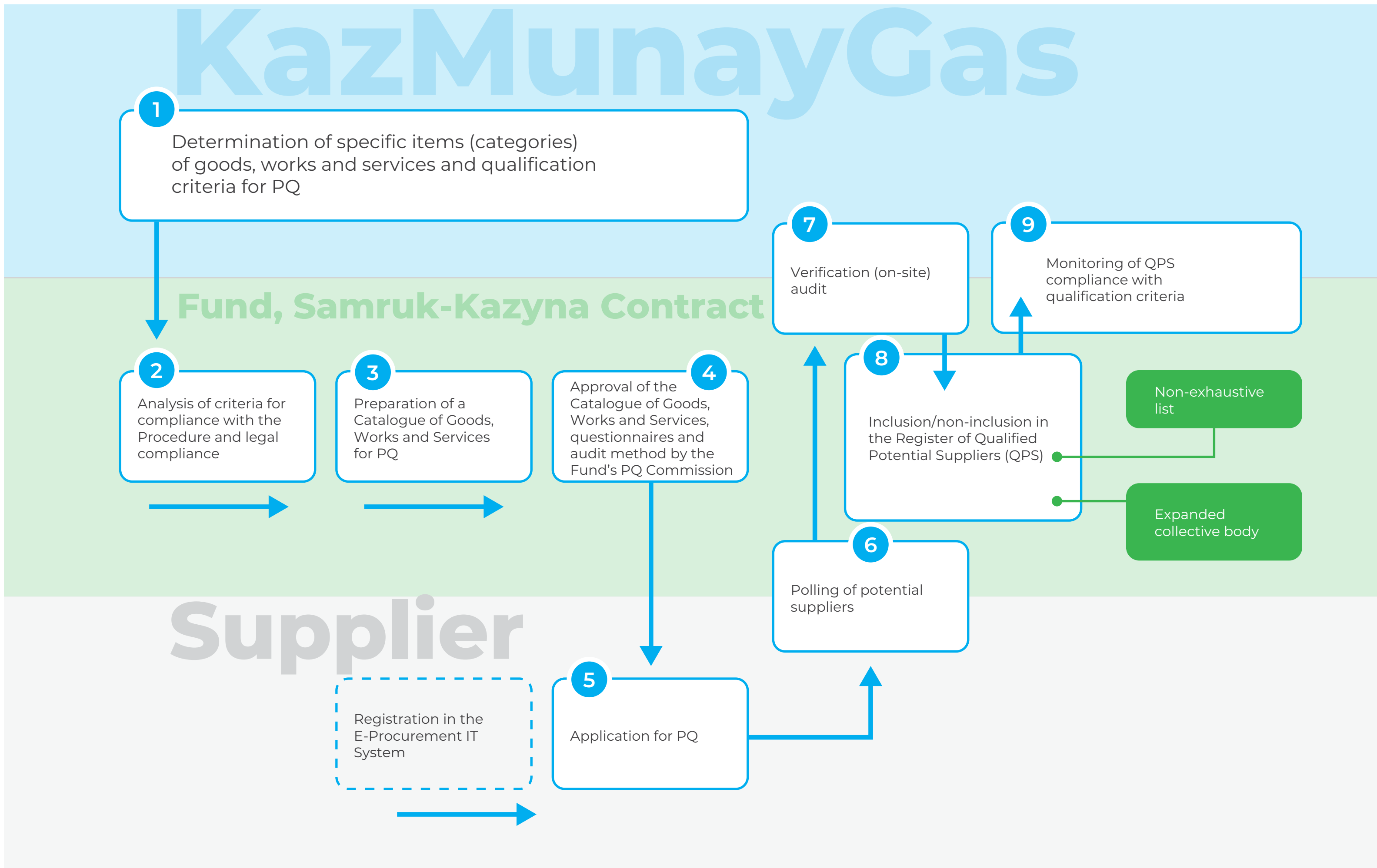
1 — Competitive procurement includes open tenders, requests for quotations, and competitive negotiations

Pre-qualification of potential suppliers

Continuous improvement in procurement with a focus on the requirements and standards applied in Kazakhstani and international practices is one of KMG's priorities. Pre-qualification of potential suppliers is an effective tool for addressing this need.

Pre-qualification (PQ) is the questionnaire- and audit-based process of evaluating potential suppliers for compliance with the qualification requirements defined in accordance with the Procurement Procedure.

The key objectives of PQ are to identify qualified suppliers selected on the basis of formal criteria, and to improve procurement efficiency with respect to the goods, works and services sourced for the needs of the Fund's portfolio companies.



2 — After completion of the PQ procedure and subject to the approval of the qualification body's commission potential suppliers are included in the Register of Qualified Potential Suppliers publicly available at Samruk-Kazyna's procurement portal. So far, the Fund's PQ Commission has approved 24 categories of goods, works and services that can be procured by KMG's subsidiaries and associates through open tenders held among bidders pre-qualified in line with the PQ procedure.

Category-based procurement

Procurement category management is the process of developing a comprehensive approach to reducing costs associated with procurement and the use of goods, works and services included in priority categories.

Categorisation implies combining goods, works and services into procurement categories on the basis of common characteristics of procurement items and/or a single market of potential suppliers. Categories may include one or more items of goods, works and services. Categories characterised by a high cost, criticality, savings potential and manageability are identified as priorities.

Category-based management helps increase the potential for savings through a more detailed analysis by developing and approving a category-based procurement strategy. This strategy determines an optimal approach to purchasing goods, works and services based on maximisation of benefits in the long or short term. Category-based procurement should contain goals and objectives, internal and external environment analysis, approaches to procurement category management, requirements for supplier development, calculation of benefits, and an implementation plan.

Category-based management results in significant reduction of the cost of purchase and use of goods, works and services through strategic planning, a detailed analysis of goods and services to be purchased, and calculations of the total cost of ownership, as well as cross-functional interaction with various business units. This method of procurement is effective in that it provides both quality and a transparent price by engaging reliable manufacturers and suppliers.

Procurement category management includes:
- categorisation of goods, works and services to be purchased and identification of priority procurement categories;
- development (update) and approval of category-based procurement strategies for priority categories;
- implementation of category-based procurement strategies;
- monitoring of the implementation of category-based procurement strategies;
- supplier development.

Category-based procurement volume and benefits by year, 2018–2022, KZT mln

Indicator	2018	2019	2020	2021	2022
Category-based procurement volume	13,948.38	41,531.68	49,716.04	109,447.54	93,618.92
Category-based procurement benefits	1,565.01	4,101.81	7,011.23	13,109.53	8,435.32

Commitment to sustainable procurement

KMG's sustainability principles are reflected in its interactions with counterparties based on legitimacy and transparency, compliance with contract terms, incorruptibility and intolerance of corruption in any form, and selection of counterparties based on a mix of factors: best price, quality and terms, as well as the counterparty's business reputation.

At the same time, KMG, in turn, imposes on its counterparties counter obligations to comply with applicable laws, treat employees fairly, prohibit child labour, ensure safe working conditions, protect the environment, and adhere to other principles of ethical conduct.

These conditions are included in contracts signed by KMG with its counterparties to guarantee respect of labour rights and create favourable working conditions for citizens of the Republic of Kazakhstan, protect children's rights and ensure environmental safety. KMG believes that these measures will help reduce the number of cases of illegal activities at companies cooperating with KMG.

When procuring goods, KMG also establishes requirements for potential suppliers to provide quality management system certificates.

Import substitution

As a company representing the interests of the government in the oil and gas industry, KMG is actively involved in import substitution efforts as part of the state programme to promote the modernisation of existing and creation of new production facilities through off-take agreements. The programme's primary objective is to support private entrepreneurs who launch new production facilities and undertake technological upgrades to manufacture products sought by Samruk-Kazyna Group.

Off-take agreements provide for the implementation of import substitution projects with a condition precedent stipulating the purchase and delivery of goods to be manufactured as a result of the project.

In 2022, KMG's subsidiaries entered into 55 off-take agreements with domestic manufacturers for a total of KZT 791 mln.

Imported goods in procurement

Year	Total amount, KZT bln	Share of goods supplied without a CT-KZ certificate confirming Kazakhstani origin[1], %
2018	173	21
2019	104	22
2020	94	20
2021	73	27
2022	90	23

1 — The share of goods supplied without a certificate confirming Kazakhstani origin is the share of imported goods supplied in the reporting period

COMPLIANCE WITH TCFD RECOMMENDATIONS

Recommended disclosures		Sections of the annual report
Corporate governance Disclose the organisation's governance around climate-related risks and opportunities.	**a)** Describe the board's oversight of climate-related risks and opportunities.	· Ensuring Sustainable Development (p. 132) · Climate Change and Greenhouse Gas Emissions (p. 158) · CRMS Participants (p. 238)
	b) Describe the management's role in assessing and managing climate-related risks and opportunities.	· KMG's Development Strategy (Strategic Goal 4) (p. 50) · Ensuring Sustainable Development (p. 132) · Sustainable Development KPIs of KMG's Management (p. 144) · CRMS Participants (p. 238)
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	**a)** Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	· Global Trends and Their Impact on Strategy Implementation (p. 26) · Key Risks (p. 243)
	b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	· Global Trends and Their Impact on Strategy Implementation (p. 26) · KMG's Development Strategy (Strategic Goal 4) (p. 50) · Commitment to UN Global Compact Principles and 17 Sustainable Development Goals (Goal 13) (p. 137) · Low-Carbon Development Programme (p. 145) · Climate Change and Greenhouse Gas Emissions (p. 158) · Key Risks (p. 243)
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	· The scenarios have not been developed so far. In 2022, the Company signed a memorandum with the EBRD under which the EBRD will develop a stress-testing model for KMG accounting for different climate scenarios (RCP2.6, RCP4.5 and RCP8.5)
Risk management Disclose how the organisation identifies, assesses, and manages climate-related risks.	**a)** Describe the organisation's processes for identifying and assessing climate-related risks.	· Commitment to UN Global Compact Principles and 17 Sustainable Development Goals (Goal 13) (p. 137) · Low-Carbon Development Programme (p. 145) · Climate Change and Greenhouse Gas Emissions (p. 158) · Key Risks (p. 243) · Climate Change and Greenhouse Gas Emissions (p. 158) · Key Risks (p. 243) · Climate Change and Greenhouse Gas Emissions (p. 158)
	b) Describe the organisation's processes for managing climate-related risks.	
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	**a)** Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	· KMG's Development Strategy (Strategic Goal 4) (p. 50) · Commitment to UN Global Compact Principles and 17 Sustainable Development Goals (Goal 13) (p. 137) · Climate Change and Greenhouse Gas Emissions (p. 158) · Low-Carbon Development Programme (p. 145) · Energy Saving and Energy Efficiency Programmes (p. 153) · Sustainable Development KPIs of KMG's Management (p. 144)
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	· Climate Change and Greenhouse Gas Emissions (p. 158)
	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and actual performance against targets.	· KMG's Development Strategy (Strategic Goal 4) (p. 50) · Commitment to UN Global Compact Principles and 17 Sustainable Development Goals (Goal 13) (p. 137) · Climate Change and Greenhouse Gas Emissions (p. 158) · Low-Carbon Development Programme (p. 145)

IN 2022, KMG REACHED A NEW LEVEL OF CORPORATE GOVERNANCE, HAVING BECOME A PUBLIC COMPANY

1
2
3

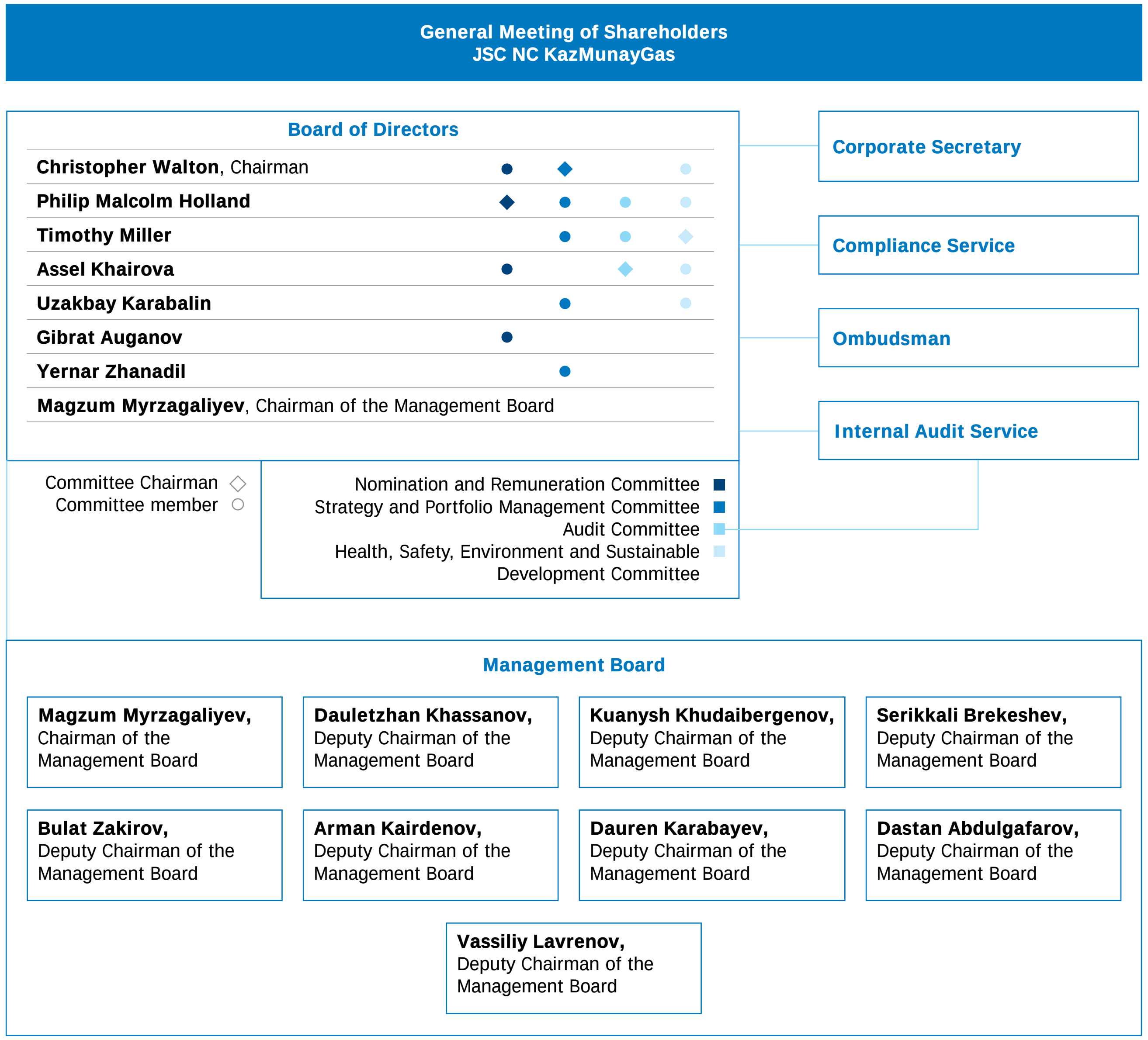
CORPORATE GOVERNANCE

NEW HORIZONS

CORPORATE GOVERNANCE FRAMEWORK

KMG's corporate governance framework represents the totality of processes ensuring management and oversight of KMG's activities and a system of relations between the shareholders (Samruk-Kazyna and the National Bank of Kazakhstan), Board of Directors, Management Board and stakeholders. The roles of KMG's governing bodies are clearly delineated and set out in KMG's Charter.

KMG's corporate governance structure



The Company's corporate governance framework comprises:

- **Supreme body** – General Meeting of Shareholders;
- **Governing body** – Board of Directors reporting to the General Meeting of Shareholders;
- **Executive body** – Management Board reporting to the Board of Directors;
- **Internal Audit Service** – a centralised body that directly reports to the Board of Directors, controls financial and business operations of the Company and other KMG Group entities related to the Fund pursuant to the Law of the Republic of Kazakhstan on the Sovereign Welfare Fund, appraises internal control and risk management systems, oversees implementation of corporate governance regulations and advises on enhancing KMG's and KMG Group's performance;
- **Corporate Secretary** – a permanent and independent employee who is neither a member of the Board of Directors, nor a member of the Company's executive body. Corporate Secretary is appointed by and reports to KMG's Board of Directors, and ensures implementation of corporate documents and control over KMG's corporate governance framework within their scope of responsibilities;
- **Compliance Service** reports to the Board of Directors and aims to ensure compliance with mandatory regulations and global best practices in pursuing anti-corruption policies and building a corporate culture across KMG Group to foster transparency and integrity among its employees, as well as to create a business environment aligned with global best practices, internal policies, and Kazakhstan's laws;
- **Ombudsman** – an appointee of KMG's Board of Directors, whose role is to advise KMG employees upon request and assist in resolving social and labour disputes, conflicts and issues, as well as to ensure compliance with business ethics principles among KMG employees.

KMG's corporate governance framework is based on respect for the rights and legitimate interests of KMG's shareholders and key stakeholders – the state, KMG's strategic partners and counterparties (suppliers and customers), investors, and employees, as well as municipalities, local communities, and residents in KMG's regions of operation.

KMG's corporate governance framework is continuously improving to reflect the evolving requirements and standards of national and international corporate governance practices.

DEVELOPMENT OF THE CORPORATE GOVERNANCE FRAMEWORK

As a corporate centre that shapes and implements the development strategy, in particular by engaging in operations of subsidiaries through a divisional management structure, the Company is committed to best corporate governance practices and recognises high corporate governance standards and transparency as key drivers of investment appeal and operational efficiency, boosting confidence among potential investors, counterparties, and other stakeholders, mitigating the risk of inefficient use of corporate resources and increasing KMG's market value and wealth.

The Company's Board of Directors oversees the quality of KMG's corporate governance, and the Corporate Secretary coordinates its continuous improvement.

The KMG Corporate Governance Code (the "Code") adopted by resolution of Samruk-Kazyna's Management Board dated 27 May 2015 is the core document underpinning KMG's corporate governance framework and efforts to improve it. The Code was developed in accordance with Kazakhstan's laws and Samruk-Kazyna's internal documents to incorporate best national and global corporate governance practices, as well as the principles set out in Samruk-Kazyna's Transformation Programme.

The Code sets out the principles underlying the Company's corporate governance framework, which are identical to the corporate governance principles of the Samruk-Kazyna Group. The Board of Directors and the Audit Committee monitor compliance with the Code's regulations at KMG.

According to the Code, the Corporate Secretary annually reviews KMG's compliance with the Code's provisions and principles using a "comply or explain" approach. At present, most of the Code's provisions have been complied with. Isolated instances of partial non-compliance with certain provisions of the Code have been listed in the Corporate Governance Code Compliance Report, along with the reasons for non-compliance. For KMG's 2022 Corporate Governance Code Compliance Report, see the Appendix to this Annual Report.

Over a course of several years, the Company's Corporate Secretary Office has carried out consistent and systematic work coordinating KMG's efforts to improve its corporate governance practices. Since 2016, the Company has used the review methodology for corporate governance in legal entities in which 50% or more of the voting shares are owned directly or indirectly by Samruk-Kazyna (the "Methodology") to set goals and track the progress of improvements in corporate governance.

The Methodology involves the assignment of a rating to the Company based on the results of its corporate governance review (audit) by an independent party, which is carried out on a regular basis.

As required by the Methodology, the Corporate Secretary Office uses the review findings to develop a Corporate Governance Improvement Plan, with relevant progress against it regularly reported to the Company's Board of Directors and the Audit Committee.

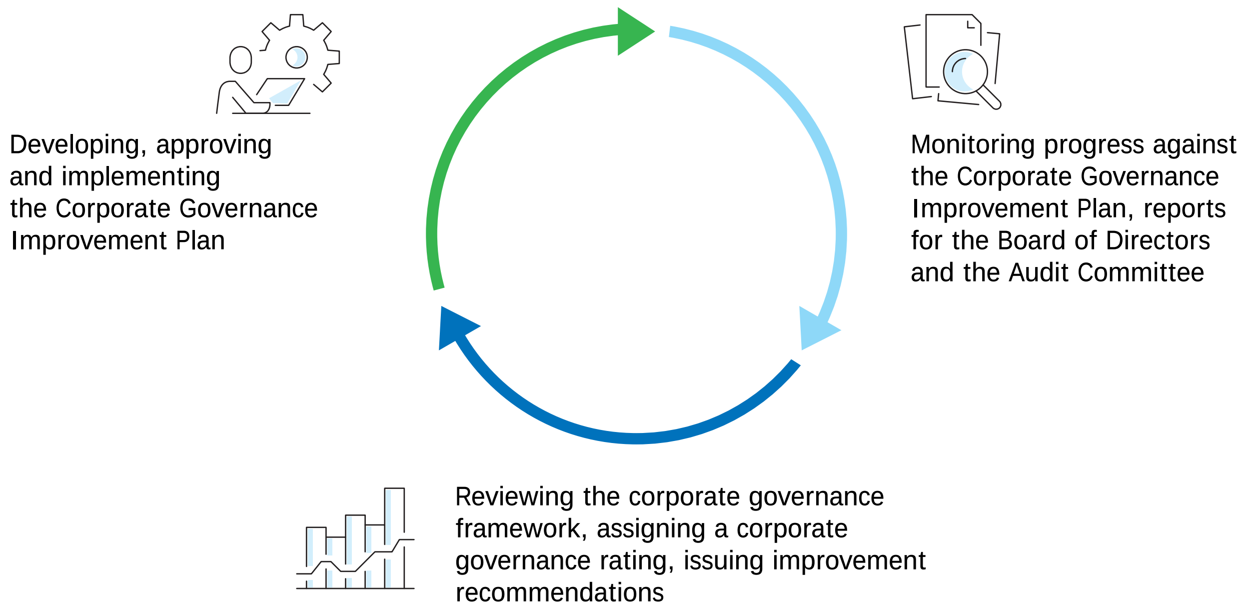
Following the 2021 independent review of the Company's corporate governance by PricewaterhouseCoopers in line with the Methodology, KMG was assigned a "BBB" corporate governance rating (upward revision from the "BB" rating assigned in 2018), which testifies to the Company's progress in developing its corporate governance framework, ensuring its compliance in all material respects with most established criteria, and providing sufficient evidence to demonstrate its efficiency.

KMG followed the recommendations presented by the independent consultant following the 2021 corporate governance review and included them in the Corporate Governance Improvement Plan to further enhance its corporate governance practices in 2022 across such areas as transparency, shareholder rights, risk management, internal control and audit, performance of the Board of Directors and the executive body, and sustainable development. In accordance with the established practice, the Corporate Secretary monitors progress against the Corporate Governance Improvement Plan on a regular basis, with progress reports reviewed by the Audit Committee and the Board of Directors and feedback provided to KMG's management.

In addition, the Fund's and KMG's development strategies until 2031 outline the milestones for the ambitious targets established by the "Corporate Governance Rating" KPI. These efforts demonstrate an increased focus on corporate governance shown by KMG's major shareholder, Board of Directors, Audit Committee and the management.

In general, the Company's efforts to enhance its corporate governance are continuous and cyclic, and the key milestone of the process is assigning a rating and issuing respective improvement recommendations by an independent party.

Development of the corporate governance framework



BOARD OF DIRECTORS

The Board of Directors is responsible for general supervision of KMG's activities. Resolutions of the Board of Directors are adopted in line with the procedure set forth in the applicable laws and KMG's Charter. Even though the applicable laws and KMG's Charter allow the Board of Directors to adopt resolutions as long as a quorum is achieved and a certain majority of votes is cast in favour, KMG endeavours to have the most important resolutions adopted at meetings held in person and to have all Board members take part in the voting. KMG makes every effort to prepare and coordinate resolutions in such a way that the opinions of all Board members are taken into account.

In addition, the Board of Directors determines KMG's business priorities and approves its development strategy; considers and makes resolutions on potential acquisitions and other significant financial issues, including the terms of bonds and derivatives issued by KMG; approves major and interested-party transactions; approves acquisitions and transfers (assignments) of subsoil use rights; approves conclusion of partnership contracts (agreements) with strategic partners for joint implementation of subsoil use projects; approves investment projects funded by KMG or its subsidiaries; reviews the results of independent analysis of KMG's corporate governance framework; and approves a corporate governance improvement plan.

The Board of Directors reports the Company's results to shareholders. At the annual General Meeting of Shareholders, the Chairman of the Board of Directors presents the shareholders (members) with the report on the performance of the Board of Directors and its committees in the reporting period, including measures taken by the Board to increase long-term business value and sustainability, key risk drivers, material events, items considered, the number, format and attendance of meetings, along with other relevant data. The Board's report is part of the Company's Annual Report.

The Company's Board of Directors is guided by the Company's Charter, Corporate Governance Code and Regulations on the Board of Directors and follows the annual activity plan and meeting schedule, taking a rational and efficient approach. The Board of Directors can also review matters beyond its activity plan, if necessary.

Chairman of the Board of Directors and his role

Chairman of the Board of Directors is responsible for providing overall leadership for the Board of Directors, ensuring that the Board of Directors fully and effectively fulfils its main roles and builds a constructive dialogue between Board members, major shareholders and the Management Board. The Chairman of the Board of Directors is an independent director.

Independent directors and their role

Independent directors play a significant part in the activities of the Board of Directors – they represent the majority of Board committee members and chair the committees. Independent directors meet all statutory independence criteria, as well as the requirements of the Guidelines on Forming Boards of Directors at Companies of Samruk-Kazyna and the Code.

According to the Corporate Governance Code, an independent director is a person with professional expertise and independence sufficient to have their own opinions and make fair unbiased judgements that are not influenced by the Company's shareholders, executive body or other stakeholders. Independent directors shall take active part in discussions of issues involving potential conflicts of interest (preparing financial and non-financial reporting, making interested-party transactions, nominating candidates to the executive body, setting remuneration for members of the executive body). An independent director shall monitor any circumstances which may lead to a potential loss of their independence and notify the Chairman of the Board of Directors in advance if they arise. If any circumstances affecting the independence of a member of the Board of Directors arise, the Chairman of the Board of Directors shall immediately inform the shareholders accordingly in order to make a relevant decision.

In line with global best practices, the Company seeks to ensure that its independent directors meet high standards, and thereby declares that there are no other circumstances which are likely to impair, or could appear to impair, its directors' independence.

Succession planning for the Board of Directors, induction and development

The Company developed and adopted the Succession Policy and Succession Plan for Members of KMG's Board of Directors. Following the corporate governance review performed at KMG in 2021, the independent consultant PricewaterhouseCoopers LLP issued a number of recommendations regarding the succession planning and terms of office for members of KMG's Board of Directors, which were implemented in 2022. The Corporate Governance Improvement Plan for KMG presented by PwC includes the following recommendations:

- consider extending the term of shareholder representatives and independent directors on the Company's Board of Directors and discussing this with the Shareholder. It is necessary to look into aligning the term of shareholder representatives on the Board of Directors with the Company's Strategy horizon to secure the Company's advantages associated with the continuity of corporate memory and the Company's reputation amongst the investment community, if the Company has plans to be listed on international stock exchanges;
- consider developing a formalised succession plan for the Board of Directors, including a list of candidates, their expertise, potential interest in appointment, preferred remuneration and potential tenure based on the tenure of current directors and the required skills matrix.

KMG has in place an Induction Programme for New Members of the Board of Directors (the "Programme") approved by the Board of Directors in 2017. In June 2020, the Board of Directors resolved to supplement the Programme with the requirement to hold meetings with heads of the Company's functional units, as well as meetings with Board committee chairs. The Corporate Secretary monitors the Programme implementation, i.e. the actual completion of all relevant procedures by new members of the Board of Directors. The Programme regulations are updated on an ongoing basis. In 2022, newly elected member of KMG's Board of Directors Assel Khairova completed the induction course under the Programme.

By its resolution dated 6 April 2022 (Minutes No. 6/2022, agenda item 16), the Board of Directors approved amendments to the Succession Plan for Members of KMG's Board of Directors for 2021–2024, approved by resolution of the Board of Directors dated 8 April 2021 (Minutes No. 5/2021). Furthermore, members of the Board of Directors continuously improve their qualifications and provide information about completed trainings to be posted on the Company's website.

Term of office

Members of the Board of Directors are elected for a three-year term. Through a special consideration procedure, a member of the Board of Directors with a six-year continuous tenure may be re-elected for a new term, in each case considering the need for the Board to be effectively refreshed. As an exception, a member of the Board of Directors with a nine-year tenue may be re-elected (for independent directors, a detailed and compelling case needs to be prepared, to be disclosed by the Company to all stakeholders).

Following an independent corporate governance review conducted in 2021, the Company received a recommendation to consider extending the term of shareholder representatives and independent directors on the Company's Board of Directors and discussing this with the shareholders. Another recommendation was to look into aligning the term of shareholder representatives on the Board of Directors with the Company's Strategy horizon. In view of the independent consultant, these steps would benefit the Company, with individual directors' tenure of five to six years and their rotation in different years ensuring continuity of knowledge over the Company's operations and its corporate governance processes. Longer tenure on the Board of Directors helps to improve directors' performance and accountably for the Company's progress against its strategy.

MEMBERSHIP OF THE BOARD OF DIRECTORS

KMG complies with the Code standards requiring that up to 50% of the Board members should be independent directors.

In 2019, the Board had nine members, whose tenure expired on 28 June 2020.

By decision of the Management Board of JSC Samruk-Kazyna dated 17 August 2020 (Minutes No. 30/20), a new composition of the Board of Directors was elected, with three independent directors out of the total seven.

On 26 April 2021, the powers of members of KMG's Board of Directors Almasadam Satkaliyev and Anthony Espina were terminated early by the resolution of the Management Board of Samruk-Kazyna, with simultaneous election of representatives of Samruk-Kazyna Bolat Akchulakov and Mukhtar Tazhigaliyev as new KMG's Board members.

Further on, the powers of Mukhtar Tazhigaliyev were terminated early by the resolution of Samruk-Kazyna on 30 December 2021, with the election of Mukhtar Mankeyev as a new KMG's Board member.

In 2022, the composition of the Board of Directors changed as follows:

By the resolution of the Management Board of Samruk-Kazyna dated 18 February 2022 (Minutes No. 12/22), the powers of members of the Board of Directors representing Samruk-Kazyna Bolat Akchulakov and Mukhtar Mankeyev were terminated early, and Gibrat Auganov and Yernar Zhanadil were elected to the Board of Directors as members representing Samruk-Kazyna. Before that, Bolat Akchulakov notified KMG's Board of Directors in writing about voluntarily stepping down as a Board member starting 11 January 2022.

By the resolution of the Management Board of Samruk-Kazyna dated 7 April 2022 (Minutes No. 21/22), the powers of Chairman of the Management Board of KMG Alik Aidarbayev were terminated early.

By the resolution of the Management Board of Samruk-Kazyna dated 14 April 2022 (Minutes No. 22/22), Magzum Myrzagaliyev was appointed Chairman of the Management Board of KMG and elected to the Board of Directors of KMG starting 15 April 2022.

By the resolution of the Management Board of Samruk-Kazyna dated 27 May 2022 (Minutes No. 29/22), Assel Khairova was elected to the Board of Directors of KMG as an independent director.

As a result, as of 31 December 2022, the Board of Directors comprised eight members. The Chairman of the Board of Directors is an independent director.

Christopher Walton

Chairman of the Board of Directors, Independent Director

Magzum Myrzagaliyev

Member of KMG's Board of Directors, Chairman of KMG's Management Board

Philip Holland

Independent Director

Timothy Miller

Independent Director

Uzakbay Karabalin

Representative of JSC Samruk-Kazyna

Gibrat Auganov

Representative of JSC Samruk-Kazyna

Yernar Zhanadil

Representative of JSC Samruk-Kazyna

Assel Khairova

Independent Director

Christopher Walton

Chairman of the Board of Directors, Independent Director

Member of KMG's Board of Directors since 2014.
Date of birth: 19 June 1957.

Education:

- Bachelor of Arts (BA) in Political Science, the University of Western Australia;
- Master of Business Administration (MBA), Finance, the University of Western Australia;
- Fellow of the Royal Aeronautical Society;
- Fellow of the Institute of Directors.

Experience

In addition to his role as Chairman of KMG's Board of Directors, Christopher Walton is Audit Chair of the Submarine Delivery Agency (UK) and a non-executive member of the Royal Navy's National Shipbuilding Strategy Client Board. Pro-bono, Mr Walton is a trustee of the Guild of Freemen of the City of London's Charity.

Prior to that, Christopher Walton was Chairman of the management boards of Asia Resource Minerals PLC (a coal mining company), Goldenport Shipmanagement Ltd. (a marine shipping company), and Lothian Buses (a municipal bus company). He also served as Senior Independent Director and Chairman of the Audit Committee of Rockhopper Exploration PLC (an oil and gas exploration company), Chairman of the Audit Committee of JSC NC Kazakhstan Temir Zholy, and a non-executive member of the Audit and Risk Committee at the Department for Culture, Media and Sport of the United Kingdom. In addition, Mr Walton was a member of the Bank of the England's Regional Economic Advisory Panel (SE England & Anglia) from 2002 to 2005. As CFO of easyJet PLC, Christopher Walton successfully conducted the company's IPO. He held other senior positions in finance and commerce in major Australian companies – Qantas, Air New Zealand, Australia Post and Australian Airlines. He served in the Australian Army Reserve. Christopher Walton is a Fellow of the Institute of Directors and the Royal Aeronautical Society.

Joint appointments:

Guild of Freemen of the City of London – Director (charity)

Guild of Freemen of the City of London's Charity – Trustee

Submarine Delivery Agency (a government department) – Non-Executive Director

National Shipbuilding Strategy, the Client Board – independent member

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Magzum Myrzagaliyev

Member of KMG's Board of Directors, Chairman of KMG's Management Board

Member of KMG's Board of Directors since 14 April 2022.
Date of birth: 7 November 1978

Education:

- Zhautykov Republican Physics and Mathematics School
- Economics, Turan University
- International Relations, Diplomatic Academy of the Ministry of Foreign Affairs of the Republic of Kazakhstan
- Oil and Gas Engineering, Caspian State University of Technology and Engineering

Experience

Magzum Myrzagaliyev joined KMG Group more than six years ago. He has worked in senior executive positions at KMG for three years.

At different stages in his career, he worked as Technical Safety and Production Manager, Engineer for Drilling Fluids at MI Drilling Fluids International (Schlumberger) at the Tengiz field and the fields of Western Siberia, CEO of TenizService LLP, Managing Director for Service Projects, Deputy Chairman of the Management Board for Innovative Development and Service Projects at KMG, Kazakhstan's Vice Minister of Oil and Gas, Minister of Ecology, Geology and Natural Resources, Minister of Energy, Advisor to Kazakhstan's President.

Chairman of KMG's Management Board since April 2022.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Philip Holland

Member of KMG's Board of Directors, Independent Director

Member of KMG's Board of Directors since 2020.
Date of birth: 25 December 1954.

Education:

- Bachelor of Science in Civil Engineering, University of Leeds (UK);
- Master of Science in Engineering/ Construction Management, Cranfield Institute of Technology (UK).

Experience

Philip graduated from the University of Leeds in 1976. After working for some time in the United Kingdom and Saudi Arabia, he joined Bechtel Corporation in 1980 and managed major oil and gas projects in a wide range of international locations. In 2004, he joined Shell as Vice President of projects, Shell Global Solutions. In 2009, Philip became Executive Vice President for Downstream Projects in Shell's newly formed projects and technology business. In 2010, he was appointed as Project Director for the Kashagan Phase 2 project in Kazakhstan and subsequently the Shell/QP Al Karaana petrochemicals project. Since 2013, he has operated as an independent project management consultant.

Philip is the Chairman of the Board of Directors at Velocys PLC, and Non-Executive Director and Chairman of the Safety, Climate and Risks Committee at EnQuest PLC.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Timothy Miller

Member of KMG's Board of Directors, Independent Director

Member of KMG's Board of Directors since 2020.
Date of birth: 13 November 1959.

Education:

Bachelor of Science, Mechanical Engineering, Texas Tech University (Lubbock, Texas, US)

Experience

From 2000, Timothy Miller was Assistant to the President at Saudi Arabian Texaco, Inc. (Neutral Zone, Kuwait), Texaco Exploration and Production. Between 2003 and 2010, he held various positions at Chevron Corporation: Management Sponsor (San Ramon, California, US), Brazil Country Manager (Rio de Janeiro, Brazil), Senior Vice President of East Kalimantan (Balikpapan, Indonesia).

In 2010, he was appointed CEO of Tengizchevroil LLP (Atyrau, Kazakhstan) and served in this position for five years. In 2015, he returned to Chevron as Eurasia Business Unite Managing Director (Almaty, Kazakhstan). In 2018, after leaving Chevron, he became Eurasia Business Unit Advisor to the Operating Company President at Chevron Corporation (Frisco, Texas, US).

From May 2019 to date, he is Executive Director for the Republic of Kazakhstan and Senior Advisor for Global Operations at Integrated Global Services (IGS) (Richmond, Virginia, US).

Other businesses/positions:

- Board Member at the American Chamber of Commerce in Kazakhstan (2010–2018)
- Board Member at ValvTechnologies, Inc. (Houston, Texas) from 2019, Board Member at Joint Venture PSI-Clough (Almaty, Kazakhstan) from 2020
- Visiting lecturer at a master class on a career in the oil and gas industry as part of KAZENERGY, at the Graduate School of Business at Nazarbayev University, at Narxoz University, at the Mays Business School, Texas A&M University, and at the Kazakh-British Technical University at different periods.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Uzakbay Karabalin

Member of KMG's Board of Directors, representative of JSC Samruk-Kazyna

Member of KMG's Board of Directors since 2016.

Date of birth: 14 October 1947.

Education:

- Mining Engineering, the Gubkin Russian State University of Oil and Gas;
- Postgraduate programme at the Gubkin Russian State University of Oil and Gas;
- Candidate of Technical Sciences;
- Doctor of Technical Sciences;
- Academician of the National and International Engineering Academies of the Republic of Kazakhstan.

Experience

Uzakbay Karabalin held various positions at Kazneftegazorazvedka's administration office (the South Emba oil and gas prospecting expedition), Kazakh Scientific Research Geological Exploration Oil Institute, Prikaspiygeologiya's regional administration office, the Guryev branch of Kazakh Polytechnic Institute named after V. I. Lenin, the Industry Department of the Administration Office of the President and of the Cabinet of Ministers of the Republic of Kazakhstan.

At different periods, he was Head of the Main Oil and Gas Department at the Ministry of Energy and Mineral Resources of the Republic of Kazakhstan, Deputy Minister of Energy and Fuel Resources of the Republic of Kazakhstan

Deputy Minister of Oil and Gas Industry of the Republic of Kazakhstan, First Vice President and Acting President of CJSC NOGC Kazakhoil, President of CJSC KazTransGas, Vice Minister of Energy and Mineral Resources of the Republic of Kazakhstan, President of KMG, CEO of JSC Mangistaumunaigaz, CEO of the Kazakh Institute of Oil and Gas, Minister of Oil and Gas of the Republic of Kazakhstan, and First Deputy Minister of Energy of the Republic of Kazakhstan.

Uzakbay Karabalin was also Chairman of the Boards of Directors at CJSC KazTransOil, CJSC NC Oil and Gas Transportation, CJSC NC KazMunayGas and JSC KazMunayGas Exploration Production, Chairman of the Coordination Council and Deputy Chairman of KAZENERGY Association, a member of the Supervisory Board at KazRosGas LLP, a member of National Investors' Council under the President of the Republic of Kazakhstan, Chairman of the Board of Directors of the Atyrau University of Oil and Gas, and a member of the Board of Directors (Independent Director) of the Kazakh Institute of Oil and Gas.

Holds 9,655 ordinary shares in JSC KazTransOil.

Gibrat Auganov

Member of KMG's Board of Directors, representative of JSC Samruk-Kazyna

Member of KMG's Board of Directors since February 2022.

Date of birth: 6 June 1988.

Education:

- Finance, Kazakh Economic University named after T. Ryskulov, Department of Finance and Accounting;
- Oil and Gas Engineering, Taraz State University named after M. Kh. Dulaty;
- Master of Economics and Business, Humanitarian and Technical Academy.

Experience

- Engineer for labour planning and rates at the Engineering Centre of JSC KazMunayGas Exploration Production;
- Lead specialist at the Pay and Labour Rates Department of JSC National Company KazMunayGas
- Lead specialist at the Pay and Labour Rates Department of Samruk-Kazyna Corporate University;
- Lead engineer for labour rates at the HR Department of JV Kazgermunai LLP;
- Deputy Head of the HR and Pay Department at Embamunaigas;
- Head of the HR and Pay Department at Karazhanbasmunai.
- Head of the HR Management Department at Samruk-Kazyna
- Managing Director for Public Relations and Change Management at Samruk-Kazyna.

Joint appointments and membership in other boards of directors:

- Member of the Board of Directors of the Caspian University of Technology and Engineering named after Sh. Yessenov.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Yernar Zhanadil

Member of KMG's Board of Directors, representative of JSC Samruk-Kazyna

Member of KMG's Board of Directors since February 2022.

Date of birth: 15 December 1984.

Education:

- Bachelor of Business Administration, Accounting and Finance, Kazakhstan Institute of Management, Economics and Strategic Research, (KIMEP), Kazakhstan;
- Master's degree in Finance and Accounting, Manchester Business School, University of Manchester (UK)
- Executive MBA-Global, Joint Programme of London Business School (UK) and Columbia Business School (US)

Experience

Yernar Zhanadil held various jobs working at Philip Morris Kazakhstan, ElitStroy LLP, and PricewaterhouseCoopers, an international audit firm. When at Samruk-Kazyna, he was the head of internal audit and comptroller. Managing Director for Economics and Finance / Co-Managing Director and Member of the Management Board at Samruk-Kazyna (November 2016 – April 2021). Managing Director for Investment, Privatisation and International Cooperation and Member of the Management Board at Samruk-Kazyna (April 2021 – January 2022). Managing Director for Development and Privatisation (January 2022 – present).

Joint appointments and membership in other boards of directors:

- Chairman of the Board of Directors at NMC Tau-Ken Samruk (from 26 April 2021);
- Member of the Board of Directors at NAC Kazatomprom (from 22 June 2021).

Government awards and honorary titles:

Included in the Presidential Youth Personnel Reserve (December 2019).

International professional certificates:

- CMA, Institute of Management Accountants (US);
- IPMA, International Project Management Association (Switzerland);
- ACCA, Association of Chartered Certified Accountants (UK);
- auditor's licence, Chamber of Auditors of Kazakhstan (Kazakhstan).

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Assel Khairova

Member of KMG's Board of Directors, Independent Director

Member of KMG's Board of Directors since May 2022.

Date of birth: 4 February 1972.

Education:

- Bachelor's degree, Kazakh Polytechnic Institute;
- Master of Public Administration (MPA), Kazakhstan Institute of Management, Economics and Strategic Research (KIMEP);
- Leadership Programme, INSEAD Business School, Fontainebleau.

Certificates:

- Certified public accountant (CPA) in Maine, US;
- Certified auditor and member of the Chamber of Auditors of Kazakhstan.

Experience

Assel Khairova has more than 25 years of hands-on experience with such global companies as Century Integration AG and KPMG and boasts strong business relationships in some regions. Her professional activities covered a wide range of international locations, including Kazakhstan, UK, Spain, Hungary, India, Russia, Kyrgyzstan, Tajikistan, and Uzbekistan. She has a unique management expertise in seeking tailor-made business solutions that combine international best practices and regional specifics.

Assel Khairova has a wealth of experience in providing professional audit, transaction support, risk management, corporate governance, CAPEX assessment and advisory services for various industries in Kazakhstan and abroad.

She heads the Audit Committee, which reports to the Board of Directors and is responsible for overseeing internal controls, external and internal audit functions. Within its ambit, the Audit Committee liaises with external auditors and financial functions to monitor the progress of external audit procedures and internal control systems, and to discuss recommendations and best practices on financial accounting, sustainability, corporate reporting and transparency.

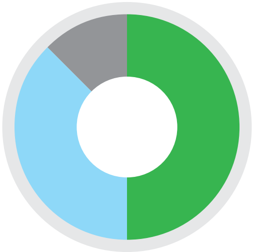
Joint appointments and membership in other boards of directors:

- Member of the Board of Directors, Chair of the Audit Committee at Kazakhmys Holding;
- Member of the Board of Directors, Chair of the Audit Committee at NMC Tau-Ken Samruk.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

8 members

The Board of Directors comprised as of 31 December 2022



4 members
independent directors

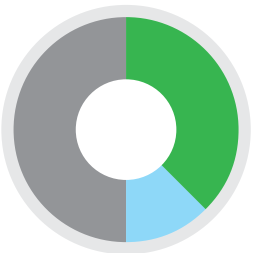
3 members
JSC Samruk-Kazyna representatives

1 member
executive director (Chairman of the Management Board)

55 years

Average age of Board members

The Board of Directors' breakdown by age:



3 directors
34 to 49 years

1 director
50 to 59 years

4 directors
60 to 75 years

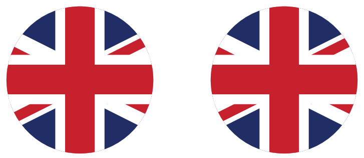
The Board of Directors comprised eight members:

- **men — 7 members**
- **women — 1 member**

Citizens of Kazakhstan nationals

5

Citizens of the United Kingdom



2

Citizens of the USA

1

Nomination and selection procedure

The procedure for nominating and selecting candidates to the Board of Directors is set out in KMG's Charter and other regulatory documents. Board members are elected by the General Meeting of Shareholders, supported by the Chairman of the Board of Directors and the Nomination and Remuneration Committee chair. The recruitment and hiring process is driven by transparency, impartiality, and meritocracy.

Members of the Board of Directors are elected from the candidates nominated as representatives of shareholders and other entities. Candidates to the Board of Directors are expected to possess the knowledge, skills and experience required to perform their functions and support the creation of KMG's long-term business value and sustainable growth, as well as to have an impeccable business reputation.

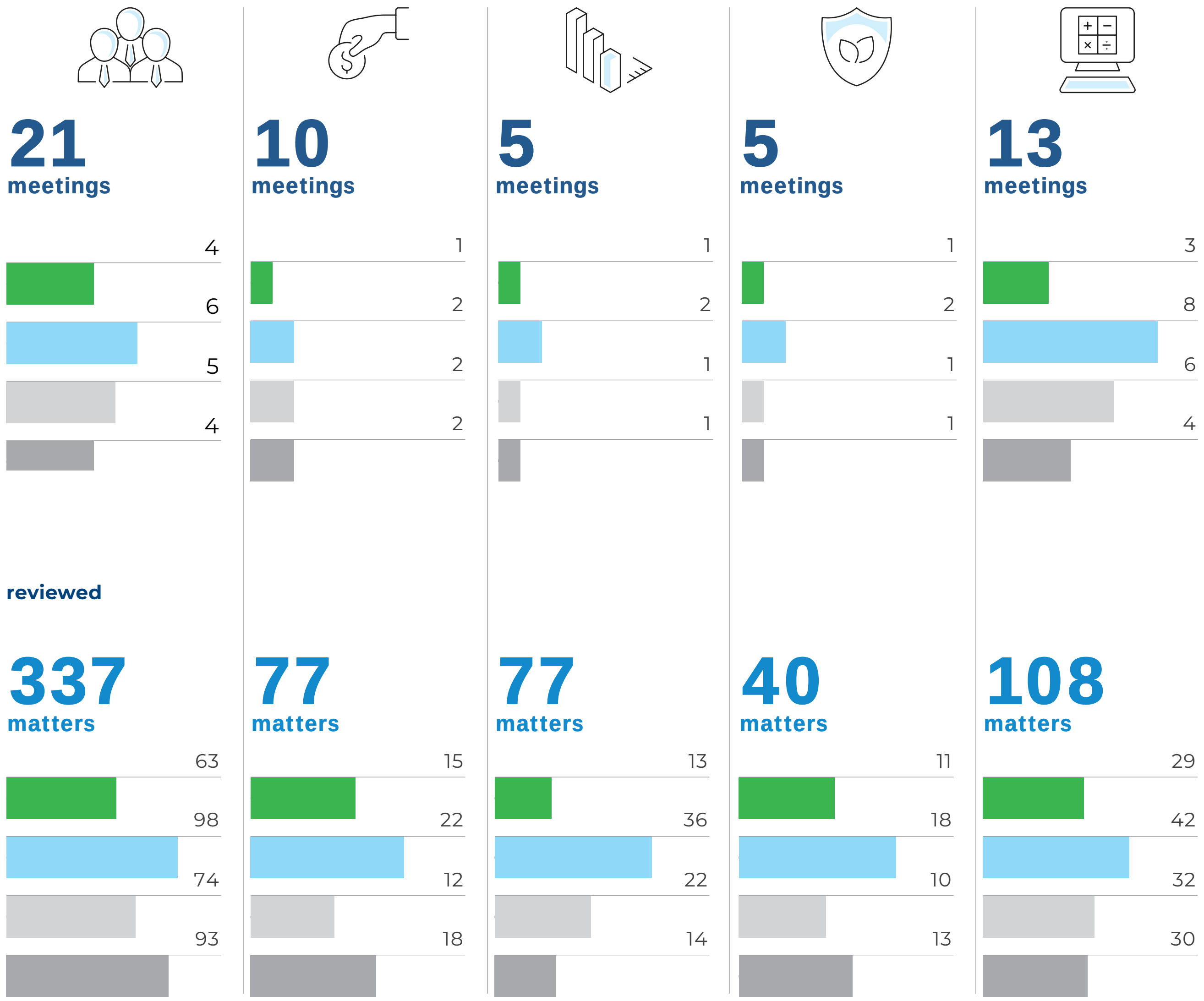
The Chairman of the Board of Directors is elected by the General Meeting of Shareholders.

Independent directors are elected in accordance with the Guidelines on Forming Boards of Directors at Companies of Samruk-Kazyna, approved by the resolution of the Management Board of Samruk-Kazyna dated 26 September 2016 (Minutes No. 35/16).

Breakdown of the Board of Directors by expertise

	Member of the Board of Directors	Key areas of expertise
1	**Christopher Walton**	Transport, oil & gas, strategy, finance, corporate governance, IPO experience
2	**Magzum Myrzagaliyev**	Oil & gas
3	**Philip Holland**	Oil & gas, project assessment, occupational health and safety
4	**Timothy Miller**	Oil & gas, risk management, occupational health and safety
5	**Assel Khairova**	Audit, transaction support, risk management, corporate governance, CAPEX assessment and consulting for various industries
6	**Uzakbay Karabalin**	Oil & gas, strategy
7	**Gibrat Auganov**	HR, oil & gas, finance
8	**Yernar Zhanadil**	Audit, finance

BOARD ACTIVITIES DURING 2022



The Board of Directors

Nomination and Remuneration Committee (NRC)

Strategy and Portfolio Management Committee (SPMC)

Health, Safety, Environment and Sustainable Development Committee (HSE&SD)

Audit Committee (AC)

Q1 Q2 Q3 Q4

In 2022, the Board of Directors placed particular focus on KMG's preparation for an IPO, ensuring its financial stability, overseeing investment project management and sustainability issues, improving corporate governance, internal audit and risk management, development management KPIs, as well as safety and well-being of employees.

Matters reviewed by the Board of Directors in 2022, by category

Reports	Strategic matters	Corporate governance matters	Transaction matters
▪ Report by the Chairman of KMG's Management Board on key changes in KMG's operations ▪ Information on KMG's HSE activities ▪ Information on COVID-19 ▪ Information on the impact of sanctions on KMG's operations ▪ Updates on KMG's interim financial and operating results ▪ Status update on IPO preparation ▪ Information on the status of implementation of KMG Group's investment projects ▪ Reports by Board committee chairs ▪ Information on committees' performance in 2021 ▪ Information on the current status of KMG's IPO preparation ▪ Financial status of KMG International N.V. and KazMunayGas Trading AG ▪ KMG Group's hedging status ▪ Report on messages received via the hotline ▪ Report on interested-party transactions entered into by resolution of KMG's Management Board ▪ Quarterly risk and financial risk report ▪ Follow-up report on resolutions/instructions of the Board of Directors ▪ Information on changes in the government strategy or policy ▪ Information on root causes of the diesel fuel shortage in Kazakhstan	▪ Alternative routes to deliver oil to foreign markets ▪ Approval of the Consolidated Development Plan of KMG for 2023–2027 ▪ On the consolidated business plan of KMG for 2023–2027 ▪ Approval of KMG's corporate KPIs and their target values ▪ Approval of the organisational structure of KMG's headquarters ▪ On the KMG Development Strategy ▪ On the 2021 progress report on KMG's Development Strategy until 2028 ▪ Issues related to the implementation of investment projects ▪ Approval of motivational KPI scorecards for KMG managers and KPI targets ▪ Signing of oil procurement agreements and oil products sale and purchase agreements by KMG ▪ On KMG's bond issue and determination of its terms and conditions ▪ On a buyback by Coöperatieve KazMunaiGaz U.A. of 50% of shares in KMG Kashagan B.V. from Samruk-Kazyna ▪ Matters related to cybersecurity	▪ Results of an independent corporate governance review conducted at KMG in 2021 ▪ On the approval of an action plan to improve KMG's corporate governance in 2022–2023 and review of certain relevant matters ▪ Results of performance self-evaluation of the Board of Directors of KMG for 2021 ▪ Approval of the Board of Directors' and the committees' activity plan and the schedule of meetings of the Board of Directors and the committees ▪ Making changes to the Board committees ▪ On streamlining the Board of Directors competencies ▪ Shareholder queries regarding the Company's and its officers' actions in 2021 and corresponding responses ▪ Approval of KMG's 2021 Annual Report ▪ Approval of KMG's 2021 Sustainability Report ▪ On progress against the Low-Carbon Development Programme	▪ Approval of interested-party transactions ▪ Approval of major transactions

Matters related to subsidiaries and associates	Approval of internal regulations	Appointments and compensation	Matters related to divisions of the Board of Directors
▪ Election and termination of powers of managers, members of supervisory boards of subsidiaries and associates ▪ Amending articles of associations of subsidiaries and associates ▪ Approval of subsidiaries and associates' corporate KPIs ▪ On establishing a Representative Office of KMG in Aktau and approval of the Regulations on the Representative Office of KMG in Aktau ▪ Acquisition and disposal of stakes in subsidiaries and associates	▪ Approval and cancellation of KMG's internal documents, including amendments to the Charter of KMG and approval of the KMG Sanctions Policy, Market Risk Hedging Policy of KMG and its subsidiaries and associates, and KMG Dividend Policy	▪ Approval of KMG's headcount ▪ Early termination of powers and election of members of KMG's Management Board, determining the salaries payable to members of KMG's Management Board, remuneration terms, bonuses and social benefits ▪ On determining the salary, remuneration terms, bonuses and social benefits payable to the Chairman of KMG's Management Board ▪ On approval of the CEO-1 job descriptions	▪ On approval of the 2022 Activity Plan for the Corporate Secretary Office ▪ Reports by the Corporate Secretary Office, Compliance Service, Internal Audit Service and the Ombudsman ▪ On approval of the new version of the Regulations on the Corporate Secretary Office of KMG ▪ On submitting the Regulations on the General Meeting of Shareholders for approval of KMG's General Meeting of Shareholders ▪ HR matters of the Corporate Secretary Office, Compliance Service, Internal Audit Service and the Ombudsman

Strategic session in 2022

As part of the scheduled session held on 15 June 2022, the Board reviewed matters related to the KMG Development Strategy and analysed external factors and their impact on the KMG Development Strategy.

Board of Directors' meeting on sustainability

On 7 September 2022, the Board of Directors held its annual meeting on sustainable development and discussed the following important matters:

- global trends in sustainable development, approaches to building KMG's sustainability strategy;
- critical assessment and in-depth discussion of ESG development options of KMG;
- progress update of the Low-Carbon Development Programme of KMG.

Follow-up on KMG's key matters

To oversee the implementation of KMG's strategic initiatives and ensure timely corrective actions, KMG's Board of Directors requires that the Chairman of KMG's Management Board report regularly on key changes in the Group's operations and give other updates on HSE matters, interim financial and operating results, interested-party transactions approved by the Management Board, progress on implementation of the Group's strategy, KPIs achievement, investment projects implementation, as well as follow-up reports on KMG's consolidated Development Plan, reports from the Board committee chairs, follow-up reports on resolutions of the Board of Directors, and performance reports submitted by units reporting to the Board of Directors.

At every meeting, the Board of Directors' Strategy and Portfolio Management Committee considers and discusses progress reports on major oil and gas projects (Kashagan, Karachaganak and Tengiz), as well as on transformation and privatisation programmes.

Actual attendance by Board members at Board and committee meetings in 2022[1]

Member of the Board of Directors	Board and committee meetings in 2022				
	Board of Directors	Audit Committee	Nomination and Remuneration Committee	Strategy and Portfolio Management Committee	Health, Safety, Environment and Sustainable Development Committee
Christopher Walton	21/21	6/6	10/10	5/5	5/5
Uzakbay Karabalin	21/21		4/4	5/5	5/5
Alik Aidarbayev[2]	5/5				
Magzum Myrzagaliyev[3]	15/15				
Philip Holland	21/21	13/13	10/10	5/5	
Timothy Miller	21/21	13/13		5/5	5/5
Assel Khairova[4]	12/13	7/7	4/4		2/2
Bolat Akchulakov[5]	–				
Mukhtar Mankeyev[6]	0/2				
Gibrat Auganov[7]	16/19		6/7		
Yernar Zhanadil[8]	16/19			1/3	

1 — The first figure shows the number of meetings attended by a member of the Board of Directors, and the second figure is the total number of meetings they were entitled to attend.
2 — Stepped down from KMG's Board of Directors on 7 April 2022.
3 — Elected to KMG's Board of Directors on 15 April 2022.
4 — Elected to KMG's Board of Directors on 27 May 2022; did not attend her first meeting as she had been elected the day before.
5 — Stepped down from KMG's Board of Directors on 11 January 2022.
6 — Stepped down from KMG's Board of Directors on 18 February 2022.
7 — Elected to KMG's Board of Directors on 18 February 2022.
8 — Elected to KMG's Board of Directors on 18 February 2022.

Performance evaluation of the Board of Directors

In accordance with the Code, the Board of Directors, its committees and members of the Board of Directors should be evaluated every year as part of a structured process approved by the Board of Directors. This process needs to be in line with Samruk-Kazyna's relevant methodology. In addition, at least once every three years the performance evaluation process is run with the involvement of an independent professional organisation.

In 2021, eleven portfolio companies of Samruk-Kazyna, including KMG, were subject to an independent corporate governance review for the period from 1 January 2020 to 31 May 2021 conducted by PricewaterhouseCoopers LLP. The review assessed corporate governance in the following five areas: performance of the Board of Directors and the executive body; risk management, internal control and audit; sustainable development; shareholders' rights; and transparency. For this reason, no separate independent evaluation of the Board of Directors' performance was conducted in 2022.

In accordance with the Code's requirements, in 2022, members of the Board of Directors conducted a self-evaluation through questionnaires about their performance in 2021. The self-evaluation questionnaire was developed by the Chairman of the Nomination and Remuneration Committee in cooperation with the Chairman of the Board of Directors. The questionnaire comprised two sections (Composition and Processes, Behaviour and Actions) and featured 30 questions. The self-evaluation results were previewed by the Nomination and Remuneration Committee, which recommended that the Chairman of the Board of Directors together with the Chairman of the Nomination and Remuneration Committee discuss the following aspects as part of the Board of Directors meeting when discussing the results of the self-evaluation of the Board of Directors' performance in 2021:

- appointment of the Chairman of the Audit Committee of KMG's Board of Directors;
- diversity in all aspects;
- succession plan and procedure for electing members of the Board of Directors;
- KMG's strategy;
- professional development and training.

The report on self-evaluation of the Board of Directors' performance in 2021 (the "2021 Report") was presented and discussed at a closed meeting of the Board of Directors attended only by members of the Board of Directors and the Corporate Secretary. The discussion of the 2021 Report included an analysis of the Board members' self-evaluation results and a review of the skills and competencies scored below four points (out of a maximum of five) (the "areas for improvement"). Furthermore, the Board of Directors developed a Plan to Improve the Board of Directors' Performance (the "Plan") to enhance the quality of its work across the areas for improvement and also reviewed progress in implementing the previously adopted Plan.

In December 2022, the Board of Directors reviewed the matter of the Board of Directors' 2022 performance evaluation. Following the discussion, the KMG Board of Directors decided to evaluate its 2022 performance through self-evaluation with a view to identifying aspects of the Board's activities that require improvement and comparing the results with the self-evaluation scores obtained earlier. In doing so, the Board of Directors elected to stick to the above methodology chosen earlier, including leaving the self-evaluation questionnaire unchanged, in order to ensure that the results are representative and comparable on a year-on-year basis.

The self-evaluation of the Board of Directors' performance in 2022 was completed in 1Q 2023 in line with the above methodology. The report on self-evaluation of the Board of Directors' performance in 2022 (the "2022 Report") containing both the self-evaluation results for 2022 compared to those for 2021 and the plan to improve the same across the areas for improvement so identified was previewed by the Nomination and Remuneration Committee. The 2022 Report was then discussed at a meeting of the Board of Directors attended only by members of the Board of Directors and the Corporate Secretary. With this in mind, the KMG Board of Directors will further discuss improvements to its activities.

Corporate Secretary

The Corporate Secretary's main role is ensuring regular communication between KMG and its shareholders as well as between shareholders and the Board of Directors, the Internal Audit Service, the Compliance Service, the Ombudsman, the Management Board and other bodies within KMG.

The Corporate Secretary's responsibilities include providing full support to the Board of Directors and its committees, assisting shareholders in making timely, high-quality corporate decisions; acting as an adviser to the Board members on any matter related to their roles or the applicability of the Code's provisions, and monitoring the implementation of the Code. The Corporate Secretary is responsible for improving corporate governance practices at KMG. The Corporate Secretary is a Company employee acting independently and reporting to the Board of Directors.

Damir Sharipov

Corporate Secretary at KMG

Citizenship: Republic of Kazakhstan

Date of birth: 22 January 1980

Education

- Al-Farabi Kazakh National University (International Relations Department), majoring in international law.
- Russian Presidential Academy of National Economy and Public Administration, MBA programme, majoring in Management.
- Certified Corporate Secretary, certified trainer in corporate governance for corporate secretaries, trainer at Samruk-Kazyna Corporate University.

Experience

Between 2001 and 2007, he held various jobs working at the Tengiz field in the Atyrau Region. From 2007 to 2012, he worked at JSC Development Bank of Kazakhstan, and from 2012 to 2014, he served in different capacities at KMG and JSC KazTransGas.

Since 5 January 2015, he has been Corporate Secretary at KMG.

On 1 February 2019, Damir Sharipov was elected to the Corporate Secretaries Committee of the National Council for Corporate Governance at the Presidium of the National Chamber of Entrepreneurs of the Republic of Kazakhstan Atameken.

COMMITTEES OF THE BOARD OF DIRECTORS

Members of the Board of Directors involved in the activities of the Board committees focus on an in-depth review and analysis of allied functions, issues and areas. Committee meetings involve invited experts, business leaders, and other stakeholders. Committees make recommendations to the Board of Directors to support its decision making. The Board committees are made up of non-executive directors, and the majority of members are independent directors. The committees are chaired by independent directors.

Roles and responsibilities of the Board committees

Committee	Responsibilities
Strategy and Portfolio Management Committee	The Committee assists the Board of Directors by considering and making recommendations on: ▪ the development strategy and investment policy, including priority areas; ▪ improving investment appeal; ▪ effective financial and business planning at KMG; ▪ monitoring KMG's transformation.
Nomination and Remuneration Committee	The Committee assists the Board of Directors by considering and making recommendations on: ▪ succession planning for the Board of Directors and the Management Board; ▪ conducting ongoing, objective performance evaluations of the Board of Directors, Management Board, Corporate Secretary, and other employees; ▪ pursuing effective HR, pay and remuneration policies, and providing professional development and training opportunities for KMG officers and employees.
Audit Committee	The Committee assists the Board of Directors by considering and making recommendations on: ▪ implementing effective controls over KMG's financial and business operations; ▪ monitoring the reliability and effectiveness of internal controls and risk management, as well as the implementation of corporate governance regulations; ▪ overseeing external and internal audit functions; ▪ reviewing the Company's annual and quarterly financial statements; ▪ monitoring KMG's compliance arrangements.
Health, Safety, Environment and Sustainable Development Committee	The Committee assists the Board of Directors by considering and making recommendations on: ▪ ensuring HSE compliance; ▪ embedding sustainability in strategic planning and social and economic development at KMG; ▪ KMG's social commitments and programmes under subsoil use contracts; ▪ monitoring KMG's environmental performance.

NOMINATION AND REMUNERATION COMMITTEE

Statement by the Chairman of the Nomination and Remuneration Committee

In 2022, the Nomination and Remuneration Committee held

10 meetings

and reviewed

77 matters

In 2022, the Committee focused on pursuing effective HR, pay and remuneration policies, succession planning, providing social support and harmonising the corporate culture across the Company. The Committee regularly considered matters related to developing and updating the Succession Plan for Key Positions within KMG Group, and other HR matters.

KMG's new Strategy for 2022–2031 envisages changes to its operations with an increasing focus on the development of renewable energy sources, which requires transformation of both the Company's structure and corporate culture. This means that the Company needs to build a pool of employees capable of delivering high performance while responding effectively to external challenges. The goal is to shift to prioritising human capital over resources.

In addition, in the reporting period, the Committee actively engaged with the Company's management in discussing social issues, including structural reorganisation, compensation and remuneration, as well as mitigation of KMG's reputational risks. At its meetings, Committee members discussed regional social tensions and strategies to address them. Furthermore, the Committee participated in discussing the HR unit's workstreams, including the system of efficient personnel management, the headcount management programme, relations with contractors and the succession plan.

The Committee seeks to make consistent and balanced decisions with a view to maintaining social stability at the Company, which remains the Committee's primary focus.

Philip Holland
Chairman of the Nomination and Remuneration Committee, independent director

Members as of 31 December 2022:
1. Philip Holland – Chairman of the Committee since September 2020;
2. Christopher Walton – member of the Committee since August 2017;
3. Gibrat Auganov – member of the Committee since April 2022;
4. Assel Khairova – member of the Committee since June 2022.

Personnel management is essential to the Company's operational efficiency. The Nomination and Remuneration Committee makes recommendations to the Board of Directors on the matters within its remit relating to the appointment, remuneration, training and development of the Company employees. The key appointment principles require that candidates possess strong qualifications to perform their roles successfully and have the skills needed to pursue the Company's strategic goals in their area of responsibility.

Key matters reviewed by the Committee in 2022

Succession planning	▪ Results of developing the Succession Plan for Key Positions within KMG Group (talent pools for A, B and C levels); ▪ additions to the 2021–2024 Succession Plan for the Board of Directors; ▪ early termination of powers of a member of KMG's Management Board and defining the number of KMG's Management Board members; ▪ appointment of the Deputy Chairman of KMG's Management Board for Oil Refining and Petrochemicals; ▪ appointment of KMG's Head of Marketing and Sales; ▪ appointment of the Deputy Chairman of the Management Board for Oil Transportation, International Projects and Construction of the Saryarka trunk gas pipeline; ▪ appointment of the Deputy Chairman of KMG's Management Board; ▪ amendments to the Rules for Recruiting and Screening Candidates to KMG's CEO-1 approved by the Resolution of the Board of Directors of KMG on 2 April 2020 (Minutes No. 4/2020); ▪ approval of the Rules for Recruiting and Screening Employees of Internal Audit, Compliance, Corporate Secretary and Ombudsman of KMG, and expanding the List of Documents Regulating KMG's Internal Affairs; ▪ determining the skills, knowledge and experience required from candidates to KMG's Board of Directors; ▪ appointment of KMG's Head of Staff; ▪ approval of the CEO-1 job description; ▪ early termination of office and election of members to KMG Engineering's Supervisory Board; ▪ early termination of office and election of the chairman and members to KMG Engineering's Supervisory Board; ▪ early termination of powers of the Corporate Secretary Office staff; ▪ approval of the 2023 activity plan for the Ombudsman Office; ▪ appointment of the chief compliance expert; ▪ a meeting with KMG's best talent involving at least one Management Board member.
Ongoing and effective performance evaluation	▪ considering the option of making the assessment of each director's and the Corporate Secretary's contributions part of an annual self-assessment of the Board of Directors; ▪ approval of a motivational KPI scorecard and targets for 2022 for the Deputy Chairman of the Management Board Malik Saulebay; ▪ approval of the actual performance against KPIs and motivational KPI scorecards for KMG executives for 2021; ▪ remuneration payment to KMG executives for 2021; ▪ approval of an updated 2022 motivational KPI scorecard and targets for the Corporate Secretary; ▪ approval of updated 2022 corporate KPIs, motivational KPI scorecards and targets for KMG executives, a 2022 motivational KPI scorecard and targets for the Deputy Chairman of the Management Board for Major Oil and Gas Projects; ▪ approval of the actual performance against the motivational KPI scorecard and determining the remuneration of the Corporate Secretary for 2021; ▪ approval of actual performance against corporate KPIs of KMG Engineering (motivational KPIs for the CEO (Chairman of the Management Board) at KMG Engineering) in 2021; ▪ approval of corporate KPIs and targets of KMG Engineering (motivational KPIs for the CEO (Chairman of the Management Board) at KMG Engineering) in 2023.
Maintenance of an effective HR policy and an effective pay and remuneration framework	▪ matters related to improving KMG's corporate governance within the Committee's remit; ▪ approval of the staff list and the salary grid for the employees of KMG's Corporate Secretary Office; ▪ approval of the staff list and the salary grid for KMG's compliance employees; ▪ appointment of an ombudsman, determining their tenure, salary, remuneration terms and social benefits; ▪ a corporate culture presentation as part of the action plan to harmonise KMG Group's corporate culture; ▪ approval of the job description for the Chairman of the Management Board; ▪ determining the salary, remuneration terms, bonuses and social benefits payable to the Chairman of the Management Board; ▪ approving the amendments to the salary grid for the Chairman and members of the Management Board; ▪ approval of amendments to the Procedure for Assessing Performance of Executives, Managers, Head of Internal Audit, Corporate Secretary, Head of Compliance and Ombudsman / Ombudsman Heading the Ombudsman Office, and new Remuneration Rules for KMG Executives; ▪ approval of amendments to the Remuneration Rules for the Employees of Internal Audit, Corporate Secretary, Compliance and Ombudsman, and new Remuneration Rules for KMG Executives; ▪ disciplinary actions against the Chairman of the Management Board and the Deputy Chairman of the Management Board for for Oil Refining and Petrochemicals; ▪ the need for excluding the CEO of KMG Engineering from key positions at KMG and/ or its subsidiaries and associates that envisage compliance with qualification requirements, approval of candidates, and performance assessment by the Board of Directors (subparagraph 53 of paragraph 98 of the KMG Charter).

Attendance of the Committee's meetings by its members in 2022

Meeting No. and date		Length of meeting	Philip Holland	Christopher Walton	Uzakbay Karabalin	Gibrat Auganov	Assel Khairova
1/2022	01.02	14:02–15:06 (64 минуты)	+	+	+		
2/2022	05.03	13:56–15:23 (79 minutes)	+	+	+		
3/2022	01.04	14:10–15:59 (169 minutes)	+	+	+		
4/2022	29.04	13:59–15:15 (64 minutes)	+	+	+	–	
5/2022	20.05	16:00–16:30 (30 minutes)	+	+	Resigned from the Committee	+	
6/2022	14.06	14:02–15:53 (111 minutes)	+	+		+	
7/2022	15.07	14:00–15:00 (60 minutes)	+	+		+	+
8/2022	06.09	10:00–11:39 (99 minutes)	+	+		+	+
9/2022	01.11	14:02–15:53 (111 minutes)	+	+		+	+
10/2022	21.12	15:00–15:47 (47 minutes)	+	+		+	+
Participation, %			100	100		86	100

STRATEGY AND PORTFOLIO MANAGEMENT COMMITTEE

Statement by the Chairman of the Strategy and Portfolio Management Committee

In 2022, the Strategy and Portfolio Management Committee held

5 meetings

and reviewed

77 matters

In 2022, the Committee focused on KMG's Development Strategy, investment activities and management of its assets, among other things.

The Committee members repeatedly discussed petrochemical projects, the status of the Agreement on Suspension of Terms between Caspian Pipeline Consortium-K, KMG and other shareholders of Caspian Pipeline Consortium-K, construction of a new gas processing plant in Zhanaozen, PMS rollout and financing sources for such projects.

Also, the Committee was monitoring the implementation of KMG's Digital Transformation Programme by closely reviewing the reports of the Transformation and Digitalisation Department and interacting with Samruk-Kazyna.

At every meeting, the Committee received reports on major fields such as Kashagan, Karachaganak and Tengiz, progress of building and commissioning petrochemical facilities, and the privatisation and divestment programme. At its last meeting, the Committee decided to add regular progress reports on innovations at KMG's existing projects to its agenda.

KMG is a national oil and gas company carrying out its operations in line with the strategies of the Republic of Kazakhstan and Samruk-Kazyna. With this in mind, the Committee seeks to make consistent and balanced decisions aimed at implementing KMG's Development Strategy.

Christopher Walton

Chairman of the Strategy and Portfolio Management Committee, independent director

Members as of 31 December 2022:

1. Christopher Walton – Chairman of the Committee since June 2022;
2. Philip Holland – member of the Committee since June 2022;
3. Uzakbay Karabalin – member of the Committee since August 2017;
4. Timothy Miller – member of the Committee since September 2020;
5. Yernar Zhanadil – member of the Committee since April 2022.

Key matters reviewed by the Committee in 2022

Development strategy, including priority areas	▪ The 2021 Progress Report on JSC NC KazMunayGas Development Strategy until 2028; ▪ the Progress Report on KMG Development Strategy for 2022–2031; ▪ rollout of a project management system (PMS) and portfolio investment management at KMG; ▪ changes to the management of JSC NC KazMunayGas Development Strategy (management rules for the Development Strategy, the Regulations on the Strategy and KPI Committee).
Improving investment appeal	▪ Progress in implementing KMG Group's investment projects in 2021; ▪ On approval of Taisoigan Severny (Taisoigan-1) and Taisogan Yuzhny (Taisoigan-2) projects and signing contracts for hydrocarbon exploration and production; ▪ approval of KMG's entering into transaction or a series of interrelated transactions resulting in the disposal of property with a value exceeding USD 110 mln (Addendum No. 7 to Credit Facility Agreement No. 362-28 dated 18 December 2014 and Addendum No. 8 to Credit Facility Agreement No. 107-28 dated 23 April 2014 between KMG and Urikhtau Operating); ▪ approval of Tengizchevroil's entering into transactions with a value exceeding USD 110 mln denominated in tenge and attributable to KMG, at the exchange rate set in the macroeconomic forecast (baseline scenario) for the relevant period.
Effective financial and business planning	▪ KMG's entering into an interested-party transaction (Agreement on Suspension of Terms between Caspian Pipeline Consortium-K, KMG and other shareholders of Caspian Pipeline Consortium-K); ▪ progress in implementing the privatisation and divestment programme across KMG Group; ▪ a draft consolidated business plan for 2023–2027; ▪ approval of asset restructuring rules for KMG and/or its subsidiaries and associates; ▪ KMG's entering into an interested-party transaction (Oil Product Sale and Purchase Agreement between KMG and Mangistaumunaigaz); ▪ KMG's entering into an interested-party transaction (Memorandum of Association of Kazakhstan Petrochemical Industries Inc. between KMG, SIBUR Holding, Samruk-Kazyna Ondeu, Firm Almex Plus and KPI Inc.), providing guarantees to KMG through an undertaking agreement between SIBUR Holding and KMG; ▪ KMG's entering into interested-party transactions (Memorandum of Association of Silleno LLP, a put option agreement for stakes in Silleno and KPI Inc., a call option agreement for stakes in Silleno and KPI Inc., a default put option agreement for stakes in Silleno and KPI Inc., a default call option agreement for stakes in Silleno and KPI Inc.).
Monitoring of KMG's transformation	▪ Progress report on KMG's Digital Transformation Programme; ▪ a digital solution to monitor overhauls at Tengizchevroil presented at KIOGE.

Attendance of the Committee's meetings by its members in 2022

Meeting No. and date		Length of meeting	Christopher Walton	Philip Holland	Timothy Miller	Uzakbay Karabalin	Yernar Zhanadil
1/2022	01.02	12:52–15:39 (167 minutes)	+	+	+	+	
2/2022	05.04	15:52–18:17 (145 minutes)	+	+	+	+	
3/2022	14.06	13:30–15:20 (110 minutes)	+	+	+	+	+
4/2022	06.09	12:00–16:40 (280 minutes)	+	+	+	+	–
5/2022	01.11	12:30–15:20 (170 minutes)	+	+	+	+	–
Participation, %			100	100	100	100	33.3

AUDIT COMMITTEE

Statement by the Chairwoman of the Audit Committee

In 2022, the Audit Committee held

13 meetings

and reviewed

108 matters

In 2022, the Audit Committee continued to monitor the Company's internal controls, risk management and performance across key functional areas, while also reviewing and challenging, as appropriate, reports and key decisions made by the management. The Committee carried out its work in line with the expectations and functional responsibilities set by the Code and Regulations on the Audit Committee, as well as resolutions of KMG's Board of Directors.

Every quarter, the Committee reviewed the reports from the management and the external auditor on material accounting matters and decisions. These reviews help the Committee members engage in a substantive dialogue on the reliability, balance and clarity of KMG's financial statements.

In 2022, the Committee also continued work to improve internal controls and corporate governance.

Following an independent review of corporate governance in 2021, KMG's corporate governance rating was upgraded from "BB" in 2018 to "BBB" in 2021. The upgrade testifies to the Company's ability to ensure compliance of its corporate governance framework in all materials respects with most of the set criteria and provide sufficient evidence to demonstrate its efficiency. According to the independent consultant, the BBB rating is optimal for the Company to hold an IPO. The Committee regularly reviewed matters related to cybersecurity and preparations for the IPO.

Going forward, we will keep working to increase transparency and efficiency of the Company's operations.

Assel Khairova

Chairwoman of the Audit Committee, independent director

Members as of 31 December 2022:
1. Assel Khairova – Chairwoman of the Committee since 15 June 2022;
2. Timothy Miller – member of the Committee since September 2020;
3. Philip Holland – member of the Committee since September 2020.

Key matters reviewed by the Committee in 2022

Internal audit	▪ Review of the Internal Audit Service's performance report for 4Q 2021; ▪ review of the annual report on the Internal Audit Service's performance in 2021; ▪ review and preliminary approval of quarterly reports on the Internal Audit Service's performance; ▪ approval of the 1H 2020 actual performance of employees of the Internal Audit Service against motivational KPIs; ▪ execution of the Internal Audit Service's budget for 2021; ▪ approval of remuneration payable to employees of the Internal Audit Service for 2020; ▪ review and preliminary approval of the Annual Audit Plan for 2023; ▪ review and preliminary approval of the 2023 budget of the Internal Audit Service; ▪ approval of KPIs for the Head of the Internal Audit Service for 2023; ▪ proposals on the structure of the Internal Audit Service, its headcount, tenure of the service head and employees, and termination of their contracts; ▪ approval of the Internal Audit Service's staff list and salary grid; ▪ approval of KPIs for the Head of the Internal Audit Service for 2022; ▪ steps taken with respect to the list of KMG companies that failed to fulfil post-audit recommendations from the Internal Audit Service in 2019–2021; ▪ extending powers and determining the salary of the Head of the Internal Audit Service; ▪ extending powers and determining the salary of the Internal Audit Service employees; ▪ corrective actions following the special audit.
Accounting and external audit	▪ Report on the Progress of KMG Audit; ▪ review and discussion of interim audit results with external auditors; ▪ discussing with the external auditor a list of all related services rendered or planned to be rendered by the same, and assessing whether these related services affect the auditor's independence; ▪ review and preliminary approval of KMG's interim financial statements; ▪ progress against recommendations issued by KMG's external auditor EY following the audit of the Company's consolidated and standalone financial statements for 2020 as of 18 January 2022; ▪ preliminary approval of KMG's consolidated financial statements for 2021; ▪ approval of the information about audit and non-audit services rendered by EY and Ernst & Young Global Limited companies to KMG and its subsidiaries in 2021 and non-audit services which Ernst & Young Global Limited can render and rendered to KMG and its subsidiaries without obtaining consent from the Audit Committee in 2021; ▪ preliminary approval of KMG's standalone financial statements for 2021; ▪ approval of the action plan to fulfil recommendations issued by KMG's independent auditor EY following the audit of the Company's consolidated and standalone financial statements for 2021; ▪ the plan for submitting draft financial statements for approval by the Board of Directors' Audit Committee prior to release; ▪ a report for planning the audit of KMG's consolidated financial statements for 2022; ▪ approval of non-audit services provided by KMG Group's external auditor; ▪ items submitted for consideration by KMG's external auditor; ▪ potential revision of the procedure to select an auditor for KMG's financial statements.
Internal control and risk management	▪ progress in implementing internal controls and a business continuity management system at KMG and its subsidiaries; ▪ materiality limits for business processes for reporting on the efficiency of the Group's internal controls; ▪ changes to risk tolerance levels for 2022 approved by the resolution of the Board of Directors dated 9 December 2021 (para. 31 of Minutes No. 19/2021); ▪ report on testing of KMG's Comprehensive Business Continuity Plan and the Roadmap to Improve KMG's Comprehensive Business Continuity Plan; ▪ KMG's Risk Report for 1Q and 2Q 2022; ▪ review of the report on the comprehensive IT due diligence; ▪ tolerance to production risks; ▪ potential inclusion of regular checks and performance assessment with respect to insider and sensitive information management in activity plans; ▪ need for amending the assurance map by responsibility type and risk type; ▪ the Market Risk Hedging Policy for KMG and its subsidiaries and associates; ▪ approval of the Sanctions Policy; ▪ a presentation on the availability, characteristics and performance of relevant internal controls at KMG Group; ▪ D&O insurance coverage and public offering of securities insurance (POSI); ▪ review of the report on the efficiency of internal controls at KMG and its subsidiaries; ▪ extension of the List of Documents Regulating KMG's Internal Affairs and approval of the Market Risk Hedging Policy at KMG and its subsidiaries and associates.

Corporate governance	▪ approval of the Corporate Governance Improvement Plan for KMG in 2022–2023 and review of certain relevant matters; ▪ approval of the report on compliance with the principles and provisions of KMG's Corporate Governance Code for 2021; ▪ results of an independent assessment of corporate governance in 2021, selecting a single coordinator of corporate governance improvements, approval of the activity plan for the Corporate Secretary Office for 2022; ▪ preliminary approval of KMG's 2021 Annual Report; ▪ approval of the Audit Committee's performance report for 2021; ▪ shareholder queries regarding the Company's and its officers' actions in 2020 and corresponding responses; ▪ results of KMG's corporate website evaluation; ▪ review of the report on the comprehensive IT due diligence; ▪ a consolidated report on the quality of materials for Board of Directors meetings in 1Q 2022 and proposals to improve its performance; ▪ streamlining the competencies of the Board of Directors; ▪ review of the Cyberthreat Governance and Response Improvement Plan at KMG's Standalone Subsidiaries; ▪ recommendations from Samruk-Kazyna for drafting a structured and uniform procedure for meetings of the board of directors and and supervisory boards at Samruk-Kazyna's portfolio companies; ▪ fulfilment of the order issued by the Chairman of Samruk-Kazyna's Management Board on 19 July 2022 at the meeting on an extended roadmap aimed at enacting the instructions of the President of the Republic of Kazakhstan to reform Samruk-Kazyna; ▪ submitting the Regulations on the General Meeting of Shareholders for approval of KMG's General Meeting of Shareholders; ▪ IT security progress report for 2Q and 3Q 2022; ▪ streamlining the List of Documents Regulating KMG's Internal Affairs; ▪ approval of the Audit Committee's activity plan for 2023; ▪ approval of the updated list of entities in which KMG holds a 10% or a larger stake and with respect to which KMG's Board of Director will make decisions on business matters reserved exclusively to the General Meeting of Shareholders (Participants); ▪ amending the Regulations on the Audit Committee.
Compliance	▪ Noting the performance report of the Compliance Service in 2021; ▪ reports on submissions received via the hotline; ▪ approval of key performance indicators of the Head of the Compliance Service for 2021; ▪ approval of key performance indicators of the Head of the Compliance Service for 2022; ▪ pre-approval of the Confidential Informing Policy; ▪ pre-approval of amendments to the Anti-Corruption Policy at KMG and its subsidiaries and associates; ▪ pre-approval of the Securities Transaction Policy; ▪ progress against the Corporate Governance Improvement Plan for KMG in 2022–2023 and the instructions of the Board of Directors.
Review of the reports of local authorities (including tax authorities), external and internal auditors and KMG's management on compliance with laws	▪ Information on investigations and/or checks of KMG's subsidiaries and/or associates and/or their employees initiated by government agencies with respect to corruption offences and/or crimes

Attendance of the Committee's meetings by its members in 2022

Meeting No. and date		Length of meeting	Christopher Walton	Assel Khairova	Philip Holland	Timothy Miller
1/2022	31.01	16:00–18:45 (165 minutes)	+		+	+
2/2022	03.03	17:00–17:48 (48 minutes)	+		+	+
3/2022	25.03	17:00–18:00 (60 minutes)	+		+	+
4/2022	04.04	16:00–18:12 (132 minutes)	+		+	+
5/2022	30.05	17:00–18:00 (60 minutes)	+		+	+
6/2022	13.06	13:28–15:20 (112 minutes)	+		+	+
7/2022	12.08	16:00–17:00 (60 minutes)	Resigned from the Committee	+	+	+
8/2022	05.09	13:00–17:12 (252 minutes)		+	+	+
9/2022	04.10	17:00–18:00 (60 minutes)		+	+	+
10/2022	31.10	13:00–17:22 (262 minutes)		+	+	+
11/2022	10.11	16:00–17:00 (60 minutes)		+	+	+
12/2022	17.11	16:00–17:00 (60 minutes)		+	+	+
13/2022	12.12	16:00–17:00 (60 minutes)		+	+	+
Participation, %				100	100	100

HEALTH, SAFETY, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT COMMITTEE

In 2022, the Health, Safety, Environment and Sustainable Development Committee held

5 meetings

and reviewed

40 issues

Statement by the Chairman of the Health, Safety, Environment and Sustainable Development Committee

In 2022, KMG Group took a number of steps to raise ecological awareness, reduce environmental impact and integrate new ecological requirements and global trends. We are developing a methodology to assess projects in ESG compliance and minimise our carbon footprint. In 2022, the Company managed to reduce emissions by 27% compared to 2019. We are firmly on track to ensure proper disposal of waste, including legacy waste, and remediation of contaminated soil. The Company's ESG risk rating also improved from 28.4 in 2021 to 28.5 in 2022, which helped us maintain a stable medium risk level despite materialised unmanageable HSE risks. KMG and its HSE & SD Committee recognise a global trend for decarbonisation. The Company has set a target to reduce its direct and indirect greenhouse gas emissions by 15% and cut carbon intensity by at least 10% by 2031 (from the 2019 level). This target is part of KMG's Development Strategy and Low-Carbon Development Programme for 2022–2031.

Unfortunately, the reporting year saw some accidents at KMG Group, including fatalities. The Company and its HSE & SD Committee paid particular attention to these accidents and will make sure that proper corrective actions are implemented to fully eliminate the underlying root causes.

KMG's Occupational Health and Safety Policy is driven by our senior management setting the tone at the top in occupational health and safety and engaging every employee in building a robust safety culture. Management teams at KMG and its subsidiaries and associates take a zero tolerance approach to losses and damage caused by accidents (including traffic accidents), emergencies, as well as by the use of alcohol, narcotic drugs, psychotropic and other similar substances.

The Committee introduced the practice of making deep dives into key HSE issues at its meetings. In 2022, it carried out deep dives into five areas, including crisis and disaster management, waste management, implementation of the Memorandum on Legacy Waste Disposal, HSE automation and digitalisation projects, improving group-wide fire safety, and KMG's environmental initiatives.

The Committee also consistently reviewed COVID-19 status updates at KMG and measures taken across the Group to prevent the spread of the virus. On top of that, we reviewed the progress report on implementing a sustainability system and including relevant principles in KMG's key business processes.

Achievements and key initiatives of the Company in 2022 across the areas supervised by the HSE & SD Committee:

- On 8 September 2022, the 7th Annual HSE Forum of KMG Group's CEOs "Industrial Safety leadership. New challenges and approaches" took place. It was attended by members of the Board of Directors and management of KMG, CEOs of subsidiaries and associates, and representatives of Samruk-Kazyna, government agencies and KMG's foreign partners. The purpose of the forum was to assess the current state of occupational health and safety and environmental protection across KMG Group, exchange experience in employee life and health protection, and to prevent accidents.
- We arrange for regular free of charge medical examinations and vaccination of employees.

Our priority environmental projects include eliminating legacy pollution, reducing emissions and discharges, implementing an automated vehicle monitoring system (Travel Management) and an environmental IT monitoring solution, as well as improving ecological culture and awareness.

The Committee seeks to make consistent and balanced decisions that would foster safe and sustainable development.

Timothy Miller

Chairman of the Health, Safety, Environment and Sustainable Development Committee, independent director

Members as of 31 December 2022:

1. Timothy Miller – Chairman of the Committee since September 2020;
2. Christopher Walton – member of the Committee since December 2018;
3. Uzakbay Karabalin – member of the Committee since May 2019;
4. Assel Khairova – member of the Committee since June 2022.

Key issues reviewed by the Committee in 2022:

Health, Safety and Environment	▪ Health, safety and environment reports; ▪ crisis and disaster management and fire safety at KMG Group; ▪ waste management and progress against the Memorandum on Legacy Waste Disposal; ▪ HSE automation and digitalisation projects; ▪ fire safety improvements at KMG Group; ▪ environmental projects; ▪ approval of Life-Saving Rules, a corporate health and safety standard for KMG Group employees; ▪ occupational health and hygiene management system; ▪ management of KMG contractors; ▪ COVID-19 status updates.
Sustainable development and ESG ratings	▪ KMG's ESG (Environmental, Social, Governance) score; ▪ implementing a sustainability framework across KMG and its business units and embedding sustainability principles into key business processes; ▪ approval of the 2021 Sustainability Report of JSC NC KazMunayGas; ▪ approval of the Sustainable Development Policy; ▪ KMG's contribution to the achievement of sustainable development goals; ▪ material topics to be disclosed in the 2022 Sustainability Report.
Social responsibility	▪ approval of the Human Rights and Public Relations Policy.

Attendance of the Committee's meetings by its members in 2022

Meeting No. and date		Length of meeting	Timothy Miller	Christopher Walton	Uzakbay Karabalin	Assel Khairova
1/2022	01.02	16:00–17:11 (71 minutes)	+	+	+	
2/2022	01.04	16:06–17:06 (60 minutes)	+	+	+	
3/2022	13.06	11:00–12:30 (90 minutes)	+	+	+	
4/2022	05.09	11:00–12:25 (85 minutes)	+	+	+	+
5/2022	31.10	11:00–12:50 (110 minutes)	+	+	+	+
Participation, %			100	100	100	100

MANAGEMENT BOARD PERFORMANCE REPORT

The Management Board's activities are regulated by the Law of the Republic of Kazakhstan On Joint Stock Companies, with due consideration of the specifics established by the Law of the Republic of Kazakhstan for the Sovereign Wealth Fund, KMG's Charter, and the Regulations on the Management Board. The Management Board may pass resolutions on any matters relating to KMG's operations not referred by regulations of the Republic of Kazakhstan and KMG's Charter to the remit of KMG's other bodies and officials. KMG's Management Board is headed by the Chairman of the Management Board appointed (elected) by the General Meeting of Shareholders. KMG's Board of Directors is responsible for appointing other members of the Management Board.

The most significant matters within the remit of the Management Board are:

- implementing KMG's Development Strategy and KMG's Development Plan;
- carrying out KMG's day-to-day financial and business operations, including execution of the business plan and implementation of investment projects;
- implementing sustainability efforts at KMG and its subsidiaries and associates;
- monitoring any conflicts of interest and corporate conflicts and contributing to their settlement;
- passing resolutions on matters related to activities of KMG's subsidiaries and associates, other that those reserved exclusively to KMG's Board of Directors pursuant to KMG's Charter;
- increasing KMG's liabilities and acquiring or disposing of property in line with the established materiality threshold.

KMG's Management Board is formed by the Board of Directors based on proposals of the Chairman of the Management Board. As of 31 December 2022, the Management Board comprised eight key executives of KMG. Meetings of the Management Board are held in person and in absentia and are convened as necessary.

153 out of all matters addressed in the Management Board resolutions passed at in-person meetings in 2022 were submitted to the KMG's Board of Directors in accordance with the established procedure..

In 2022, the Management Board held a total of

68 meetings

and reviewed and passed

654 resolutions

Matters on the agenda of the Board, %

42 % Internal activities[1]

6 % Matters reserved exclusively to the general meeting of founders of subsidiaries and associates

16 % Interested-party transactions

18 % Investment projects exceeding the materiality threshold

8 % Investment-related matters in line with Samruk-Kazyna's corporate standard

10 % Reports on internal activities[2]

1 — Key matters of KMG's internal activities included preliminary approval of KMG's consolidated and standalone annual financial statements for 2021 and subsequent discussion of KMG's 2021 net profit distribution, approval of the Roadmap to Divest from KMG's Non-Strategic Assets, the Sanctions Policy of JSC NC KazMunayGas and the Regulations on the Representative Office of JSC NC KazMunayGas in Aktau, the conclusion of hydrocarbon exploration and production contracts, the consolidated Development Plan of JSC NC KazMunayGas for 2023–2027, etc.

2 — Reports on risks; interested-party transactions with relevant resolutions passed by the Management Board; implementation of the development strategy until 2028; sustainable development, etc.

In 2022, the Management Board passed 24 resolutions on KMG's interested-party transactions[3].

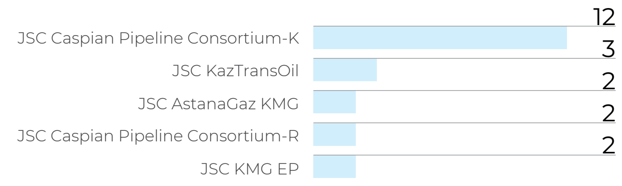
In January–December 2022, the Management Board also approved:

- the Quality Policy of JSC NC KazMunayGas;
- the Energy Policy of JSC NC KazMunayGas;
- the Employee Health Management Programme of JSC NC KazMunayGas Group;
- the Internal Carbon Pricing Programme of JSC NC KazMunayGas;
- base tariffs for 2023 at selected entities of JSC NC KazMunayGas Group;
- the Crisis Management Regulations of JSC NC KazMunayGas;
- the salary grid for executives and administrative employees of JSC NC KazMunayGas;
- the adjusted budget of JSC NC KazMunayGas for 2022;
- the budget of JSC NC KazMunayGas for 2023;
- the list of goods, works and services to be purchased by JSC NC KazMunayGas and legal entities in which JSC NC KazMunayGas, directly or indirectly, holds at least fifty percent of voting stock (equity stake) as the owner or trustee, as part of the measures to maintain and/or restore social stability, etc.

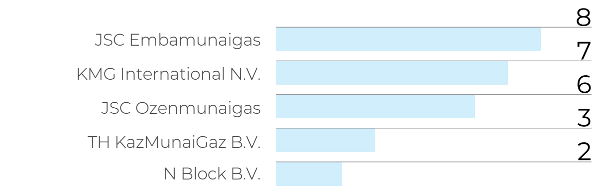
In addition, the Management Board passed **41 resolutions** to amend some of KMG's internal documents.

Within the remit covering the matters reserved exclusively to the General Meetings of the Shareholders (Participants) of subsidiaries and associates, as part of its responsibility to determine the Company's voting position at the General Meetings of Shareholders (Participants), the Management Board passed:

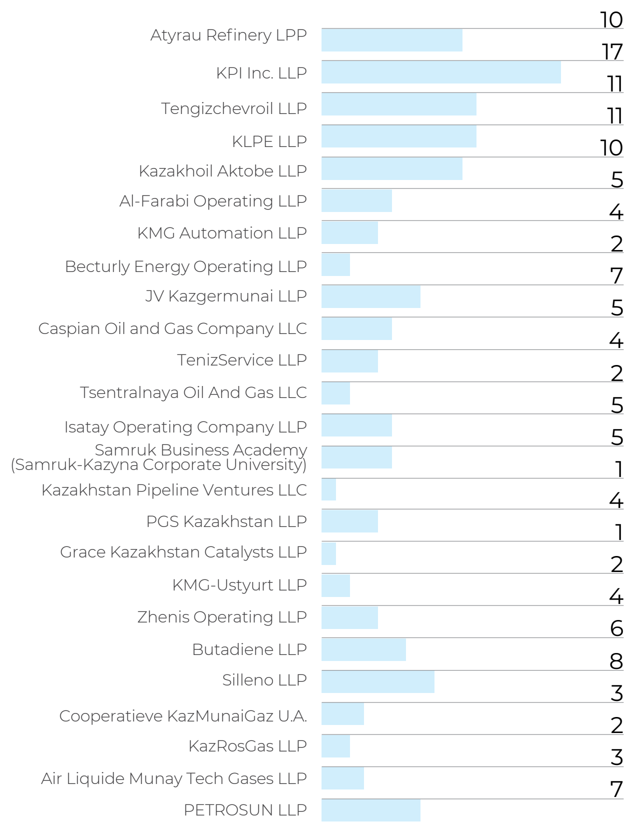
21 resolutions – acting as a shareholder / trustor



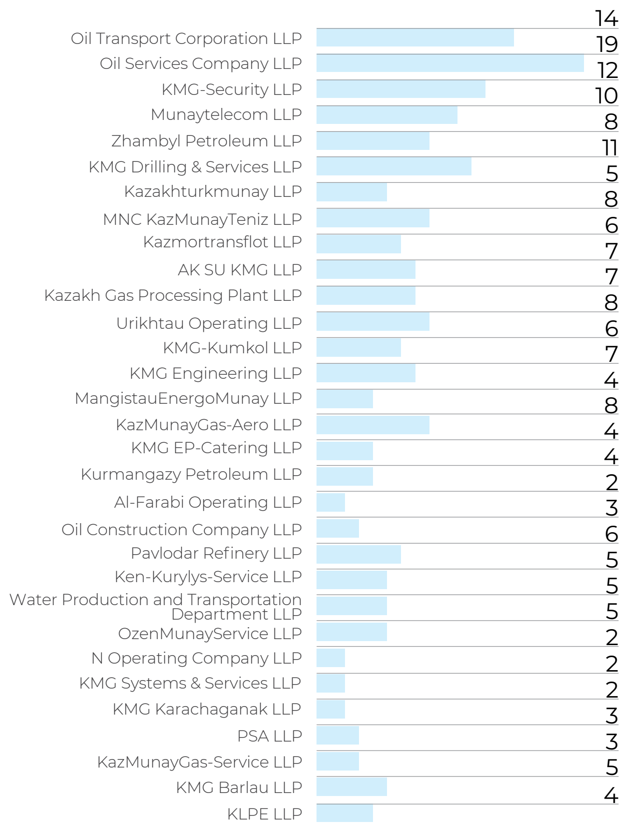
Along with the above, the Management Board passed 26 resolutions as the sole shareholder / the holder of 100 % of voting shares in KMG's subsidiaries, including



139 resolutions to determine KMG's position as a participant / trustee manager of a stake in the authorised capital



195 resolutions were passed by the Management Board as the sole shareholder / the sole founder / the holder of a 100 % stake in KMG's subsidiaries, including



3 — KMG's Charter sets a materiality threshold differentiating whether certain items are to be referred to the Management Board or the Board of Directors..

MEMBERSHIP OF THE MANAGEMENT BOARD

Magzum Myrzagaliyev
Chairman of the Management Board

Dauletzhan Khassanov
Deputy Chairman
of the Management Board

Serikkali Brekeshev
Deputy Chairman
of the Management Board

Bulat Zakirov
Deputy Chairman
of the Management Board

Kuanysh Khudaibergenov
Deputy Chairman
of the Management Board

Arman Kairdenov
Deputy Chairman
of the Management Board

Dauren Karabayev
Deputy Chairman
of the Management Board

Dastan Abdulgafarov
Deputy Chairman
of the Management Board

Vassiliy Lavrenov
Deputy Chairman
of the Management Board

Magzum Myrzagaliyev

Member of KMG's Board of Directors, Chairman of KMG's Management Board

Member of KMG's Board of Directors since 14 April 2022.
Date of birth: 7 November 1978

Education

- Zhautykov Republican Physics and Mathematics School;
- Economics, Turan University;
- International Relations, Diplomatic Academy of the Ministry of Foreign Affairs of the Republic of Kazakhstan;
- Oil and Gas Engineering, Caspian State University of Technologies and Engineering.

Experience

Magzum Myrzagaliyev joined KMG Group more than six years ago. He has worked in senior executive positions at KMG for three years.

At different stages in his career, he worked as Technical Safety and Production Manager, Engineer for Drilling Fluids at MI Drilling Fluids International (Schlumberger) at the Tengiz field and the fields of Western Siberia, CEO of TenizService LLP, Managing Director for Service Projects, Deputy Chairman of the Management Board for Innovative Development and Service Projects at KMG, Kazakhstan's Vice Minister of Oil and Gas, Minister of Ecology, Geology and Natural Resources, Minister of Energy, Advisor to Kazakhstan's President.

Chairman of KMG's Management Board since April 2022.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Dauletzhan Khassanov

Deputy Chairman of the Management Board

A member of the Management Board since 2023.
Date of birth: 21 October 1971

Education

- Economics, West Kazakhstan Agricultural University;
- Mining Engineering, Atyrau University of Oil and Gas;
- Eni Corporate University (Milan, Italy), Executive MBA.

Experience

At different periods Dauletzhan Khassanov served as Deputy Chief Accountant at JSC Teniz, Chief Accountant at the Kurmangazy district telecom centre of OJSC Kazakhtelecom, Deputy Chief Accountant at OJSC Ozenmunaigas and OJSC Embamunaigas, Chief Accountant at JSC Caspi Neft and Eurasian Group LLP, Deputy Director for Economics and Finance, Director of the Finance Department, and Deputy Chief Accountant at a production unit of JSC Embamunaigas and at JSC KazMunaiGas Exploration Production. He also acted as Deputy General Director for Economics and Finance at JV Kazgermunai LLP, Share Managing Director at JVs of JSC KazMunaiGas Exploration Production, a part-time director at Technological Transport and Well Servicing Department LLP, President of JSC Karazhanbasmunai, CEO and Chairman of the Management Board at JSC Ozenmunaigas, Deputy CEO, a member of the Management Board and Executive Director for Exploration and Production Assets Management at JSC KazMunaiGas Exploration Production, and General Director for Economics and Finance and a member of the Management Board at JSC NMC Tau-Ken Samruk, Director of the Human Resources Management Department of JSC NC KazMunayGas, Director of the Production and Gas Department of JSC NC KazMunayGas, General Director of JSC Mangystaumunaigas, Deputy Chairman of the Management Board of JSC NC KazMunayGas.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly) and is not involved in any transactions therewith.

Kuanysh Khudaibergenov

Deputy Chairman of the Management Board

A member of the Management Board since 2023.
Date of birth: 24 July 1984

Education

Oil and Gas Field Development and Exploitation; Gubkin Russian State University of Oil and Gas MBA in International Oil and Gas Business; Moscow State Institute of International Relations (2012).

Experience

Kuanysh Khudaibergenov started his professional career in 2006 at Integra CJSC (Russian Federation) where he worked as a controller, assistant driller and drilling engineer (at the well site).

In 2007–2008, he worked as a technical expert in the Production Department of JSC MNC KazMunayTeniz.

In 2008–2011, he worked as a drilling engineer in the Production Department of Caspian Meruerty Operating Company B.V.

In 2011–2012, he worked as a category 1 manager in the Exploration Project Management Department and the Major Oil and Gas Project Development Department of JSC NC KazMunayGas.

In 2012–2015, Kuanysh Khudaibergenov was the Director of the Exploration and Production Department, Deputy CEO for Exploration and Production at Rompetrol S.A. (Romania).

In 2015–2016, he was the Deputy CEO for Geology and Production at KMG-Kansu Operating LLP.

In 2016–2017, he served as an advisor to the Chairman of the Senate of Kazakhstan's Parliament.

In 2017–2021, he headed the Oil Industry Development Department of the Ministry of Energy of the Republic of Kazakhstan.

In 2021–2023, he worked as the Deputy CEO of Karachaganak Petroleum Operating B.V.

Deputy Chairman of KMG's Management Board since February 2023.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Serikkali Brekeshev

Deputy Chairman of the Management Board

A member of the Management Board since 2023.
Date of birth: 14 October 1972

Education

Oil and Gas Development, Mining Engineer; Aktau Polytechnic Institute.

Experience

Serikkali Brekeshev started his career at JV Kazakhstan-Russian Trading House.

In 1997, he worked as an inspector in the Tax Department of Aktau.

In 1997–1998, he was an engineer in the Special Machinery and Spare Parts Department and the Piping and Metalware Department at Munai-Germes, a procurement and sales branch of JSC Mangistaumunaigas.

In 1998–2006, he worked at KarakudukMunai as a field engineer, oilfield foreman and field manager.

In 2007–2010, Serikkali Brekeshev was the Head of Petroleum Project Monitoring, Regulatory and Technical Policy in the Petroleum Industry Department, Deputy Director of the Gas Industry Development Department in the Ministry of Energy and Mineral Resources of the Republic of Kazakhstan.

In 2010–2014, he was the Director of the Gas Industry Development Department in the Ministry of Oil and Gas of the Republic of Kazakhstan.

In 2014–2015, he was the Deputy CEO of BNG LTD LLP.

In 2015–2020, he served in several roles at KazTransGas, including as the Director of the Technical Policy Department, Managing Director for GTP, Managing Director for Technical Policy, Deputy CEO for Resource Development and Technical Policy.

In 2020–2023, Serikkali Brekeshev was the Vice-Minister, Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

Deputy Chairman of KMG's Management Board since February 2023.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Bulat Zakirov

Deputy Chairman of the Management Board

A member of the Management Board since May 2022.
Date of birth: 16 July 1976

Education

International Monetary and Financial Relations; Kazakh State Academy of Management Oil and Gas Economics; University of Dundee (Scotland).

Experience

In 1999–2009, Bulat Zakirov worked at KazTransOil as an expert of the Strategic Planning Department, a manager of the Project Management Department, the Chief Manager, the Deputy Director and subsequently the Director of the Transport Logistics Department, the Director of the Advanced Development Department, and the Deputy CEO for Development.

In 2009–2011, he was the Deputy CEO and CEO of KMG-Transcaspian LLP.

In 2012–2016, he worked at KazTransOil as the Advisor to the CEO, Managing Director for Production, Deputy CEO for Development, and Managing Director for Assets.

In 2016–2018, Bulat Zakirov was the Advisor to the CEO of KMG Systems & Services LLP.

Since 2018, Director of the Oil Transportation Department, Head of Oil Transportation at JSC NC KazMunayGas.

Since May 2022, Deputy Chairman of KMG's Management Board for Oil Transportation, International Projects and Sary-Arka Gas Pipeline Construction.

Holds 100 shares in KMG.

Arman Kairdenov

Deputy Chairman of the Management Board

A member of the Management Board since 15 June 2022
Date of birth: 12 April 1971

Education

- Carbon Materials Chemical Technology, Kazakhstan's Chemical Technology Institute;
- Oil and Gas Business, Russian Presidential Academy of National Economy and Public Administration (2003).

Experience

Arman Kairdenov began his career in August 1993 as Process Unit Operator at Atyrau Refinery.

In March 2006, he became Senior Manager at KMG's Petrochemicals Department.

In February 2017, he joined KMG Rompetrol SRL as advisor to the head of a representative office.

In March 2019, he became director of KMG's Technical Development Department.

In July 2021, he was appointed CEO (Chairman of the Management Board) of Atyrau Refinery LPP.

Since 20 May 2022, Deputy Chairman of KMG's Management Board for Oil Refining and Petrochemicals and a member of KMG's Management Board.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Dauren Karabayev

Deputy Chairman of the Management Board

A member of the Management Board since 2016
Date of birth: 11 June 1978

Education

- International Economic Relations, Kazakhstan's State Academy of Management;
- Master of Science in Finance, Texas A&M University;
- CFA Charter holder.

Experience

Dauren Karabayev began his career as a credit analyst at ABN AMRO Bank Kazakhstan in 2001 and was promoted to Head of the Credit Department in 2003.

In 2004, he joined Halyk Bank as a Managing Director and served as Deputy Chairman of its Management Board from 2007 to 2016.

In 2016, he became project sponsor at McKinsey & Company Inc.

In 2017, he was appointed Chairman of the Board of Directors of KazMunayGas Exploration Production (listed on the London Stock Exchange).

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Dastan Abdulgafarov

Deputy Chairman of the Management Board

A member of the Management Board since February 2020
Date of birth: 16 December 1974

Education

- Zhautykov Republican Physics and Mathematics School;
- International Law, Kazakhstan's University of Law and International Relations;
- International Economics and Law, Diplomatic Academy of the Ministry of Foreign Affairs of the Republic of Kazakhstan;
- Master's degree in Oil Business, Eni Corporate University (Milan, Italy);
- Executive MBA (Finance and Investment), Moscow School of Management SKOLKOVO.

Experience

Dastan Abdulgafarov has been with KMG Group for more than 18 years, including 14 years in which he held senior executive positions.

At different stages in his career, he worked as Lawyer at the International Contract Department, Chief Manager and Director of the New Project Development Department, Deputy Director and then Director of the New Offshore Project Development Department, Head of the Project Management Group at KMG and MNC KazMunayTeniz. He was Advisor to the CEO, Managing Director for Business Development and Deputy CEO for Economics and Finance at KazMunayGas Exploration Production, Managing Director for Exploration and Production Business Support, Head of Staff and Managing Director for Development at KMG.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Vassiliy Lavrenov
Deputy Chairman of the Management Board

A member of the Management Board since May 2022

Date of birth: 17 November 1979

Education

- Law, Kazakhstan's State Law Academy;
- International Law, Duke University School of Law (USA) and Kyushu University (Japan).

Experience

At different stages in his career, Vassiliy Lavrenov worked as Paralegal at Titul Legal Agency (Almaty), Lawyer at GRATA Law Firm, Legal Counsel at Kazatomprom, Partner and Coordinator of Aktobe and Bishkek branches of GRATA Law Firm, Senior Legal Counsel at a branch of BATEMAN Kazakhstan Oil and Gas Company B.V. in Kazakhstan (Almaty), Head of Legal for Kazakhstan at Integra Management (Almaty), General Counsel / Head of Legal Department at Eastcomtrans LLP (Aktau, Almaty), Senior Partner / Legal Counsel at Greenline Services Ltd. (Hungary).

On 20 May 2022, he was appointed Deputy Chairman of KMG's Management Board.

Holds no shares in KMG or its subsidiaries and associates (directly or indirectly), is not involved in any transactions therewith.

Membership of the Management Board as of 31 December 2022

Magzum Myrzagaliyev	Chairman of the Management Board
Kurmangazy Iskaziyev	Deputy Chairman of the Management Board
Murat Munbaev	Deputy Chairman of the Management Board
Bulat Zakirov	Deputy Chairman of the Management Board
Arman Kairdenov	Deputy Chairman of the Management Board
Dauren Karabayev	Deputy Chairman of the Management Board
Dastan Abdulgafarov	Deputy Chairman of the Management Board
Vassiliy Lavrenov	Deputy Chairman of the Management Board

Composition of the Management Board as at the time of approving the 2022 Annual Report

Magzum Myrzagaliyev	Chairman of the Management Board
Dauletzhan Khassanov	Deputy Chairman of the Management Board
Kuanysh Khudaibergenov	Deputy Chairman of the Management Board
Serikkali Brekeshev	Deputy Chairman of the Management Board
Bulat Zakirov	Deputy Chairman of the Management Board
Arman Kairdenov	Deputy Chairman of the Management Board
Dauren Karabayev	Deputy Chairman of the Management Board
Dastan Abdulgafarov	Deputy Chairman of the Management Board
Vassiliy Lavrenov	Deputy Chairman of the Management Board

REMUNERATION REPORT

MEMBERS OF THE BOARD OF DIRECTORS

The Resolution of JSC Samruk-Kazyna's Management Board dated 26 September 2016 approved the Guidelines on Forming Boards of Directors at Companies of JSC Samruk-Kazyna, which provide, inter alia, for a procedure for remuneration payable to members of such Boards of Directors. Remuneration reflects the duties of the respective member of the board of directors, the scale of the company's operations and its long-term goals and objectives. Remuneration is also paid to independent directors. The level of remuneration payable to representatives of JSC Samruk-Kazyna on such boards is determined by a resolution of JSC Samruk-Kazyna's Management Board.

Total remuneration paid to members of the Board of Directors in 2020–2022

Members of the Board of Directors	2020	2021	2022
Total remuneration paid to members of the Board of Directors in USD	819,020	381,944	350,000
Total remuneration paid to members of the Board of Directors in KZT	15,799,427	18,200,000	29,538,710

REMUNERATION OF THE MANAGEMENT BOARD

KMG's Board of Directors determines the remuneration policy and the procedure for assessing performance of members of KMG's Management Board in line with the Corporate HR Management Standard of JSC Samruk-Kazyna Group, approved by the Resolution of the JSC Samruk-Kazyna's Management Board dated 14 December 2017.

Remuneration paid to members of the Management Board for the reporting period (year) is performance-related to encourage them towards the strategic and priority goals outlined in measurable, interrelated, consistent, and balanced motivational KPI scorecards.

A motivational KPI scorecard outlines corporate and functional KPIs.

The Nomination and Remuneration Committee of the Board of Directors pre-reviews matters related to building an effective and transparent remuneration framework.

The total remuneration paid to members of KMG's Management Board for 2022 amounted to KZT 344,627,124.98, including all salaries and financial benefits (plus taxes and pension contributions) paid by KMG to members of the Management Board for serving on the Board in 2021, under the Remuneration Rules for Members of the Management Board (executives) and Remuneration Rules for the Employees of Internal Audit, Corporate Secretary, Compliance and Ombudsman of KMG, approved by the Resolution of KMG's Board of Directors dated 10 September 2020..

Members of the Management Board	2020	2021[1]	2022
Total remuneration of the Management Board, KZT	317,527,424.77	575,440,805.94	344,627,124.98

1 — The total remuneration paid to members of KMG's Management Board for 2021 amounted to KZT 227,908,251.96, as well as the remuneration paid in 1Q 2021 to members of KMG's Management Board for 2019, which amounted to KZT 347,532,554.00.

RESPONSIBILITY STATEMENT

In line with the Code, the Board of Directors, and the Management Board are responsible for preparing a reliable annual report and financial statements of the Company.

The Board of Directors and each member of the Board of Directors confirm that they recognise their responsibility for preparing and approving the annual report and financial statements, and consider the annual report and financial statements, taken as a whole, to be fair, balanced and understandable and to provide the information necessary for shareholders to assess the Company's position, performance, business model and strategy.

Each member of the Board of Directors confirms that to the best of their knowledge:
- the financial statements, prepared in accordance with IFRS, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the subsidiary undertakings included in the consolidation taken as a whole;
- the Management Board's report includes a fair review of the development and performance of the business and the financial position of the Company and the subsidiary undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties they face.

In line with the Code, the Board of Directors has determined that Christopher Walton, Philip Holland, Timothy Miller and Assel Khairova are independent in character and judgement. The Board of Directors has also determined that there are no relationships or circumstances which are likely to affect, or could appear to affect, the directors' judgement.

CORPORATE CONTROL

In the event of corporate conflicts, the parties attempt to settle them by negotiation to efficiently protect the interests of KMG and other stakeholders.

In order to be effectively prevented or addressed, corporate conflicts primarily need to be identified as soon and fully as possible, with all corporate governance bodies to act in a consorted manner.

Corporate conflicts are addressed by the Chairman of the Board of Directors assisted by the Corporate Secretary. If the Chairman of the Board of Directors is involved in a corporate conflict, such cases are addressed by the Nomination and Remuneration Committee.

INTERNAL AUDIT

Internal audits are carried out by KMG's Internal Audit Service (IAS).

The Internal Audit Service reports and is accountable to KMG's Board of Directors, and is supervised by the Audit Committee of KMG's Board of Directors.

The activities of the IAS are governed by Kazakhstan's laws; KMG's Charter; resolutions of KMG's governing bodies; Regulation on Internal Audit Service; Guidelines for KMG's Internal Audits, and other internal documents of KMG. Also, the IAS carries out its activities in line with the basic principles of the International Professional Standards for Internal Auditing developed by The Institute of Internal Auditors Inc., the Core Principles for the Professional Practice of Internal Auditing, the Code of Ethics and the Definition of Internal Auditing, which establish the fundamental requirements for the professional practice of internal auditing, as well as the principles underlying the assessment of internal audit performance. The IAS focuses on providing the Board of Directors with independent and objective information to ensure the effective management of KMG and its subsidiaries and associates by employing a systematic approach towards improving risk management, internal control and corporate governance processes.

The annual Internal Audit Plan is developed from a consideration of the principal risks confronting KMG, the audit testing cycle and management requests. The Internal Audit Plan also accommodates ad hoc requests from KMG's Audit Committee, Board of Directors and management.

To perform its activities in accordance with the annual audit plan, the IAS:
- assesses the reliability and effectiveness of applicable internal controls and risk management procedures;
- assesses the reliability, completeness and objectivity of the accounting policy as well as financial statements of KMG and its subsidiaries and associates based on such policy;
- assesses the efficiency of resource management at KMG and its subsidiaries and associates and the methods used to ensure asset integrity;
- monitors compliance with Kazakhstan's laws, corporate operational, investment and financial rules and regulations.

The IAS uses audit results to make recommendations on improving KMG's operations. The IAS consistently monitors and oversees the development and execution of measures to implement its recommendations.

Internal audit matters reviewed by the Audit Committee at its meetings include:
- IAS annual performance report;
- IAS quarterly performance reports, including reviews of any material findings identified in audit reports and follow-up on the implementation of internal audit recommendations;
- annual audit plan and amendments thereto;
- KPI scorecards of the IAS head and staff;
- IAS strategic plan;
- IAS budget;
- HR management within the IAS.

The Audit Committee not only monitors the IAS' performance but also facilitates professional development of the IAS employees and the management of its talent pool. These matters are covered by the IAS reports and reviewed by the Audit Committee on a quarterly basis.

The high professional level of the IAS employees is a key performance driver for KMG's internal audit function, therefore training and upskilling are prioritised.

Assessments of the internal audit process performance

As required by the IAS quality assurance and improvement programme, following each audit, the audited entity is required to complete a form assessing the IAS' performance. Results of these assessments are consolidated into the IAS quarterly and annual performance reports reviewed and approved by KMG's Audit Committee and Board of Directors.

An independent external assessment of the Internal Audit Service is performed once every five years in accordance with the International Standards for the Professional Practice of Internal Auditing. In 2020, IAS underwent an independent external assessment of compliance with the International Standards for the Professional Practice of Internal Auditing, international best practices, KMG's Regulation on the Internal Audit Service, the Company's Code of Ethics and other applicable external and internal regulations governing the internal audit function, and was found 100% compliant with the standards.

Therefore, the activities of the IAS were found to be fully compliant with the requirements of the International Standards for the Professional Practice of Internal Auditing.

COMPLIANCE SERVICE

KMG conducts its business in a fair, honest and transparent manner while also paying special attention to the observance of these principles by our employees and partners. To this end, the Company has in place the Code of Business Ethics, Anti-Corruption Policy, Confidential Informing Policy, Conflict of Interest Policy, Counterparty Due Diligence Policy and Internal Control Rules for Granting Access Rights to Insider Information and Preventing Information Misuse by Insiders. In addition to the drafting of internal documents, KMG implements timely measures to ensure compliance with new anti-corruption laws and regulations. In 2022, KMG closely focused on strengthening its culture of compliance and looking into the trends affecting compliance processes.

In order to meet the standards of business conduct and ethics, KMG updated existing and developed new internal documents on compliance. In 2022, amendments were made to the Anti-Corruption Policy and the Confidential Informing Policy. The amendments related to the personal liability of the Chairman and Deputy Chairmen of the Management Board for corruption offences committed by their direct subordinates and responsibility to submit investigation materials on received reports indicating criminal or administrative offences to authorised law enforcement bodies.

KMG is committed to the best global practices in corporate governance and focuses on continuous improvement of its corporate standards. The Company approved the Securities Transaction Policy.

Reporting tools

In order to support the respect for employee rights, we provide confidential and accessible means of real-time reporting of all unlawful acts both by employees and third parties. All reports, including anonymous ones, are received and processed by operators and then forwarded to KMG's Compliance Service, which ensures their professional and confidential review. In 2022, our Hotline received 109 reports, including 68 reports on bribery, corruption or inefficient use of funds, including procurement, theft or embezzlement, improperly receiving gifts or other benefits by an employee; 41 reports on unequal terms of employment and working conditions, including improper hiring, promotion, dismissal of an employee, labour conflicts, unethical behaviour. Of the reports received, 22 or 21%, were confirmed. On a quarterly basis, the Compliance Service provides information to the Audit Committee and KMG's Board of Directors on the results of reviewing the received reports, on the measures taken to eliminate the issues, as well as measures taken by the management to prevent violations. The Company saw a 43.4% increase in the number of reports year-on-year. The dynamics of incoming reports to the Hotline demonstrates the growing confidence of stakeholders in this tool. The Company actively seeks to encourage employees and other persons to report any issues via the Hotline.

Compliance training and professional development

As part of promoting high ethical standards of business conduct and zero tolerance for any form of corruption and as part of cooperation with the authorised body (Anti-corruption Agency of the Republic of Kazakhstan), the Company participated in the Improving Business Integrity in Kazakhstan's Business Sector conference and in the International Standards and Measures for Corruption Prevention conference featuring participants from other countries. Similar events were also held in the regions. For example, in July and October a meeting was held between the Aktobe Region's Department of the Anti-corruption Agency and the Prevention Service of the Anti-corruption Agency with the staff of Kazakhturkmunay. In November, a meeting was organised for employees of the Pavlodar Refinery with the head of the Prevention and Integrity Division of the Anti-Corruption Agency's Department for the Pavlodar Region. In October, KPI and Atyrau Refinery attended a forum on the role of compliance function in protecting the business reputation of government agencies and major companies organised by the Anti-Corruption Service of the Atyrau Region. At the end of the event, heads of Atyrau Refinery, Safi Utebayev University of Oil and Gas and the Anti-Corruption Service of the Atyrau Region signed a trilateral agreement on cooperation to improve compliance functions in the Atyrau Region.

In order to boost the performance of KMG's Compliance Service and its subsidiaries and associates, as well as to strengthen the Company's controls and to combat corruption and fraud, Anti-Corruption Compliance, Sanctions Compliance webinars and the Compliance and Security Forum supported by the Association of Compliance and Business Ethics were held in 2022 for KMG Group's compliance personnel.

In order to exercise control over access rights for insider information and prevent misuse of such information by insiders, a workshop on the topic of Insider Information: Regulation and Liability of the Company and its Insider Employees was held for KMG's staff.

Since 2020, the Company requires employees across the board to declare any conflicts of interest. This contributes to the efficiency of conflict of interest management and helps define the requirements for employee conduct to minimise the risks of decision-making affected by personal interests and connections.

The Compliance Service supports the development of professional competencies and expertise of KMG Group's compliance officers. Today, our compliance teams include holders of internationally acclaimed certificates from the Association of Certified Fraud Examiners and the International Compliance Association and their number keeps growing.

In addition, KMG's Compliance team received a special award from the head of Samruk-Kazyna's Compliance Service in 2022.

To sum up the results of KMG's activities in this realm, we can definitely state that in 2022 the Company's management demonstrated understanding that the speed of decision-making, speed of change and innovation is the key driver behind its success and prosperity in today's environment. This is confirmed by the fact that when Sustainalytics assigned an ESG rating to KMG, gave the highest score (out of a possible 100) to its corruption risk management and noted the high level of anti-bribery and anti-corruption policies.

Thus, our efforts in the area of compliance, as well as the high score from Sustainalytics, demonstrate the Company's conformity to the requirements of Kazakhstan's anti-corruption legislation and the expediency in the organisation and implementation of compliance risk monitoring.

OMBUDSMAN OFFICE

One of the key roles of the Ombudsman Office is to make sure that KMG's practices are fair and that the interests of all the Company employees are observed, through early prevention, dispute settlement and conflict resolution, and escalating systemic issues requiring action to relevant bodies and officers, as well as initiating proposals to stabilise conflict situations. KMG's Code of Business Ethics clearly states the principles stipulating that KMG employees and officers shall not tolerate discrimination against anyone on the basis of race, religion, nationality, gender, political or other affiliation, social origin, material position, job, language or other circumstances, as well as the granting of any privileges to individual employees based on the above characteristics. KMG Ombudsman's activities are guided by Kazakhstan's laws and KMG's internal documents. When preparing the Ombudsman's annual report to the Board of Directors, KMG's Ombudsman Office makes suggestions for addressing systemic issues.
The Ombudsman's objectives are:

- collecting and analysing information on the local social environment, developing systemic prevention and response measures to eliminate social tensions;
- assessing the development of situation in the regions of KMG's operation and developing specific solutions for and recommendations on issues based on the results of the assessment.

After their appointment in July 2022, KMG's Ombudsman met with the management, heads of departments and representatives of trade unions of KMG subsidiaries and associates – Ozenmunaigas, Karazhanbasmunai, Kazakhoil Aktobe in order to learn about the requirements of the Code of Business Ethics, their own functions and objectives.

In accordance with the Regulations on the Ombudsman Office approved by a resolution of KMG's Board of Directors of 19 September 2019, the Ombudsman Office organised work on reviewing, registering reports, including via the Hotline. In 2022, the Ombudsman reviewed five reports.

The Ombudsman / Ombudsman Office provided consultations and recommendations on oral reports (by phone, at personal meetings). Action was taken by the Office in response to the reports received to settle the issues, including to restore the violated rights and lawful interests. In addition, social tensions and unrest at Karazhanbasmunai and KMG-Kumkol were prevented.

The main reasons for reporting to the Ombudsman Office are:

- violation of the standards of KMG's Code of Business Ethics;
- discrimination and rude treatment of subordinates by the management.

In 2022, KMG received 226 reports via the Hotline of the Nysana call centre. KMG's Ombudsman Office monitors their timely review by relevant units.

EXTERNAL AUDIT

In order to independently assess the reliability of KMG Group's accounting (financial) statements, each year the Company engages an external auditor to conduct an audit of financial statements prepared in accordance with the IFRS. The external auditor is approved by the General Meeting of Shareholders following the approval by KMG's Board of Directors.

Appointment of the auditor and its independence

The auditor is selected in line with the procurement procedure for Samruk-Kazyna Sovereign Wealth Fund and organisations with at least fifty percent of voting shares (equity interest) directly or indirectly owned or held in trust management by Samruk-Kazyna.

Selection of the auditor is based on the principles of:

1. acquiring high-quality audit services for financial statements and related services;
2. ensuring transparency of the selection process, control and responsibility for the decisions made;
3. ruling out conflicts of interest and respecting independence.

In order to implement the selection of the external auditor, a Joint Commission consisting of members of the Fund's and KMG's Audit Committees is set up. The Join Commission determines the strategy for selecting the external auditor and implements the procedures for selecting the external auditor for KMG, including its material companies, and the Fund. The Audit Committee assesses the independence of the external auditor on an ongoing basis; the audit firm is rotated every five years. Partners and executives involved in the audit of KMG may not be hired by the Company.

Provision of non-audit services by the external auditor

When the external auditor provides non-audit consulting services, the external auditor is required to obtain approval from the Audit Committee to do so. KMG annually submits to the Audit Committee for approval the information on non-audit services authorised for the external auditor and the audit and non-audit services provided by the external auditor during the reporting year. According to the Auditor Engagement Policy, the share of fees for non-audit services may not exceed 50% of the total cost of audit services provided by the external auditor. Non-audit services rendered by an external auditor in 2022 amounted to 2.1% of the total cost of audit services.

According to the resolution of shareholders represented by the Management Board of Samruk-Kazyna dated 20 January 2022, an independent audit firm Ernst & Young LLP was selected as the external auditor of KMG's financial statements for 2022–2024.

RISK MANAGEMENT AND INTERNAL CONTROL

Corporate Risk Management System principles

Through risk management, the Company prevents the occurrence of risk events, which affect the achievement of strategic and operational goals, and mitigates their impact if they occur. Risk management is an integral part of the Company's strategic planning, corporate governance and financial stability.

KMG has integrated the Corporate Risk Management System (CRMS) into its key business and management processes. The purpose of the CRMS is to ensure an optimal balance between the Company's growth in value, its profitability and risks. The CRMS is a key element of the corporate governance framework, supporting timely identification, assessment and monitoring of all material risks, as well as application of timely and adequate mitigation measures. The CRMS established at KMG and its subsidiaries and associates covers all business areas.

The Company's Risk Management Policy relies on the following principles:

The CRMS has the following goals:
- to ensure an optimal balance between the Company's growth in value, its profitability and risks;
- to define key tools and procedures used by the Company to manage production/non-production risks;
- to define areas of responsibility of goal owners, risk owners, and risk factor owners in managing production/non-production risks;
- to define internal documents on risk management process.

The CRMS has the following objectives:
- to determine the Company's risk appetite in line with its Development Strategy;
- to improve decision-making in responding to emerging risks / risk factors;
- to make sure that the capital is used efficiently;
- to prevent the occurrence of risk events that threaten the achievement of strategic and operational goals;
- to integrate the risk management process into key business and management processes;
- to build a top-down risk management approach, with risk management embedded across all management levels from top (KMG) to the line level (CODAP). This reflects an essential principle of the risk management process approach: **risks are best managed locally, which helps to avoid the dilution of responsibility**;
- to create a risk management framework that will enable goal owners, risk owners, and risk factor owners to identify and assess risks by themselves, leverage standard risk management approaches and use them to develop risk management measures (controls);
- to provide a reasonable assurance to stakeholders that the Company manages risks effectively.

The Corporate Risk Management System Policy of KMG and its subsidiaries and associates is available on the Company's website.

Risk management process

The CRMS is designed to provide a consistent and clear framework for managing the risks associated with KMG's operations. The Company has a vertical risk management process and risk management system in place at all governance levels. Each officer is responsible for ensuring that risks are properly assessed during decision-making. Risk assessment involves a range of qualitative and quantitative tools factoring in risk probability and potential impact.

The CRMS relies on seven interrelated CRMS processes:

Goal setting
Identification of risks / risk factors
Assessment and analysis of risks / risk factors
Risk management
Monitoring and reporting
Information and communication
Creation of an internal environment

The above risk management components foster a group-wide risk culture driven by the appropriate "tone at the top", strong risk awareness and knowledge, and the accountability of risk owners / risk factor owners, as well as active risk management and timely reporting.

Risk appetite

The Company's risk appetite represents its level of risk retention at which the Company is able to achieve its strategic goals and operational targets. It also caps the level of critical risks / risk factors that the Company is willing to accept.

Selected excerpts from KMG's risk appetite statement

Financial activities	Operations	Investment activities
▪ Compliance with covenants in debt instruments. ▪ Ensuring that the Company's credit ratings are not downgraded. ▪ Maintaining sufficient liquidity and positive consolidated free cash flow. ▪ Ensuring that the targeted dividend flow from subsidiaries and associates to the Company does not go down. ▪ Minimising tax risks. ▪ Preventing the misstatement of business transactions in accounting and tax accounting and financial statements.	▪ Zero tolerance of negative impact on reputation, health, safety and environment. ▪ Ensuring social stability in the regions of operation. Respecting the rights of employees, avoiding discrimination or unequal working and employment conditions. ▪ No transactions leading to violation of sanctions. ▪ In managing its information security and cyber risks, the Company ensures service availability, integrity of information resources, software and hardware, and prevents unauthorised disclosure of confidential information. ▪ Zero tolerance towards any form of corruption and fraud, as well as violations of business ethics. ▪ Zero tolerance towards losses and harm caused by environmental pollution. ▪ Ensuring that the carbon footprint reduction targets are met.	▪ Compliance with Samruk-Kazyna's investment policy. ▪ Financing of investment projects primarily with borrowings, provided that the Group's financial stability is not undermined. ▪ When implementing large investment projects, involving strategic partners in order to share risks. ▪ Implementation of subsoil use projects with strategic partners primarily under carry financing. ▪ Considering new investment projects with due regard to their compliance with the required profitability index, as well as their impact on: – the Company's shareholder value; – reducing carbon footprint and carbon intensity of products.

Improving risk management

Initiatives to develop and improve the CRMS

KMG has been continuously improving its CRMS and consistently enhancing its risk management framework. To reaffirm its commitment to the continuous development and improvement of CRMS, the Company took a number of measures and steps in 2022:

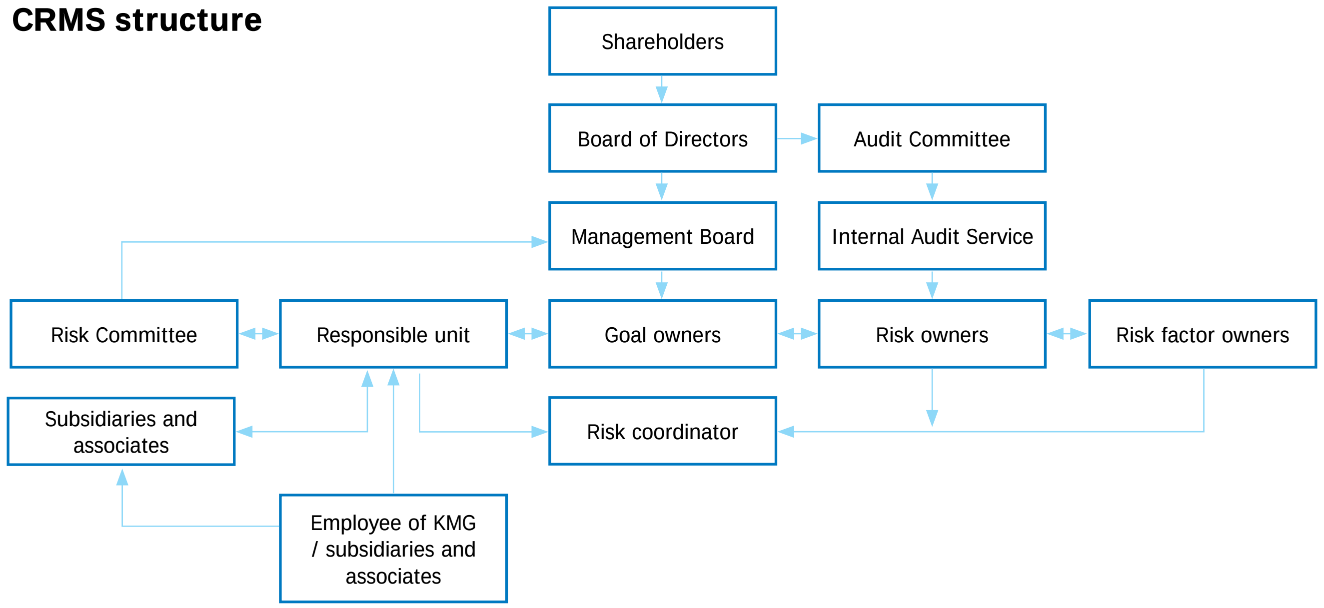
- the Company's Board of Directors approved the market risk hedging policy of KMG and its subsidiaries and associates;
- credit limits for foreign banks and Kazakhstani commercial banks were updated;
- the Company's risk management documents and risk / financial risk reports were approved, with risks linked to adjusted 2022 KPIs, as well as updated quantitative risk appetite;
- the format of the risk register for production programmes of oil companies was updated and sections on the risks of production programmes for the forecast year 2023 were elaborated;
- a working group was established to analyse the impact of the sanctions on the Company's operations. Daily and eventually weekly monitoring of sanctions risks was ensured. The Company's Board of Directors, the Fund, the Ministry of National Economy of Kazakhstan, and the Company's stakeholders regularly receive consolidated information on the impact of sanctions;
- the Company's Management Board and Board of Directors are informed in a timely manner on key risks; the risk register, risk map, quarterly risk reports and risk appetite are reviewed. In 2022, the Audit Committee held eight meetings and reviewed 23 matters;
- international certification in sustainability and climate risks was obtained to improve the risk assessment of investment projects;
- KMG-Security provided training on the risk management system for its managers and employees (with all regional branches covered).

Plans to develop the risk management system

- Developing the CRMS (updating the CRMS Policy and standard rules for establishing a risk management process, regulatory and methodological documents).
- Implementing an action plan for corporate governance improvement in 2022–2023 in terms of CRMS, ICS, and BCMS following an independent corporate governance review.
- Launching and rolling out an updated version of the automated risk management system across subsidiaries and associates: organising trainings for KMG's risk coordinators and risk managers of subsidiaries and associates in the use of the updated system, and ensuring its technical support.
- Fostering the risk culture.

CRMS participants

CRMS structure



Functions and responsibility of CRMS participants

Board of Directors (BoD)	▪ approves the Risk Management Policy; ▪ reviews risk reports; ▪ reviews reports on risk management efficiency.
Audit Committee (AC)	▪ develops recommendations for the BoD on monitoring the reliability and effectiveness of internal controls and risk management; ▪ approves the Company's risk register and map, as well as risk management action plan; ▪ approves the overall risk appetite, tolerance for each of the Company's key risks and risk limits; ▪ approves risk reports; ▪ approves the business continuity plan; ▪ analyses external and internal auditors' reports on internal controls and risk management; ▪ assesses the level of assurance over risk management and internal controls, including internal financial controls, and their sufficiency for the BoD's approval of their effectiveness; ▪ analyses the effectiveness of internal controls and risk management; ▪ monitors and instructs the responsible business unit on the timeliness of submitting key risk management documentation; ▪ holds regular meetings with the management to provide feedback on risk reports and review material risks and control issues, as well as respective plans for the Company's risk management and internal controls.
Management Board	▪ is responsible for the organisation and effective functioning of CRMS, and timely submission of quarterly risk reports to the Fund, AC and the BoD; ▪ ensures implementation of the CRMS Policy and improvement of internal documents on risk management of the Company and its subsidiaries and associates; ▪ approves registers of KMG's risk owners, risk factor owners, and risk coordinators; ▪ reviews quarterly risk reports and takes appropriate measures.
Risk Committee	▪ approves the risk appetite, risk register, risk map, risk management action plan, key risk indicators, risk tolerance levels, and quarterly risk reports submitted to the AC for approval; ▪ reviews the Company's risks and the effectiveness of risk management measures. Methodological documents on risk management, proposals to develop risk management policies, procedures, and structure; new approaches to risk management, action plans to improve CRMS.
Internal Audit Service	▪ assesses risk management effectiveness, notifies the AC of material weaknesses in CRMS, and develops recommendations to improve the process; ▪ assesses the effectiveness of preventive measures against the risk / risk factor (controls) and prepares recommendations to eliminate identified deficiencies; ▪ notifies the responsible unit of new risk factors identified in the course of audits but not included in the register.
Responsible unit	▪ ensures the operation of CRMS, development and update of relevant methodological documents; ▪ provides advisory support to units on CRMS, holds training events; ▪ analyses the context (internal and external environment), monitors internal/external factors that may have a significant impact on the Company's risks; ▪ reviews and approves risk registers, consolidates risks for KMG Group and analyses information, is responsible for timely preparation of the Company's risk register, risk map, risk management action plan, prepares quarterly reports on the Company's risks for the Management Board, AC, and BoD; ▪ exercises control over risk management measures, conducts timely monitoring of compliance with risk tolerance levels and key risk indicators; ▪ interacts with the IAS, KMG's units, external consultants, and other stakeholders on risk management within its competence; ▪ organises the interviewing of KMG's risk and risk factor owners and provides for methodological support in the application of expert methods of risk identification and assessment.
Goal owners	▪ are responsible for the coordination of risk values in quantitative / qualitative terms affecting the achievement of the established KPIs (targets), and risk management action plan; ▪ oversee timely implementation of the approved risk management action plan.

Risk owners / risk factor owners	■ are responsible for proper management and control of the risks associated with the processes overseen by the risk owner, for providing timely and complete information on the status of risks and performance of risk management measures; ■ develop and implement business continuity plans; ■ ensure the development of mechanisms for managing certain types of risks and controls associated with the processes overseen by the risk owner / risk factor owner (corporate standards, regulations, policies for managing certain types of risks) aimed at mitigating risk exposure.
Subsidiaries and associates	■ ensure timely risk identification and assessment in line with CRMS methodological documents; ■ are responsible for proper management and control of risks associated with the processes of subsidiaries and associates, timely risk reporting, as well as providing complete information on the status of production/non-production risks and performance of measures for their management, reporting on materialised risk events; ■ develop and implement business continuity plans for subsidiaries and associates.
Every employee of KMG / subsidiaries and associates	■ is responsible for performing their risk management duties in line with their job descriptions; ■ notifies in a timely manner the responsible unit of KMG / subsidiaries and associates, their direct supervisor of any committed or possible errors, deficiencies that have led or may lead to potential losses, of potential and materialised risk events in the manner and within the time frames established by CRMS internal documents; ■ receives risk management training under the approved training programme.

Internal Control System

The Internal Control System (ICS) is an integral part of CRMS. The COSO-based system includes five interrelated elements – control environment, risk assessment, controls, information and communication, and monitoring procedures. It is designed to achieve reasonable assurance that KMG will reach its goals across three key areas:

- improving operational efficiency;
- preparing complete and reliable financial statements;
- complying with Kazakhstan's laws and KMG's internal documents.

The ICS focuses on analysing business processes, timely identifying and analysing process-level risks inherent in KMG's operations, as well as defining and analysing controls for managing these risks.

The ICS is integrated into KMG's core and supporting business processes and includes procedures for promptly notifying the appropriate governance level of any material weaknesses and control bottlenecks, together with details of corrective actions that have been or should be taken.

The ICS is organised in line with the Internal Control System Policy, which sets out the goals, operating principles and components of the ICS and the Control System Guidelines, which define powers and responsibilities, operating procedures, internal control structure, performance criteria and forms of records.

KMG annually approves the ICS operation schedule based on the criticality ranking of business processes as well as recommendations by external and internal auditors. The schedule specifies when business processes will be formalised/updated and controls design analysed. Formalisation means the design and update of the existing risk flowcharts and matrices, along with business process controls. Improvement recommendations and areas for improvement are defined following the analysis of controls design performance. Similar activities are performed by subsidiaries and associates. The results of these ICS activities are from time to time communicated to business process owners, IAS, the external auditor, Management Board, and the Board of Directors of KMG.

ICS-related meetings and training sessions for employees of KMG and its subsidiaries and associates, which feature workshops, experience sharing, discussions of issues and their solutions, take place annually.

In 2022, KMG Risk Management and Internal Control Service continued its work to further implement and improve internal controls. Efforts were made jointly with business process owners to formalise internal controls for eleven business processes. Areas for improvement were identified and recommendations for the improvement of controls were prepared. Work is underway in line with the action plan to improve the ICS and BCMS at subsidiaries and associates. Subsidiaries receive assistance and methodological support in developing ICS documents (development of business process classifier, identification of business processes for the ICS schedule, analysis and comments/recommendations on draft flowcharts and risk and control matrices).

KMG subsidiaries performed a self-assessment survey on ICS maturity (over 200 criteria) with respect to the following ICS components:

- control environment;
- risk assessment;
- controls;
- information and communications;
- a monitoring procedure.

A preliminary analysis was made of the internal control activities required for horizontal tax monitoring, including across subsidiaries. Employees responsible for risk management at subsidiaries received online training in ICS. The ICS was enhanced, with a Joint Internal Control Improvement Plan for KMG developed jointly by the IAS and the Risk Management and Internal Control Service (RMICS) to improve ICS at KMG and its subsidiaries.

In 2023, KMG's Risk Management and Internal Control Service will continue to improve the ICS. The Company plans to continue formalising and analysing the controls design, providing recommendations on control procedures, carrying out internal control in line with the SAP S4/HANA project, conducting training for CEOs and heads of departments of KMG subsidiaries, strengthening its risk culture, and organising joint audits of IAS and RMICS (as agreed) at subsidiaries and associates subject to availability of risk matrices and controls for the respective business processes. In addition, RMICS specialists are engaged in the audit of financial and economic activities of subsidiaries and associates in order to verify self-assessment of internal controls.

KMG is aware of the importance of internal controls for the preparation and review of financial statements. This process involves providing reasonable assurance as to the reliability of financial statements and their conformity with applicable accounting standards. To this end, in addition to methodological documents defining the approach to the accounting of transactions and the preparation of financial statements, KMG group companies formalised and implemented an internal control process, including a risk matrix and controls over financial reporting. The effectiveness of internal controls over financial reporting is subject to regular review by independent auditors. On top of that, the following measures to prevent potential risks in preparing financial statements are in effect:

- annual approval of KMG's consolidated financial reporting calendar;
- quarterly development and communication of the schedule for closing and preparation of financial statements across KMG Group;
- quarterly analysis of questionnaires for non-routine situations submitted by KMG group companies;
- quarterly assessment of the chief accountants at KMG Group (in terms of timely and correct presentation of financial statements).

Business Continuity Management System

The Business Continuity Management System (BCMS) is a set of processes and procedures aimed at identifying potential threats/risks and assessing their impact on the activities of KMG and its subsidiaries and associates, which provides the basis for improving the Company's resilience to incidents by implementing effective responses capable of restoring its operations and protecting stakeholders' interests, the Company's business reputation, brand and value-adding operations.

The Company recognises the importance of having the BCMS in place and manages business continuity by identifying the necessary conditions and resources to develop and improve measures and tools to ensure business continuity in the context of threats and risks leading to business interruption.

The BCMS is organised in line with KMG's Business Continuity Management System Policy and the Guidelines for the Business Continuity Management Process. The BCMS Policy defines the scope, objectives, basic principles, and model of the business continuity management system, taking into account the recommendations of the international standard in business continuity management. The Rules for the Business Continuity Management Process define the procedures for determining BCMS' scope of application, business impact analysis, developing and approving the Business Continuity Plan (the "BCP"), BCP testing, monitoring and improvement of the BCMS, training and raising awareness of employees.

In 2022, the Risk Management and Internal Control Service analysed the impact of KMG's critical business processes on its operations and updated them. It also made efforts to describe possible scenarios for the shutdown/suspension of critical business processes, among other things due to external factors, in the following six areas: 1) unavailability of staff; 2) unavailability of premises; 3) unavailability of IT systems; 4) unavailability of documents; 5) unavailability of key suppliers; 6) unavailability of specific equipment. In addition, the service outlined preventive and corrective actions to manage relevant incidents, while also making and updating the list of employees responsible for business process recovery, required equipment, IT applications and systems, as well as of suppliers and stakeholders.

In 2023, the Risk Management and Internal Control Service will continue to improve the BCMS. Efforts will be made to update the Business Continuity Plan, and similar work will be done at subsidiaries. The Risk Management and Internal Control Service will also continue to coordinate BCMS rollout across subsidiaries, provide methodological assistance, and conduct training for employees in charge and the management.

Corporate insurance

Insurance is central to ensuring robust risk control and financial management across KMG Group as it serves to protect the property interests of the Company and its shareholders against unexpected losses that may result from operations, including due to external factors.

The Group's insurance function is centralised in order to enforce the unified corporate standard for insurance, which enables the Company to apply a comprehensive approach to managing continuous coverage. Independent appraisal of reproduction cost / replacement cost new (RCN) and risk assessments are also coordinated through risk surveys conducted by independent risk engineers across KMG Group.

KMG's Corporate Insurance Programme includes the following key types of insurance coverage:

- insurance of core operating assets of the Company;
- public liability insurance;
- energy risk insurance;

A reinsurance company is only considered for reinsurance when holding a financial credit rating of at least A– on the S & P scale. The Company employs best industry practices in negotiating the optimal insurance and risk coverage terms.

Key risks

KMG operates in a constantly changing environment. Some risks can evolve over time, while their potential impact and likelihood can change in response to internal and external factors. KMG manages, tracks and reports key risks and uncertainties that can affect its strategy implementation.

During the reporting period, a number of risks materialised, but their negative impact was managed and minimised through risk mitigation measures.

Key risks of the Company

✓ Risk has reduced ∧ Risk has increased — Risk does not change

Trend (over the year)	Risk description and likely impacts	Mitigation and management
∧	**Production decline risk** The main external risk factors are power outages, failures of external electricity supply (for example, supply failures on the part of KEGOC, Mangistau Atomic Energy Complex and Mangistau Regional Electricity Network), and severe weather conditions. Key reasons behind power outages and supply restrictions: ▪ emergency shutdown of power-generating units at the TPP of Mangistau Atomic Energy Complex; ▪ shortage of power capacities in the Mangistau and Atyrau regions. An additional risk factor that affected the key projects' production volumes in March was a drop in oil shipments through the CPC network (transportation restrictions / accident; for more details, see the risk of lower export transportation volumes below). Declines in production from mature fields is KMG's key operational risk. For more details, see the Upstream section.	The Company is running the Power Supply Reliability Improvement Plan, which sets out measures designed to reduce the number of emergency power outages and to mitigate the risk of production well shutdowns, while also describing mid- and long-term initiatives implemented jointly with power-generating companies and KEGOC, Kazakhstan's system operator for power transmission. To maintain production rates at its fields, KMG: ▪ implements upgrade programmes for obsolete equipment; ▪ deploys new technologies to maintain production at mature fields; ▪ improves production efficiency (waterflood management, removal of restrictions on surface infrastructure, increase in oil recovery, commissioning of facilities for further exploration at production assets); ▪ introduces automation. In addition, the Company is developing field reclamation projects and is planning to approve a roadmap for their implementation. The projects seek to introduce MET exemptions for any given period of time, promote site reclamation initiatives and drive up production volumes using the released capital.
∧	**Risk of lower transportation and sales volumes in the segment of oil exports** Key risk factors: 1. Strong dependence on Caspian Pipeline Consortium (CPC) – TCO, Kashagan and KPO transport all their volumes through the CPC network; 2. Oil transportation and shipment issues: – accident, technical disruptions in the CPC network (in case of technical shutdown, the Company will need to reduce its production and reroute sales streams); – the issues of oversupply in Transneft's oil pipeline system (due to challenges associated with selling Russian oil); – transportation restrictions in the CPC network (in case of increasing sanction pressure, counter-sanctions adopted by Russia and other geopolitical conflicts). 3. Acts of subversion, terrorism, or sabotage, nationalisation. **Impact** Oil transportation restrictions, curtailment or suspension of production at the TCO, Kashagan and KPO fields and the Company's operating assets, insufficiency of the tank farm capacities to meet the increasing supply.	1. The Company is considering a variety of alternative options/routes for transporting oil exports. 2. The Company holds discussions with suppliers on railway fleet expansion and transportation alternatives. 3. The Company is negotiating with CPC to find solutions to the potential situation where partial and/or full operating limitations are introduced for the sea terminal. 4. The Company stays in touch and holds consultations with the Ministry of Energy of the Republic of Kazakhstan. 5. Arrangements have been made to introduce KEBCO (Kazakhstan Export Blend Crude Oil, Kazakhstan's own oil grade) and ensure its official use in export contracts (for reference: this will contribute to the promotion of Kazakhstan's oil in all sales markets, facilitate the identification of alternative transportation routes and the procurement of permits, and help raise awareness about the re-branding through the joint efforts of international information platforms and key stakeholders).

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Work-related injury risk Employees' non-compliance with the established health and safety rules, and breaches of operational discipline may pose a threat to their life and health. **Impact** Violations of operational health and safety rules may lead to injuries, as well as production disruptions, financial losses, and reputational damage. In 2022, the Company registered 35 lost-time accidents and 36 employees who suffered injuries, including one fatal accident.	To prevent workplace accidents, KMG implements a number of organisational and technical measures that ensure: ▪ a safe working environment and prevention of work-related injuries and occupational diseases; ▪ timely training and knowledge testing; ▪ internal health and safety controls; ▪ deployment of new technologies and mechanised techniques; ▪ improvement of industrial safety for production facilities. The Company is implementing a near miss reporting programme through the Korgau Card[1] project and behaviour-based working and driving safety cards. Implementation of the Behaviour-Based Safety Programme and Behaviour-Based Driving Safety Programme in subsidiaries and associates continues. The Company has codes, policies, regulations, and corporate standards in place: ▪ Policy on Safe Operation of Land Vehicles; ▪ Life-Saving Rules corporate standard; ▪ Corporate Wellness Programme; ▪ KMG Group's Corporate Standard for Engaging Contractors on HSE; ▪ KMG Group's Corporate Standard for Building HSE Capabilities; ▪ KMG Group's Corporate Standard for Occupational Health; ▪ Rules for Identifying Occupational Health, Safety, and Environmental Threats and Risks in Hazardous Operations; ▪ Occupational Health, Safety, and Environmental Awareness Programme; ▪ Regulations on Safe Operation of Land Vehicles.
	Risk of emergencies or man-made disasters at production facilities The Company's operations are potentially hazardous. KMG is exposed to the risk of damage to property, third parties or the environment caused by accidents, emergencies, or man-made disasters at production facilities. There were no major accidents in the reporting period.	To mitigate its production risks, the Company: ▪ holds briefings on safe operation of equipment (technical devices); ▪ trains personnel in safe operation regulations and tests their knowledge with the subsequent assignment of qualification certificates (permits); ▪ ensures timely maintenance and repair of equipment as required by relevant regulations; ▪ controls safety review activities with respect to life-expired equipment; ▪ performs timely equipment retrofits and upgrades; ▪ performs timely diagnostics and identification of potential hazards, as well as industrial safety assessments of production facilities; ▪ improves the technical expertise and qualifications of operating personnel. The Company is phasing in advanced protection, safety and security technology and solutions. Annual voluntary property insurance contracts are executed (against the risk of accidental destruction, loss or damage) for insured events.
	Environmental risk The Company is exposed to the risk of adverse environmental impact and the risk of tougher responsibility for non-compliance with environmental laws. **Impact** Environmental risk materialisation may entail financial expenses in the form of fines, excess emissions charges, environmental remediation costs, as well as legal liability and escalating social and environmental tensions.	The Company's priorities in environmental protection: ▪ atmospheric emissions management and reduction of routine flaring; ▪ water management; ▪ production waste management; ▪ land reclamation; ▪ energy efficiency improvement. ▪ To mitigate the environmental risk, the Company: ▪ ensures preventive management of significant environmental aspects, based on project management and a risk-based approach, to improve environmental performance; ▪ assesses and analyses on a quarterly basis the flaring rate in the upstream sector under IOGP[2] requirements; ▪ engages stakeholders on environmental issues; ▪ implements the Memorandum of Cooperation in Environmental Protection signed with a competent authority to dispose of and recycle waste from its subsidiaries and associates; ▪ comprehensively develops the corporate environmental function and aligns KMG's activities with green economy principles; ▪ implements the automated environmental monitoring information system (AEMIS) in subsidiaries and associates for the quarterly monitoring of pollutant emissions/effluents; ▪ assisted the subsidiaries and associates in procuring a unified environmental permit for 2023 (as required by Kazakhstan's new Environmental Code, including contractor data) by providing relevant consultations. The Company continues to actively participate in working groups with competent government bodies to develop by-laws for the Environmental Code, while also contributing to the technical working groups charged with drafting best available techniques (BAT) handbooks. Work is underway to ensure timely implementation of the AEMIS in the Company's subsidiaries and associates.

1 — The use of the Korgau Card is aimed at identifying and reporting an unsafe condition, unsafe behaviour, unsafe action, hazardous event or hazardous factor, as well as good practice and suggestions (initiatives).

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Climate risks and low-carbon development In its operations, the Company faces risk factors related to energy transition and climate change, including: 1. Energy transition risks: – carbon unit trade restrictions imposed on the quasi-public sector; – significant CAPEX required to deliver on the planned initiatives; – modest profitability of most low-carbon projects due to low carbon prices; – limited options due to the obsolescence of available technologies; – lack of legislative and authorisation regulations for low-carbon projects; – higher electricity tariffs; – market risks associated with changes in demand and consumer patterns; – political, legal, and regulatory risks associated with tighter GHG emissions requirements amid the transition to low-carbon development; – reputational risks associated with the climate change perceptions of the Company's stakeholders. 2. Physical impact of climate change on the Company: – short-term risks arising from extreme weather conditions (floods, landslides, mudflows, droughts, fires, tornadoes); – systematic (persistent) risks arising from long-term changes in climate models (prolonged periods of extremely high air temperatures, higher sea levels and flooding of onshore wells, etc.). – drop in sea levels. **Impact** These risks may have an adverse impact on operations of the Company as a major producer of fossil fuels and source of greenhouse gases in the form of higher costs, lower profits, and limited opportunities for further development. An increase in renewable energy generation can be expected in individual partner countries. It may lead to decline in demand for products supplied by the Company.	To mitigate the climate change risk and its effects, the Company: 1. Has adopted and put into practice the 2022–2031 Low-Carbon Development Programme (LCDP). 2. Has signed memoranda of cooperation with Chevron and the EBRD to introduce CCUS (carbon capture, utilisation and storage) technologies, implement projects based on natural solutions, produce low-carbon hydrogen, develop the corporate carbon price, and improve energy efficiency. 3. Has built joint working groups with Chevron for sharing low-carbon development experience and developing joint hands-on projects in the realm of carbon footprint reduction. 4. Continues to implement the hybrid power plant project in the Mangistau Region jointly with Eni. 5. Has developed technical specifications for an offset forestry project designed to combat climate change. 6. Stays in contact with government agencies and business associations to discuss carbon regulations, development of low-carbon economy and energy. 7. Has signed a memorandum of cooperation with the EBRD (the EBRD is to develop a stress-testing model for KMG accounting for different climate scenarios (RCP2.6, RCP4.5 and RCP8.5), while also drafting recommendations on TCFD reporting to be included in the IPO, CDP and sustainability reports and to be used in the improvement of ESG rankings). 8. Has prepared a study on KMG Group's energy saving potential based on the energy audit and LCDP results. 9. Work is underway to develop the concept of internal carbon pricing. 10. Work is underway to prepare a methodology for monitoring and reporting on GHG emissions in KMG. 11. Has completed an energy analysis as part of its efforts to develop the Fund's Energy Efficiency Programme for 2022–2027. 12. Working groups have been formed with Chevron specialists to exchange experience in the direction of low-carbon development and form joint practical projects to reduce the carbon footprint. 13. Has redeemed 8.5 mln kWh of electricity consumed by KMG's headquarters in 2022 through International Renewable Energy Certificates (I-REC). 14. In the reporting year, developed and adopted: – the Energy Policy of KMG, with the subsidiaries and associates updating their policy and internal regulations to bring them in line with KMG's policy, – regulations and operating instruction on energy efficiency management and improvements, – the GHG emission monitoring and reporting methodology, which defines key approaches and provides a unified methodological basis for measuring GHG emissions across KMG subsidiaries and associates, – the Internal Carbon Pricing Programme designed to assess and minimise the Company's financial risks associated with the tightening of carbon regulations, as well as to reallocate some investments from carbon-intensive projects to low-carbon ones. 15. Has calculated specific energy consumption targets. 16. Has signed a memorandum to build a wind power plant with a total capacity of circa 1 GW; the project is to be implemented in stages and to leverage an energy storage system with a capacity of approximately 300–600 MWh). 17. Is conducting a screening study to assess the potential of a pilot CCUS (carbon capture, use and storage) project at the Group's facilities, while also organising CCUS workshops (Shell). 18. Signed NDAs with Nature First Foundation and China Energy on potential cooperation in the realm of renewable energy. 19. Is developing business cases for building in-house renewable energy capacities at Embamunaigas, Atyrau Refinery, and KLPE. 20. Held a workshop on Energy Transition and Management of GHG Emissions at a Production Site hosted by KPMG Caspian on 24–25 November 2022 to develop the practical skills of mid-tier professionals at the Company's subsidiaries and associates and corporate centre and to educate them about the calculation of GHG emissions, decarbonisation of production processes in oil and gas companies, and settlement of carbon offsets. 21. On 18–20 October 2022, held a workshop on Carbon Capture, Utilisation and Storage attended by KMG's employees and Chevron's professionals. 22. Tackled the financing issue to pay compensation to a TCFD advisor in accordance with the previously approved technical specifications setting out the scope of respective assignments.

2 — The International Association of Oil & Gas Producers.

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Geological risk The implementation of new exploration projects is always associated with geological risks arising from the uncertainty of geology: lack of hydrocarbon discoveries; failure to confirm or low recoverable oil/gas reserve estimates. **Impact** The Company's operations are exposed to the risk that new projects and exploration drilling fail to discover commercially viable oil and gas reserves and/or that the discovered reserves will be lower than originally planned.	To address this risk, the Company: ▪ collects and analyses the geological and geophysical data from the operating area and similar nearby fields; ▪ plans geophysical surveys and exploration for hydrocarbons, applies effective study techniques and data processing and interpretation methods. ▪ conducts regional basin studies; ▪ conducts advanced seismic surveys as part of subsoil exploration efforts to reduce geological risks and obtain new data for the purposes of comprehensive geological, technical and economic analysis; ▪ attracts strategic partners for joint exploration and development of new fields, including under carry financing arrangements to reduce the financial impact of geological risks; ▪ fosters professional development of personnel (training, experience sharing with international companies).
	Social unrest in regions of operation The Company is exposed to the risk of unauthorised strikes. **Impact** Adverse impact on the Company's reputation, disruption to operations and higher OPEX and impact on CAPEX and project schedules. Rising commodity prices, accelerated domestic inflation or continued weakening of the national currency may affect negotiations over changes to wages and salaries. Early in the reporting period, there was a wave of unauthorised strikes called by employees of the Company's contractors and some of its subsidiaries and associates. The situation only got worse with the onset of the January events (the key demands focused on salary hikes and full-time employment contracts with the Company). The Company held negotiations with the leaders of the trade union committees and met with rank-and-file employees. As a result, KMG took steps to narrow the salary gap between the Company's workers and contractor employees, and the situation went back to normal.	To mitigate social risks, the Company pursues a wide variety of initiatives: 1. To ensure the timely settlement of social and labour conflicts in the Mangistau Region, on 23 June 2022 KMG opened a representative office in Aktau. The key objectives of the representative office are as follows: – to stay in touch with the local executive authorities and national government, and engage with the trade union organisations of KMG's subsidiaries and contractors; – to coordinate efforts around employment protection projects; – to handle requests submitted by individuals and legal entities with respect to the operations of KMG's subsidiaries, etc.; – to tackle production challenges and assist in the implementation of infrastructure projects. 2. KMG actively contributes to the unemployment reduction efforts in the Mangistau Region. In 2022, KMG's subsidiaries and associates are expected to employ 1.679 people (jointly with their respective contractors), including 1.242 people at Ozenmunaigas, 401 people at Mangistaumunaigaz, and 36 people at Karazhanbasmunai. As of 10 October 2022, a total of 1.239 people were employed. 3. To reduce unemployment rates, KMG and the Akimat of the Mangistau Region are considering options for providing local residents with jobs. A recruitment process is underway to select the most suitable candidates from among the Mangistau Region's residents for their subsequent employment at Tatneft's facilities in the Republic of Tatarstan. 4. To improve the quality of education offered to the young residents of Zhanaozen, the Company launched a programme for financing schoolchildren's training in the country's best specialised boarding schools and colleges. 5. KMG participates in the meetings of the Interdepartmental Headquarters for Addressing Issues of Zhanaozen. All decisions taken by KMG are subject to discussion with the Headquarters. 6. The Company's subsidiaries and associates have developed five-year roadmaps for improving employees' working and recreation conditions, with plans underway to build over 85 social infrastructure facilities (canteens, administrative and production buildings, accommodation camps, etc.) and to repair or overhaul 41 and 11 social infrastructure facilities, respectively. 7. To streamline teamwork among employees, nurture team spirit and promote a psychologically healthy working environment, on 8–12 August 2022 KMG held a corporate sports competition in Atyrau for the employees of all its subsidiaries and associates. On 3–7 October 2022, Kazgermunai hosted the Uzdyk Maman professional skills competition. 8. One of the Company's key focus areas is the development and implementation of action plans to enhance social stability relying on the results of social stability index measurements. The action plans set out initiatives designed to boost staff satisfaction levels, enhance confidence in the management, put in place feedback channels, and improve working, living and catering conditions, etc. In 1H 2022, the social stability across KMG's teams was assessed as satisfactory, with the index coming in at 74%. There was a certain decline in staff satisfaction with the compensation levels due to a sharp rise in food and merchandise prices. The survey results were made available to all subsidiaries and associates as they need to make relevant adjustments to their respective action plans.

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Liquidity and financial stability risks Liquidity, financial stability, and credit rating downgrade risks are KMG's key risks. **Impact** Need to immediately repay current borrowings and Eurobonds. Inability to raise sufficient funds to finance the Company's current and investment activities. In 2022, the Company maintained an appropriate level of liquidity and demonstrated adequate financial stability.	To overcome these risks, along with debt management activities and efforts to prevent liquidity shortages, the Company is focused on improving operational efficiency, clear prioritisation of capital expenditures, commitment to financial discipline, rationalisation of the Company's asset and project portfolios, and transition to portfolio-based project management. The Company takes the following measures to prevent risks: ▪ controlling leverage, preventing its growth to maintain financial stability, using free cash flow to repay debt; ▪ achieving an optimal balance between debt and internal sources of financing; ▪ cost cuts, budget control; ▪ repaying existing loans and providing financial aid to subsidiaries and affiliates; ▪ preventing deterioration of the Company's solvency position in order to maintain access to debt capital markets and avoid increases in borrowing costs; ▪ deleveraging through early debt repayment.
	Compliance risks Intentional corruption for personal or material gain, including for the benefit of third parties. The Company has zero tolerance towards any fraudulent actions regardless of the amount of monetary damage. **Impact** In 2022, there was no evidence of this risk being materialised.	The Company consistently implements and reinforces internal controls, embedding group-wide policies to prevent unlawful or wrongful acts of third parties or its employees, and maintaining the procedure for conducting internal investigations of unlawful or wrongful acts of its employees. The Company has adopted policies and standards in line with best global practices, while also committing itself to: ▪ improving and consolidating its internal and compliance controls (in the reporting period, additions were made to: – the Anti-Corruption Policy as regards the liability of the Chairman of the Management Board and their deputies for a failure to perform their job duties with respect to the prevention of corruption-related offences by their direct subordinates or for improper performance thereof; – the Confidential Informing Policy of KMG as regards the responsibility to submit investigation materials on received reports indicating criminal or administrative offences to authorised law enforcement bodies; – the Rules for Planning, Organising and Conducting Procurement of Goods, Works and Services at KMG as regards the feasibility of grounds for the application of single-source procurement pursuant to items 6, 11, 14, paragraph 1, article 59 of Samruk-Kazyna's Procurement Procedure, as regards the submission of supplier due diligence reports pursuant to KMG's Counterparty Due Diligence Policy, and as regards the inclusion of anti-corruption clauses in draft contracts except for cases where the draft contract complies with the template approved by KMG); ▪ anti-corruption monitoring; ▪ analysing corruption risks; ▪ promoting an anti-corruption culture, taking preventive steps and informing employees on potential violations and enforcement; ▪ establishing an organisational and legal framework to foster accountability and transparency of decision-making procedures; ▪ conducting compliance audits (in the reporting period, long-term contracts, single-source procurement deals, and arrangements for the privatisation of economically material assets were reviewed for compliance with anti-corruption requirements); ▪ implementing and complying with business ethics standards; ▪ holding anti-corruption workshops and trainings; ▪ analysing drafts of internal documents to identify corruption factors; ▪ preventing conflicts of interest (in the reporting period, the declaration requirements applied to 40 subsidiaries and associates); ▪ conducting counterparty due diligence reviews; ▪ compiling an insider list and serving limitations, obligations and responsibility notifications on respective insiders; ▪ handling whistleblowing reports via the Hotline and submitting respective findings to the Audit Committee and the Board of Directors (in the reporting period, the Company reviewed about 100 whistleblowing reports and conducted onsite inspections at five subsidiaries and associates).

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Strong volatility of oil prices The Company is exposed to the risk of energy price volatility. **Impact** Oil price volatility may lead to significant changes in the Company's performance, revenues, and cash flow. Oil price fluctuations in 2022 had no negative impact on the Company's revenue and cash flow. For more details, see the Macroeconomics and Global Trends sections.	In the event of high oil price volatility and a drop in demand due to adverse developments in the global markets, the Company will take steps to ensure financial stability, including but not limited to: ▪ introducing and taking anti-crisis measures in a timely manner; ▪ adjusting the Company's Development Plan, cutting costs; ▪ prioritising and optimising CAPEX and investment projects; ▪ developing targeted measures (e.g. obtaining creditors' waiver, directing volumes to more favourable markets) to mitigate risks that may have an additional negative effect. KMG continuously monitors and analyses price and demand dynamics for crude oil and oil products and also considers purchasing financial tools to be protected in case of a significant fall in oil prices (e.g. analysis of hedging benefits). The Company cooperates with competent state bodies on matters related to OPEC+ deal, implementing measures to stabilise the internal market and stimulate oil exports, and has internal reserves to deliver on its commitments.
	Country risks and the risk of sanctions The Company operates overseas. Any significant adverse economic and political developments in a recipient country could affect the Company's operations. Sanctions against certain countries, including sectoral sanctions, may affect the Company's operations and its prospective joint projects. **Impact** Tightening of sanction laws may affect the Company's operating, financial and investment activities, including through secondary sanctions imposed on the Company.	To prevent relevant risks, the Company: 1. Has established a working group to analyse the impact of the sanctions on the operations of the Company and its subsidiaries and associates. Sanction risks are being monitored on a weekly basis to mitigate potential adverse effects on the Company's operating, financial and investment activities. 2. Has approved the Sanctions Policy setting out a unified interaction procedure and mitigants to minimise sanction risks. 3. Has made arrangements for information on the impact of sanctions to be provided on a periodic basis to the Company's Board of Directors, the Fund, the Ministry of National Economy of Kazakhstan, and the Company's stakeholders. The Company mitigates country risks by setting country-specific limits based on the analysis of the recipient country (from the economic, political, strategic, social and other perspectives).
	Cyber risks Intentional manipulations with the Company's ICT system aimed at compromising its integrity, accessibility and security. **Impact** In 1Q 2022, we detected signals of an attack on the server infrastructure of the Company's foreign assets. A technical quick response force took steps to prevent the attack with the help of relevant cyber security bodies. The Company protects against cyberattack risks not only the information in its possession and its hardware and software but also information provided to it by government bodies, shareholders, business partners, and personal data subjects.	To address this risk, the Company: ▪ regularly runs tests to check its ICT system for vulnerability to external attacks, analyses IT infrastructure security, audits network elements, monitors operating system security, identifies and blocks attackers; ▪ continues to increase the number of subsidiaries and associates connected to the Company's single data transfer network; ▪ prepares cyberattack emergency response plans to reduce the impact of a crisis situation and minimise its consequences; ▪ maintains compliance of the existing information security management system (ISMS) with international standards; ▪ organises training for persons responsible for ISMS in information security units; ▪ keeps up cyber security hygiene; ▪ monitors the availability of information systems and the adequacy of the required information and computing resources on a daily basis; ▪ investigates information security incidents; ▪ has developed interaction regulations to be applied in case of an emergency involving the service supplier responsible for the provision of calculation capacities.

Trend (over the year)	Risk description and likely impacts	Mitigation and management
	Reputational risk The Company is exposed to reputational risk that affects its business reputation and relationships with investors, counterparties, partners, and other stakeholders. **Impact** In 2022, the Company faced various factors that could cause reputational risk to materialise. As one example, a group of fraudsters started spreading social media advertisements to raise users' money for investments on behalf of the Company. These advertisements are misleading and fraudulent. To mitigate the risk, the press offices of KMG and its subsidiaries and affiliates promptly prepared press releases, messages and publications to be disseminated to the public through key national and regional mass media and social networks (Facebook, Instagram, YouTube). The Company also launched targeted advertisements to raise awareness about potential frauds, with fraud updates regularly posted in the news feed. Additionally, fraud reports were submitted to Google and YouTube.	The Company implements a range of measures to manage this risk, including publications in the media, holding of briefings, press conferences and management presentations highlighting various aspects of the Company's activities and raising awareness among stakeholders. The Company tracks press mentions of its activities on a daily basis and promptly responses to unreliable information (rumours) published in media and social networks. In 2022, KMG launched a large-scale PR campaign to promote its IPO, which included: ▪ creation of an IPO page on the Company's website; ▪ publication of awareness-raising articles in mass media to offer readers insights into how to start investing, buy shares, avoid fraud, etc.; ▪ targeted advertising in social media; ▪ contextual advertising through the search engines of Google and Yandex; ▪ a hotline; ▪ educational training sessions for journalists.
	FX risk Currency risk is a potential negative change in the Company's financial performance due to exchange rate fluctuations. **Impact** Appreciation of foreign currencies against the tenge may lead to higher KZT-denominated OPEX, lower margins and a negative impact on the Company's financial results and performance. In 2022, tenge fluctuation against foreign currencies had no material impact on the Company's financial results and performance.	Given the currency mix of its revenues and liabilities, the Company is also exposed to FX risk in its operations. The strategy for managing this risk involves the use of a holistic approach that considers natural (economic) hedging options. KMG ensures the optimal balance of assets and liabilities denominated in foreign currency, and calculates earnings considering the FX risk.

Trend (over the year)	Risk description and likely impacts	Mitigation and management
—	**Tax risk** The Company is exposed to the persistent risks of changes in tax laws and lack of clear interpretation, as well as the risk of increased tax burden and loss of entitlement to tax benefits. **Impact** Tax legislation in Kazakhstan is subject to frequent changes and varying interpretations. The tax authorities generally take a more conservative approach in their interpretation of the legislation and in tax audits. As a result, the management's interpretation of tax laws applicable to the Company's operations and activities may be challenged by the relevant tax authorities. The Company operates in a number of jurisdictions and is therefore required to follow complex transfer pricing rules, which may give rise to uncertainty and subjective interpretation. In 2022, this risk materialised, resulting in higher tax expenses, including heavier tax liabilities arising from the widening Urals-Brent spread.	The Company continuously monitors changes in tax laws, evaluates and forecasts the extent to which they can potentially impact its operations, while also following trends in law enforcement practices and considering the implications of regulatory changes for its operations. The Company's specialists regularly take part in various working groups responsible for drafting tax legislation. To mitigate tax risks, the Company improves its tax administration processes and conducts tax audits.
↑	**Interest rate and commercial bank liquidity risk** Higher global interest rates and lower financial stability of the banking sector can have a negative impact on the cost of borrowing, as well as the placement of idle cash. **Impact** Events of default of the Company's counterparties may result in the failure to withdraw funds on their accounts in full or in part, which may adversely affect the Company's financial results and force KMG to raise additional financial resources to meet its obligations. In 2022, no defaults, untimely or incomplete performance of financial obligations by second-tier banks were recorded.	To mitigate these risks, the Company diversifies investments in financial instruments in accordance with the treasury portfolio's pre-defined limits and regularly monitors how idle cash is placed across KMG Group. Most of KMG's earnings are generated in US dollars, while the main source of borrowing is the international lending market. For these reasons, the largest part of KMG's debt portfolio is denominated in US dollars. The interest rates for servicing a portion of these loans are based on interbank lending rates, and their growth may lead to additional debt servicing costs.
—	**Investment (project) risks** The Company is implementing a number of projects in hydrocarbon exploration, production, transportation and processing, which could be exposed to significant risks associated with external and internal factors. The materialisation of such risks can significantly affect the success of these projects. **Impact** When running investment projects, the Company faces the risks of rising costs, delays in the commissioning of production facilities, and failure to achieve design parameters.	The Company regularly monitors progress against projects in the regions where it operates, making timely adjustments to project implementation plans as necessary. Where risk can arise affecting the timing, budget or quality of projects, mitigation measures may include negotiations with stakeholders, reduction of operating costs, optimisation of the investment programme, abandonment of unprofitable investment projects. We introduced a project management and investment decision-making system similar to standards adopted by global companies (Stage Gate Process).

Trend (over the year)	Risk description and likely impacts	Mitigation and management
—	**Risk of changes in applicable laws, and litigation and arbitration risks** The Company's performance can be impacted by changes in applicable laws, including subsoil use, tax, currency, customs regulations, etc., as well as the risk of negative court decisions on court or arbitration disputes involving the Company. **Impact** In 2022, 6 lawsuits worth over USD 1 mln and no arbitration proceedings were initiated. Until the proceedings are completed, it is impossible to fully assess the impact of these events on the Company's operations.	The Company continuously monitors changes in laws, while also evaluating and forecasting the extent to which they can potentially impact the operations of KMG entities. The Company regularly takes part in working groups to develop and discuss draft laws in various areas of legislation. The Company continuously monitors judicial and law enforcement practices, and actively applies best practices in resolving legal issues and disputes arising in the course of the Company's operations.
—	**Pandemic risk (COVID-19)** The COVID-19 situation in Kazakhstan is relatively stable for now, with the infection rates on the decline. However, with the onset of the new season of flu and other acute respiratory viral infections, COVID-19 may overlap with these more conventional diseases leading to fairly severe cases of combined viral infection. The vaccination rates have also gone down. This erodes the herd immunity and makes infection risks more prominent. **Impact** In February 2022, KMG Group registered one pneumonia-induced fatality. For more details, see the Occupational Health and Safety section.	1. Permanent monitoring of the epidemiological situation in the KMG group of companies continues, Subsidiaries submit weekly reports on the COVID-19 situation to the KMG Security Control Center (SCC). 2. Depending on the current epidemiological situation and the zone of epidemiological risk in a particular region, the requirements and recommendations of the current resolutions of the chief state sanitary doctors are implemented in the Corporate Center and Subsidiaries. 3. Regardless of the virus variant, measures to combat COVID-19 remain the same: – preservation of all preventive measures for the non-proliferation of COVID-19; – revaccination of the population, including employees of the KMG group in accordance with the revaccination plan; – isolation of sick and contact persons; – compliance with quarantine measures in accordance with the restrictions adopted and expected to be introduced in the regions of KMG's presence. As of December 31, 2022: more than 53.8 thousand employees of the KMG group of companies (82%) of the total number received the vaccine with the first component. Of these, more than 52.9 thousand employees (81%) received a full course of vaccination (both components). 18.9 thousand employees or (29%) in the KMG group were revaccinated.
—	**Risk of terrorism** Acts of terrorism and other violence against the Company's and contractors' personnel and assets **Impact** The Company operates in a number of countries where acts of terror and other criminal wrongdoings against the Company's assets are possible. In 2022, there were no events when this risk materialised within KMG Group.	The Company takes a set of preventive measures, including: ▪ checking the condition of security equipment, alarm systems, up-to-date status of evacuation plans, current status of exits and evacuation routes; ▪ training of security and maintenance personnel in counter-terrorist protection of facilities and personal safety in case of emergencies; ▪ physical security checks and counter-terrorist security inspections of facilities at subsidiaries and associates; ▪ interacting with law enforcement and special agencies on physical security and counter-terrorist security at facilities; ▪ screening of contractor employees authorised to work at the Company's facilities; ▪ training sessions for security, service, and technical personnel in the event of emergencies at facilities; ▪ control over the maintenance of video surveillance systems and routine maintenance of ISS, ACS, and boom barriers; ▪ testing the emergency response skills of the security personnel; ▪ regular updates of the access control and on-site security regulations; ▪ issuance of IDs for terror vulnerable facilities in line with legal requirements for countering terrorism.

STAKEHOLDER ENGAGEMENT

Key stakeholder groups

Shareholders

Type of provided information	Communication methods
Information on the Company's performance, corporate events of interest for security holders	▪ Access to information ▪ Representation of shareholder interests on KMG's Board of Directors ▪ Publications on the corporate website ▪ Publications on the website of Kazakhstan Stock Exchange ▪ Financial disclosures on the depositary's internet page

Investment community

Type of provided information	Communication methods
Information on the Company's performance, corporate events of interest for investors and the investment community in general	▪ Access to information ▪ Publications on the corporate website, specifically in the Investors section (https://www.kmg.kz/en/) ▪ Publications on the website of the Kazakhstan Stock Exchange ▪ Roadshows for investors and other public events ▪ Meetings, conference calls ▪ Handling requests by e-mail (ir@kmg.kz) and consulting by phone ▪ Publication of press releases ▪ Publication of financial statements on the depositary's internet page

For more details, see the Investor Communications section

Associations, local communities, public organisations

Type of provided information	Communication methods
Financial information of interest for financial institutions, matters of the Company's financial stability	▪ Access to information ▪ Publications on the corporate website ▪ Publications in mass media

Mass media

Type of provided information	Communication methods
Any information unless deemed confidential under Kazakhstan's laws and KMG's internal documents	▪ Press releases, informational publications, articles on the Company's website and in mass media ▪ Distribution of press releases ▪ Response to mass media's requests ▪ Conference calls, briefings, press tours, forums, information sessions and other media events ▪ Handling requests

Central and local government authorities

Type of provided information	Communication methods
Information on the Company's performance	▪ Access to information ▪ Performance against instructions

Subsidiaries and associates

Type of provided information	Communication methods
Information on the Company's performance	▪ Access to information ▪ Giving instructions ▪ Information letters

Customers, suppliers, partners, other organisations

Type of provided information	Communication methods
Information necessary for the fulfilment of orders and performance against contracts/agreements	▪ Access to information ▪ Distribution of press releases

Trade unions, KMG employees

Type of provided information	Communication methods
Any information unless deemed confidential and insider under Kazakhstan's laws and KMG's internal documents	▪ Meetings, conference calls ▪ Distribution of press releases ▪ Surveys, general meetings ▪ Productivity management systems ▪ Publications on the corporate website ▪ Event publications through the Company's information resource ▪ Advisory and expert boards, working groups

SHAREHOLDER AND INVESTOR RELATIONS

KMG'S SHAREHOLDERS

Shareholder	Ordinary shares	Ordinary shares, %	Preferred shares	Total shares	Total shares, %
Sovereign Wealth Fund Samruk-Kazyna	533,395,161	87.42	–	533,395,161	87.42
The National Bank of Kazakhstan	58,420,748	9.58	–	58,420,748	9.58
Minority shareholders	18,303,584	3.00	–	18,303,584	3.00

Securities issues[1]

Type of shares	Authorised shares	Outstanding shares	Traded shares	Unissued shares
Ordinary	849,559,596	610,119,493	18,303,584	239,440,103

There were no changes in the shareholder structure in the reporting period.

The annual General Meeting of Shareholders, with its roles performed by the Management Board of the Fund according to the applicable law and KMG's Charter, is expected to approve the following documents:

- KMG's 2022 annual financial statements (consolidated and standalone);
- KMG's 2022 net profit distribution procedure;
- amount of dividend per ordinary share in KMG.

1 — As of 1 January 2022.

KMG'S IPO

KMG's IPO was held as part of the Comprehensive Privatisation Plan for 2021–2025 approved by the Government of the Republic of Kazakhstan.

The Company's pre-IPO ownership structure was as follows:

- Sovereign Wealth Fund Samruk-Kazyna – 90.42%;
- The National Bank of Kazakhstan – 9.58%.

After the IPO, the free float of KMG is 3%, the Fund holds a 87.42% stake (controlling interest) and the stake of the National Bank of Kazakhstan remains unchanged (9.58%).

KMG did not receive any proceeds from the IPO, because the shares held by the Fund were sold.

Key IPO parameters

The IPO was priced at KZT 8.406 per share, implying a market capitalisation of about KZT 5.1 trln or USD 11 bln.

The shares were offered on Kazakhstan stock exchanges, namely the Astana International Exchange (AIX) and the Kazakhstan Stock Exchange (KASE).

The book building began on 9 November 2022 at 12:00 (Astana time) and ended on 2 December 2022 at 15:00 (Astana time).

Freedom Broker, Halyk Finance, SkyBridge Invest and BCC Invest acted as joint book runners.

The final IPO parameters:

- Total demand – KZT 181.5 bln
- Offering size – KZT 153.9 bln
- Number of accepted orders – 129.948
- Number of KMG's shares offered for sale – 18.303.584
- Free float – 3.0%
- Share of retail investors by value of orders – 52.1%
- Share of retail investors by number of orders – 99.9%

Order book

Following completion of investor bidding, the order book was KZT 181.5 bln (129,9 thous. orders) or 3.5% of KMG's total ordinary shares, with the orders split by investor category as follows:

- individuals of the Republic of Kazakhstan – approximately KZT 75 bln or 41% (128.7 thous. orders);
- legal entities of the Republic of Kazakhstan – approximately KZT 76 bln or 42% (90 orders);
- non-resident individuals – approximately KZT 6 bln or 3% (1.110 orders);
- non-resident legal entities – approximately KZT 24 bln or 13% (8 orders).

Allocation

During the shares allocation, orders submitted by retail investors who are Kazakhstan's citizens were given priority and accepted in full. After that, the remaining orders were considered.

In order to prevent the concentration of large shareholdings in the hands of certain major investors, some of the submitted orders were accepted in part, not in full.

While allocating the shares, the book runners accepted bids worth more than KZT 153.9 bln or 3% of KMG's total number of ordinary shares. The allocation by investor category was as follows:

- individuals of the Republic of Kazakhstan – KZT 74.6 bln (48.5%);
- legal entities of the Republic of Kazakhstan – KZT 72.7 bln (47.2%);
- foreign individuals and legal entities – KZT 6.6 bln (4.3%).

Outcome

1. KMG's initial public offering was the largest ever IPO on Kazakhstan's stock market.

IPO	Global				Local
Company	Kazatomprom	Kcell	KEGOC	KazTransOil	KMG
Offering size, KZT bln	168.2	78.9	13.1	27.9	153.9
Share of pension funds / the Unified Accumulative Pension Fund (UAPF), %	33.2	18.9	26.3	20.4	0.087
Orders submitted, thous.	2.8	34.7	42	34	129.9

KMG's initial public offering was the largest ever IPO on Kazakhstan's stock market in terms of the number of submitted bids (129.9 thous.), the offering size (KZT 153.9 bln) and allocations to retail investors (52.1%).
2. KMG's initial public offering was the largest ever IPO of a national company without meaningful participation of pension funds (0.1%).
3. KMG's initial public offering was the first digital IPO. The book building was held using various digital platforms (applications) offered by market participants (banks, brokers). About 99% of orders were submitted through digital platforms.
4. KMG's IPO contributes to higher liquidity of shares and higher trading volumes on the stock exchanges. On the first trading day, 8 December 2022, the price of KMG shares rose from KZT 8,406 to KZT 8,890. On the same day, the highest trading volume of approximately KZT 4.0 bln was recorded.

Dividends

The new dividend policy of KMG was approved by resolution of the Management Board of Samruk-Kazyna dated 27 October 2022 (Minutes No. 59/22).

It is aimed at balancing the interests of shareholders, creditors and the Company, as well as ensuring transparency in determining the amount of dividend payments to its shareholders.

- Resolutions on dividend payments are passed by KMG's General Meeting of Shareholders.
- Resolutions on dividend payments take into account the price of crude oil, the structure of KMG's debt, its capital expenditures and other material circumstances.

Free cash flow means a consolidated cash flow from operations (including dividends received from joint ventures and associates but excluding net changes in working capital in respect of advances received for crude oil supplies) minus acquisition of fixed assets (including advances for fixed assets) minus acquisition of intangible assets minus acquisition of field development assets minus acquisition of evaluation and exploration assets minus acquisition of a stake in a subsidiary / joint venture plus proceeds from the sale of interests in a subsidiary / joint venture / associate (excluding proceeds from the denationalisation of the Company's assets as per the lists approved by Resolution No. 1141 dated 30 December 2015 and Resolution No. 908 dated 29 December 2020 of the Government of the Republic of Kazakhstan) based on performance in the reporting period;

Net debt means total debt minus cash and cash equivalents minus short-term and long-term bank deposits.

EBITDA means revenue plus dividends received from joint ventures and associates minus cost of purchased oil, gas, oil products and other materials (excluding depreciation and amortisation) minus production costs minus G&A expenses (excluding depreciation and amortisation) minus transportation and selling expenses (excluding depreciation and amortisation) minus taxes other than income tax.

KMG's dividend policy sets an established procedure for determining the minimum amount of dividends in the range from 30% to 50% of the free cash flow.

KMG will make every effort to ensure that the following dividends are paid:

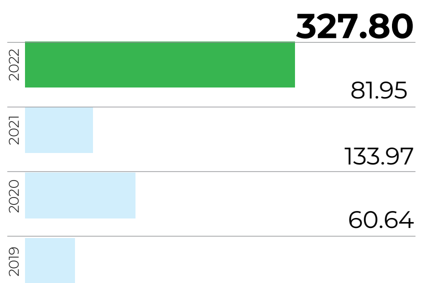
- at least 50% of the Free Cash Flow if the Net Debt / EBITDA ratio is less than or equal to 1.0x;
- at least 40% of the Free Cash Flow if the Net Debt / EBITDA ratio is more than 1.0x, but less than or equal to 1.5x;
- at least 30% of the Free Cash Flow if the Net Debt / EBITDA ratio is more than 1.5x, but less than or equal to 2.0x;
- as determined by resolution of the General Meeting of Shareholders if the Net Debt / EBITDA ratio is more than 2.0.

Key terms for paying out dividends:

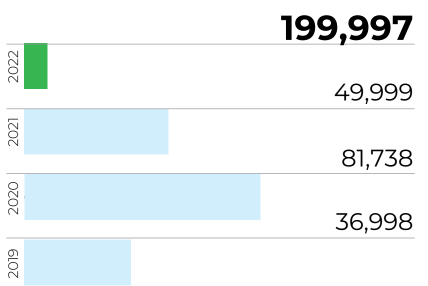
- positive equity;
- consolidated net income for the reporting period or retained earnings at the end of the reporting period;
- positive free cash flow;

Annual dividends of not less than KZT 200–250 bln for three years after the IPO provided that the average annual Brent crude oil price will not be less than USD 70 per barrel.

Dividend per share, KZT



Total dividends paid, KZT mln



For more details, see the Financial Statements section

KMG'S CREDIT RATINGS

Credit ratings assigned by international rating agencies serve as reliable and independent tools for the Group's credit assessment. KMG aims at aligning its key financial metrics with target investment-grade long-term ratings and exceeding them. The Company provides rating agencies with access to all information necessary for a comprehensive and reliable evaluation of the Group's creditworthiness. Rating agencies and KMG's Management Board hold regular review meetings, and KMG maintains the contacts.

In addition to the Company's operating and financial results and market environment, KMG's credit ratings are linked to Kazakhstan's sovereign credit profile as its change may impact credit ratings of Kazakhstani companies, including KMG.

In 2022, despite material external economic risks, Fitch affirmed its previous KMG's rating, while S&P upgraded its rating by one notch from BB to BB+ with a negative outlook. Currently, the Company has investment-grade credit ratings from Moody's and Fitch and is one notch below the sovereign rating according to S&P.

- On 28 January 2021, following the revision of its risk assessment for the oil and gas exploration, production and refining sector, S&P affirmed KMG's credit rating at BB with a negative outlook.
- On 30 April 2021, S&P affirmed KMG's credit rating at BB with a negative outlook.
- On 12 August 2021, Moody's upgraded KMG's credit rating from Baa3 to Baa2 due to an upgrade of Kazakhstan's sovereign rating. The rating outlook was changed from positive to stable.

KMG's credit ratings

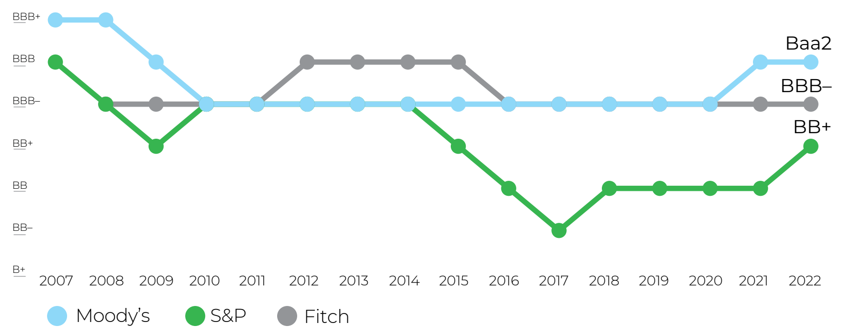
Rating agency	Date	Rating	Outlook
Moody's Investors Service	23.12.2021	Baa2	Stable
S&P	09.03.2023	BB+	Negative
Fitch Ratings	19.09.2022	BBB–	Stable

Kazakhstan's credit ratings

Rating agency	Date	Rating	Outlook
Moody's Investors Service	11.08.2021	Baa2	Stable
S&P	03.03.2023	BBB–	Stable
Fitch Ratings	02.12.2022	BBB	Stable

Change in KMG's ratings

Change in KMG's credit ratings



- On 20 September 2021, Fitch Ratings affirmed KMG's long-term issuer default rating at BBB– (one notch below the sovereign rating) with a stable outlook.
- On 26 November 2021, S&P affirmed KMG's credit rating at BB, after the transfer of KazTransGas directly to Samruk-Kazyna, with a negative outlook.
- On 23 December 2021, Moody's affirmed KMG's credit rating at Baa2 with a stable outlook.
- On 19 September 2022, Fitch Ratings affirmed KMG's long-term issuer default rating at BBB– with a stable outlook
- On 27 September 2022, S&P upgraded KMG's credit rating from BB to BB+ with a negative outlook.
- On 9 March 2023, Standard & Poor's affirmed the Company's rating at BB+, and revised outlook from negative to stable reflecting the agency's rating action on Kazakhstan (the rating being affirmed at BBB-, with outlook revised from negative to stable).

BOND ISSUES

As of 31 December 2022, KMG's consolidated debt (expressed in USD) was USD 8,956 mln, including USD 6,250 mln in KMG's Eurobonds and USD 1,625 mln (KZT 752 bln) in KMG's bonds issued to Samruk-Kazyna to buy out the share in Kashagan.

KMG Group's projects are largely financed through its own net cash flows. At the same time, KMG and its subsidiaries and associates may enter the bonds market, if the conditions are favourable, in order to finance individual strategic projects or to maintain financial stability as per the Company's financial strategy.

KMG borrows both on the national and global capital markets in line with its flexible and balanced debt management policy. The Company's bonds are among the most liquid instruments among those offered by Kazakhstan's issuers. KMG's FX-denominated bonds have been historically attractive to a wide range of investors. KMG bonds' investor base includes thousands of institutional and retail investors, mostly based in the USA, Europe and Asia. The Company's Eurobonds are traded in the London Stock Exchange, the Kazakhstan Stock Exchange and the Astana International Exchange.

For more details, see the Financial Review section.

As of 31 December 2022, KMG had six outstanding Eurobond issues at the Corporate Centre level for a total amount of USD 6.25 bln on par value.

KMG's outstanding Eurobonds[1]

Issue date / maturity date	Issue size, USD mln	Outstanding bonds, USD mln	Coupon rate, % p.a.	ISIN: RegS / 144A
19.04.2017/19.04.2027	1,000	1,000	4.75	XS1595713782/ US48667QAN51
19.04.2017/19.04.2047	1,250	1,250	5.75	XS1595714087/ US48667QAP00
24.04.2018/24.04.2025	500	500	4.75	XS1807299174/ US48667QAR65
24.04.2018/24.04.2030	1,250	1,250	5,375	XS1807300105/ US48667QAQ82
24.04.2018/24.04.2048	1,500	1,500	6,375	XS1807299331/ US48667QAS49
14.10.2020/14.04.2033	750	750	3.50	XS2242422397/ US48126PAA03

As of 31 December 2022, KMG had one outstanding local bond issue at the Corporate Centre level for a total amount of KZT 751,631.4 mln on par value.

KMG bonds to buy out Samruk-Kazyna's stake in Kashagan

Currency	KZT
Issue date / maturity date	16.09.2022/ 16.10.2035
Issue size	KZT 751,631.4 mln
Outstanding bonds	KZT 751,631.4 mln
Coupon rate, % p.a.	3.0
ISIN: RegS / 144A	KZ2C00008969

1 — Senior unsecured, as of 31 December 2021 at the Corporate Centre level.

INVESTOR COMMUNICATIONS

KMG continues to successfully implement its investor relations programme to ensure stability of financing and reduce its cost of capital. Communications with investors involve the Chairman of the Board of Directors, Chairman of the Management Board, members of the Management Board and heads of KMG's strategic, financial, and operating units, Health, Safety and Environment Department and the Investor Relations function.

KMG holds quarterly conference calls for investors to discuss financial and operating results with the Deputy Chairman and members of the Management Board, as well as heads of departments. In addition to the quarterly calls, the Company holds special one-on-one calls with investors and rating agencies, and also takes part in online conferences on the global sustainable development trends and situation in the emerging markets.

The Company adheres to the principles of timeliness, completeness and availability of disclosures for the investment community. Each quarter, KMG publishes quarterly results presentations, financial results, trading updates, IFRS financial statements and analyst databooks. In 2021, the Company continued its practice to promptly inform investors and analysts on KMG's financial and operating performance upon their request.

Guided by sustainability principles, in 2021 the Company considerably enhanced the transparency of its ESG disclosures. In particular, KMG published its comprehensive 2021 Sustainability Report in 2022. In December 2022, Sustainalytics updated KMG's ESG risk rating to 28.4. The Company was also ranked in the top 20 among the 270 global oil and gas companies researched by Sustainalytics, while maintaining its stable rating.

2022 Investor Calendar

1Q 2022	▪ Investor conference call on full-year 2021 financial and operating results ▪ 2021 quarterly results presentation ▪ 2021 financial results and trading update ▪ IFRS consolidated financial statements for 2021 ▪ 2021 trading update ▪ 2021 financial results
2Q 2022	▪ Investor conference call on 1Q 2022 financial and operating results ▪ 1Q 2022 quarterly results presentation ▪ Q1 2022 financial results and trading update ▪ Interim condensed consolidated IFRS financial statements for 3M 2022 ended 31 March 2022 ▪ Publication of 2021 Annual Report ▪ Q1 2022 trading update ▪ Q1 2022 financial results
3Q 2022	▪ Investor conference call on Q2 2022 financial and operating results ▪ 2Q 2022 quarterly results presentation ▪ 2Q 2022 financial results and trading update ▪ Interim condensed consolidated IFRS financial statements for 6M 2022 ended 30 June 2022 ▪ Publication of 2021 Sustainability Report ▪ 1H 2022 trading update ▪ 1H 2022 financial results
4Q 2022	▪ Investor conference call on 3Q 2022 financial and operating results ▪ 3Q 2022 quarterly results presentation ▪ 3Q 2022 financial results and trading update ▪ Interim condensed consolidated IFRS financial statements for 9M 2022 ended 30 September 2022 ▪ 9M 2022 financial results ▪ 9M 2022 trading update ▪ Non-deal roadshow in September and October 2022 including a series of meetings with residents of Kazakhstan's regions involving Deputy Chairman of the Management Board for Economics and Finance ▪ Roadshow on the Eurobond issue, including a series of conference calls with current and potential investors, involving the Deputy Chairman of the Management Board for Economics and Finance and Chairman of the Board of Directors

The materials and publications as well as contacts of the Investor Relations are available in the Investors section on the Company's website.

KMG understands the importance of further enhancing its two-way dialogue with the investment community and regularly conducts investor perception surveys on the Company, with the results reviewed by the Board of Directors.

IN 2022, KMG DEMONSTRATED ROBUST FINANCIAL PERFORMANCE

1
2
3

FINANCIAL STATEMENTS

NEW HORIZONS

CONSOLIDATED FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2022

WITH INDEPENDENT AUDITOR'S REPORT

CONTENTS

INDEPENDENT AUDITOR'S REPORT

March 6, 2023

EY
Building a better working world

«Эрнст энд Янг» ЖШС
Әл-Фараби д-лы, 77/7
«Есентай Тауэр» ғимараты
Алматы қ., 050060
Қазақстан Республикасы
Тел.: +7 727 258 59 60
Факс: +7 727 258 59 61
www.ey.com

ТОО «Эрнст энд Янг»
пр. Аль-Фараби, д. 77/7
здание «Есентай Тауэр»
г. Алматы, 050060
Республика Казахстан
Тел.: +7 727 258 59 60
Факс: +7 727 258 59 61
www.ey.com

Ernst & Young LLP
Al-Farabi ave., 77/7
Esentai Tower
Almaty, 050060
Republic of Kazakhstan
Tel.: +7 727 258 59 60
Fax: +7 727 258 59 61
www.ey.com

Independent auditor's report

To the Shareholders, Board of Directors and Management of Joint Stock Company "National Company "KazMunayGas"

Opinion

We have audited the consolidated financial statements of Joint Stock Company "National Company "KazMunayGas" and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2022, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at 31 December 2022 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRSs).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code) together with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Kazakhstan, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

EY
Building a better working world

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements section* of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

EY
Building a better working world

Key audit matter	How our audit addressed the key audit matter
Impairment of non-current assets	
We consider this matter to be one of the matters of most significance in our audit due to materiality of the balances of non-current assets, including upstream, downstream and midstream assets, to the consolidated financial statements, the high level of subjectivity in respect of assumptions underlying impairment analysis and significant judgements and estimates made by management. Assumptions included discount rates, oil and petroleum products prices forecasts and inflation and exchange rate forecasts. Significant estimates included production forecast, future capital expenditure and oil and gas reserves available for development and production. Information on non-current assets and the impairment tests performed is disclosed in notes 4 and 15 to the consolidated financial statements.	We considered management's assessment of the existence of impairment indicators and where impairment indicators were identified, we involved our business valuation specialists in the testing of management's impairment analysis and calculation of recoverable amounts. We analyzed the assumptions underlying management forecasts. We compared oil and petroleum products prices used in the calculation of recoverable amount to available market forecasts. We compared the discount rates and long-term growth rates to general market indicators and other available evidence and checked the adjustments made by management when calculating the applicable discount rate. We tested the mathematical integrity of the impairment models and assessed the analysis of the sensitivity of the results of impairment tests to changes in assumptions. We performed procedures to assess competence, capabilities and objectivity of the external experts engaged by the Group to estimate the volumes of oil and gas reserves and prepare impairment models, where applicable. We analysed disclosures on impairment test in the consolidated financial statements.

EY
Building a better working world

Accounting for business combinations and acquisitions of joint ventures

In 2022 the Group obtained control and joint control over certain entities.

We consider this matter to be one of the matters of most significance in our audit due to the significance of businesses and investments acquired to the consolidated financial statements, and the complexity of these transactions. In addition, management's judgement was applied when determining the accounting policy to be used in respect of these acquisitions.

Information about business combinations and acquisitions is included in notes 6 and 7 to the consolidated financial statements.

We examined the sale and purchase agreements and other documents related to these transactions and gained an understanding of the main terms, nature and structure of the transactions.

We inspected corporate approvals, corporate and shareholders agreements and other legal documents in order to understand the nature of the transactions and assess management's judgement in respect of the application of the common control exemption from IFRS 3 "Business combinations".

We evaluated the accounting policy applied by the Group to the acquisition of investments in joint ventures.

For the acquisitions under common control, where financial information from the predecessor's financial statements was used, we compared the information included in the consolidated financial statements, including the restatement of comparative information, where applicable, with the available financial information included in the financial statements of previous owners.

We compared the amounts of consideration paid by the Group to the related payment supporting documents and contractual commitments.

For acquisition of joint venture not under common control, we assessed the management's estimates in respect of the fair values of share in assets and liabilities acquired.

We analyzed the related disclosure in the consolidated financial statements.

30 years in Kazakhstan

EY
Building a better working world

Provisions and contingent liabilities

Provisions are recognized and contingent liabilities are disclosed by the Group in respect of government inspections, provisions for asset retirement obligations (ARO) and general legal proceedings, as well as other matters.

In 2022 the Agency for protection and development of the competition of the Republic of Kazakhstan conducted an inspection of certain entities within the Group. In addition, the Group recorded changes in certain estimates related to ARO.

The assessment as to whether, or not, a liability should be recognized and whether amounts can be reliably estimated involves estimation and judgement. Predicting the outcome of the matter and estimating the potential impact if the outcome is unfavorable represents a complex process and the potential exposure on the consolidated financial statements may be significant.

Calculation of ARO requires significant judgment due to the inherent complexity in estimating future costs and due to significance of this liability. Most of these obligations are expected to be settled in a long-term perspective. The Group involved specialists to assess the ARO. Management's assumptions used in the calculation include expected approach to decommissioning and discount rates, along with the effects of changes in inflation rates.

Assessment of legal and constructive obligations of the Group related to the liquidation of each asset according to the contractual agreements and relevant local legislation requires management's judgement and evaluation and implies variability.

We considered provisions and contingent liabilities to be one of the matters of most significance in our audit because of their potential significance to the consolidated

We inquired the Group's management and legal department for instances of non-compliance with laws and regulations and the status of any pending and ongoing litigations, claims and proceedings. We obtained legal letters from internal legal advisers.

We inspected relevant correspondence, the minutes of the meetings of the Group's management and Board of Directors.

We have analysed the results of government inspections, disclosed in Note 35 to the consolidated financial statements and discussed them with the Group's legal department.

Our procedures in respect of ARO included assessment of legal and constructive obligations related to the liquidation of each asset on the basis of contractual agreements and relevant local legislation.

We considered the competence and objectivity of the specialists involved by the Group, who produced the cost estimates as a basis for ARO. We compared the discount and inflation rates used to available external data. We checked mathematical accuracy of the calculations.

We have also assessed changes in estimated future costs related to ARO and assessed how the Group took into consideration the recent changes in the related legislation.

We analysed the Group's management's estimates underlying the amounts recognized as provisions in the consolidated financial statements and assessed judgements in respect of the probability of potential outcomes of contingent liabilities in the consolidated financial statements.

We analysed the related disclosures in the consolidated financial statements.

EY
Building a better working world

financial statements, the level of judgment required and the 2022 events describe above.

Information on provisions, contingent liabilities and commitments is disclosed in notes 29 and 35 to the consolidated financial statements.

Other information included in the Group's 2022 annual report

Other information consists of the information included in the Group's 2022 Annual Report, other than the consolidated financial statements and our auditor's report thereon. Management is responsible for the other information. The Group's 2022 Annual Report is expected to be made available to us after the date of this auditor's report.

Our opinion on the consolidated financial statements does not cover the other information and we will not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information, when it becomes available, and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

Responsibilities of management and the Audit Committee for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

The Audit Committee is responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

30 years in Kazakhstan

EY
Building a better working world

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

30 years in Kazakhstan

EY
Building a better working world

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The partner in charge of the audit resulting in this independent auditor's report is Kairat Medetbayev.

Ernst & Young LLP

Kairat Medetbayev
Auditor

Auditor Qualification Certificate
No. МФ-0000137 dated 8 February 2013

Rustamzhan Sattarov
General Director
Ernst & Young LLP

State audit license for audit activities on the territory of the Republic of Kazakhstan: series МФЮ-2 No. 0000003 issued by the Ministry of finance of the Republic of Kazakhstan on 15 July 2005

050060, Republic of Kazakhstan, Almaty
Al-Farabi ave., 77/7, Esentai Tower

6 March 2023

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

In millions of tenge	Note	2022	2021 (restated)[1]
		For the years ended December 31	
Continuing operations			
Revenue and other income			
Revenue from contracts with customers	8	8,686,384	6,459,335
Share in profit of joint ventures and associates, net	9	991,310	680,292
Finance income	16	120,587	85,226
Gain on sale of joint ventures		–	19,835
Other operating income		22,283	30,779
Total revenue and other income		**9,820,564**	**7,275,467**
Costs and expenses			
Cost of purchased oil, gas, petroleum products and other materials	10	(4,954,384)	(3,607,202)
Production expenses	11	(1,142,388)	(721,057)
Taxes other than income tax	12	(677,805)	(461,244)
Depreciation, depletion and amortization	36	(506,585)	(523,044)
Transportation and selling expenses	13	(205,340)	(183,439)
General and administrative expenses	14	(160,168)	(151,392)
Impairment of property, plant and equipment, intangible assets and assets classified as held for sale	15	(708)	(20,724)
Exploration expenses	15	(12,113)	(79,083)
Finance costs	16	(306,846)	(262,823)
Foreign exchange gain, net		40,925	17,565
Other expenses	29	(84,586)	(27,714)
Total costs and expenses		**(8,009,998)**	**(6,020,157)**
Profit before income tax		**1,810,566**	**1,255,310**
Income tax expenses	32	(493,247)	(321,248)
Profit for the year from continuing operations		**1,317,319**	**934,062**
Discontinued operations			
Profit after income tax for the year from discontinued operations	5	–	352,478
Net profit for the year		**1,317,319**	**1,286,540**
Other comprehensive (loss)/income			
Other comprehensive (loss)/income to be reclassified to profit or loss in subsequent periods			
Hedging effect	30	(11,872)	10,055

1 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

In millions of tenge — **For the years ended December 31**

	Note	2022	2021 (restated)[1]
Exchange differences on translation of foreign operations		508,202	170,921
Tax effect		(36,525)	(11,818)
Net other comprehensive income to be reclassified to profit or loss in the subsequent periods, net of tax		**459,805**	**169,158**
Other comprehensive income/(loss) not to be reclassified to profit or loss in subsequent periods			
Actuarial gain on defined benefit plans of the Group, net of tax		9,075	5,959
Actuarial loss on defined benefit plans of the joint ventures, net of tax		(19)	(169)
Tax effect		(116)	(48)
Net other comprehensive gain not to be reclassified to profit or loss in the subsequent periods, net of tax		**8,940**	**5,742**
Net other comprehensive income for the year, net of tax		**468,745**	**174,900**
Total comprehensive income for the year, net of tax		**1,786,064**	**1,461,440**
Net profit/(loss) for the year attributable to:			
Equity holders of the Parent Company		1,289,118	1,304,761
Non-controlling interests		28,201	(18,221)
		1,317,319	**1,286,540**
Total comprehensive income/(loss) for the year attributable to:			
Equity holders of the Parent Company		1,756,410	1,477,856
Non-controlling interests		29,654	(16,416)
		1,786,064	**1,461,440**
Earnings per share[1] – tenge thousands			
Basic and diluted	26	2,159	2,109
Basic and diluted, from continuing operations		2,159	1,531
Basic and diluted, from discontinued operations		**–**	**0,578**

Deputy Chairman of the Management Board

D.S. Karabayev

Chief accountant

A.S. Yesbergenova

The accounting policies and explanatory notes on pages 10 through 99 form an integral part of these consolidated financial statements.

1 — The number of ordinary shares as of December 31, 2022 and 2021 equaled to 610,119,493.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

In millions of tenge — **As at December 31**

	Note	2022	2021 (restated)[2]
Assets			
Non-current assets			
Exploration and evaluation assets	18	251,280	235,004
Property, plant and equipment	17	6,989,837	6,725,910
Investment property		17,304	19,711
Intangible assets	19	918,253	889,491
Right-of-use assets		76,567	68,145
Investments in joint ventures and associates	21	4,947,403	4,145,646
VAT receivable		16,760	11,972
Advances for non-current assets		52,982	40,845
Other non-current non-financial assets		3,713	7,913
Loans and receivables due from related parties	24	129,857	142,394
Other non-current financial assets		10,672	13,248
Long-term bank deposits	20	59,229	56,058
Deferred income tax assets	32	41,598	34,035
		13,515,455	**12,390,372**
Current assets			
Inventories	22	309,425	300,592
Trade accounts receivable	23	519,537	501,394
VAT receivable		42,697	31,379
Income tax prepaid	32	36,167	25,165
Other current non-financial assets	23	109,137	85,673
Loans and receivables due from related parties	24	119,874	485,765
Other current financial assets	23	57,057	329,772
Short-term bank deposits	20	1,178,138	562,352
Cash and cash equivalents	25	762,817	1,144,193
		3,134,849	**3,466,285**
Assets classified as held for sale		459	795
		3,135,308	**3,467,080**
Total assets		**16,650,763**	**15,857,452**

2 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

In millions of tenge | **As at December 31**

	Note	2022	2021 (restated)[1]
Equity and liabilities			
Equity			
Share capital	26	916,541	916,541
Additional paid-in capital		1,142	1,142
Other equity		(1,759)	10,113
Currency translation reserve		4,209,612	3,738,581
Retained earnings		4,809,455	5,439,811
Attributable to equity holders of the Parent Company		**9,934,991**	**10,106,188**
Non-controlling interests	26	(61,541)	(89,282)
Total equity		**9,873,450**	**10,016,906**
Non-current liabilities			
Borrowings	27	3,775,891	3,261,347
Lease liabilities	28	65,872	56,412
Other non-current financial liabilities	30	15,080	15,915
Provisions	29	276,818	330,659
Other non-current non-financial liabilities	30	41,548	39,448
Deferred income tax liabilities	32	999,010	703,200
		5,174,219	**4,406,981**
Current liabilities			
Trade accounts payable	30	564,906	558,266
Borrowings	27	367,443	484,980
Lease liabilities	28	15,682	18,009
Other current financial liabilities	30	283,717	69,418
Provisions	29	63,076	24,511
Income tax payable	32	66,648	6,882
Other taxes payable	31	148,477	137,055
Other current non-financial liabilities	30	93,145	134,444
		1,603,094	**1,433,565**
Total liabilities		**6,777,313**	**5,840,546**
Total equity and liabilities		**16,650,763**	**15,857,452**
Book value per ordinary share[1] – tenge thousands	**26**	**14,678**	**14,960**

Deputy Chairman of the Management Board

D.S. Karabayev

Chief accountant

A.S. Yesbergenova

The accounting policies and explanatory notes on pages 10 through 99 form an integral part of these consolidated financial statements.

1 — The number of ordinary shares as of December 31, 2022 and 2021 equaled to 610,119,493. Presentation of Book value per ordinary share is a non-IFRS measure required by KASE.

CONSOLIDATED STATEMENT OF CASH FLOWS

In millions of tenge | **For the years ended December 31**

	Note	2022	2021 (restated)[2]
Cash flows from operating activities			
Profit before income tax from continuing operations		1,810,566	1,255,310
Profit before income tax from discontinued operations		–	407,993
Profit before income tax		**1,810,566**	**1,663,303**
Adjustments:			
Depreciation, depletion and amortization	36	506,585	523,044
Depreciation, depletion and amortization from discontinued operations	5	–	63,502
Impairment of property, plant and equipment, intangible assets and assets classified as held for sale	15	708	20,724
Exploration expenses	15	12,113	79,083
Impairment of investments in joint venture and associate	21	–	64
Realized losses from derivatives on petroleum products	11	121,539	14,954
Finance income	16	(120,587)	(85,226)
Finance income from discontinued operations	5	–	(19,750)
Finance costs	16	306,846	262,823
Finance costs from discontinued operations	5	–	36,330
Gain on sale of joint venture		–	(19,835)
Share in profit of joint ventures and associates, net	9	(991,310)	(680,292)
Share in profit of joint ventures and associates from discontinued operations, net	5	–	(275,100)
Movements in provisions		78,603	(140,318)
Net foreign exchange gain		(34,290)	(6,565)
Write off of inventories to net realizable value		4,236	4,906
Loss/(gain) on disposal of property, plant and equipment, intangible assets, investment property and assets held for sale, net		2,623	(2,259)
Reversal of impairment of VAT receivable	14	(1,942)	(5,144)
Change in financial guarantees		122	3,527
VAT non-recoverable	14	2,582	2,599
Allowance of expected credit loss for trade receivables and other assets	14	2,758	3,453
Other adjustments		–	427
Operating profit before working capital changes		**1,701,152**	**1,444,250**
Change in VAT receivable		(14,118)	81,409
Change in inventory		(116,439)	(96,521)

2 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

In millions of tenge — **For the years ended December 31**

	Note	2022	2021 (restated)[1]
Change in trade accounts receivable and other current assets		32,933	(206,440)
Change in trade and other payables and contract liabilities		(112,525)	(52,217)
Change in other taxes payable		(58,183)	(52,580)
Cash generated from operations		**1,432,820**	**1,117,901**
Dividends received from joint ventures and associates	21	462,309	415,359
Income taxes paid		(144,013)	(111,396)
Interest received		49,471	39,977
Interest paid	27, 28	(233,280)	(252,366)
Net cash flow from operating activities		**1,567,307**	**1,209,475**
Cash flows from investing activities			
Placement of bank deposits		(1,698,647)	(966,217)
Withdrawal of bank deposits		1,138,293	681,538
Acquisition of subsidiary	6	(1,198,317)	–
Purchase of property, plant and equipment, intangible assets and exploration and evaluation assets		(451,474)	(453,799)
Proceeds from sale of property, plant and equipment, exploration and evaluation assets and assets held for sale		2,219	71,084
Cash of disposed subsidiaries, net		(4,137)	(375,910)
Additional contributions to joint ventures without changes in ownership	21	(15,398)	(1,926)
Proceeds from disposal of joint ventures		–	17,169
Loans given to related parties	33	(42,018)	(73,274)
Repayment of loans due from related parties	33	38,190	24,438
Acquisition of debt securities		–	(14,741)
Proceeds from sale of debt securities		118	10,528
Redeem of notes of the National Bank of RK	24	17,000	–
Acquisition of notes of the National Bank of RK	24	(87,000)	–
Other		(1,138)	(2,918)
Net cash flows used in investing activities		**(2,302,309)**	**(1,084,028)**
Cash flows from financing activities			
Proceeds from borrowings	27	980,634	451,096
Repayment of borrowings	27	(216,243)	(339,552)

1 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

In millions of tenge — **For the years ended December 31**

	Note	2022	2021 (restated)[1]
Reservation of cash for payment of borrowings[2]		–	(292,258)
Dividends paid to Samruk-Kazyna and National Bank of RK	26	(199,997)	(49,999)
Dividends paid to non-controlling interests	26	(1,975)	(5,756)
Distributions to Samruk-Kazyna	26	(266,069)	(534)
Contribution from the related party	26	3,742	16,396
Payment of principal portion of lease liabilities	28	(19,709)	(53,382)
Return of insurance premium	27	7,370	–
Net cash flows from/(used in) financing activities		**287,753**	**(273,989)**
Effects of exchange rate changes on cash and cash equivalents		65,759	26,482
Change in allowance for expected credit losses		114	(136)
Net change in cash and cash equivalents		**(381,376)**	**(122,196)**
Cash and cash equivalents, at the beginning of the year		1,144,193	1,266,389
Cash and cash equivalents, at the end of the year		**762,817**	**1,144,193**

Deputy Chairman of the Management Board

D.S. Karabayev

Chief accountant

A.S. Yesbergenova

The accounting policies and explanatory notes on pages 10 through 99 form an integral part of these consolidated financial statements.

2 — Non-cash transactions
In June and November 2021, the Group made reservation of cash in total amount of 292,258 million tenge for repayment of loan from The Export-Import Bank of China, including interest accrued. The loan was repaid in July 2021 for 32,799 million tenge (Note 27) and in January 2022 for 259,459 million tenge (Notes 23 and 27). Repayment of the loan was treated as non-cash transaction.
As at December 31, 2022 the financial aid provided to Samruk-Kazyna has been fully repaid by setting of against the payable for the acquisition of 49.50% ownership interest in Kazakhstan Petrochemical Industries Inc. LLP for 91,175 million tenge, payable for the acquisition of 49.9% ownership interest in Silleno LLP for 816 million tenge and the part of the payable for exercising the Option for 424,587 million tenge (acquisition of Kashagan) (Notes 6, 24 and 33).

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

In millions of tenge	Attributable to equity holders of the Parent Company							
	Share capital	Additional paid-in capital	Other equity	Currency translation reserve	Retained earnings	Total	Non-controlling interests	Total
As at December 31, 2020 (restated)[3]	**916,541**	**8,981**	**58**	**3,579,835**	**5,911,286**	**10,416,701**	**(71,641)**	**10,345,060**
Net profit/(loss) for the year (restated)[1]	–	–	–	–	1,304,761	1,304,761	(18,221)	1,286,540
Other comprehensive income (restated)[1]	–	–	10,055	158,746	4,294	173,095	1,805	174,900
Total comprehensive income/(loss) (restated)[1]	**–**	**–**	**10,055**	**158,746**	**1,309,055**	**1,477,856**	**(16,416)**	**1,461,440**
Dividends (Note 26)	–	–	–	–	(49,999)	(49,999)	(6,192)	(56,191)
Distributions to Samruk-Kazyna (Note 26)	–	–	–	–	(85)	(85)	–	(85)
Transactions with Samruk-Kazyna (Note 26)	–	–	–	–	(5,222)	(5,222)	–	(5,222)
Transfer of KazTransGas to Samruk-Kazyna (Note 5)	–	(7,839)	–	–	(1,741,620)	(1,749,459)	–	(1,749,459)
Contribution from the related party (Note 26)	–	–	–	–	16,396	16,396	–	16,396
Equity contribution to subsidiary	–	–	–	–	–	–	4,967	4,967
As at December 31, 2021 (restated)[1]	**916,541**	**1,142**	**10,113**	**3,738,581**	**5,439,811**	**10,106,188**	**(89,282)**	**10,016,906**
As at December 31, 2021 (restated)[1]	**916,541**	**1,142**	**10,113**	**3,738,581**	**5,439,811**	**10,106,188**	**(89,282)**	**10,016,906**
Net profit for the year	–	–	–	–	1,289,118	1,289,118	28,201	1,317,319
Other comprehensive (loss)/income	–	–	(11,872)	471,031	8,133	467,292	1,453	468,745
Total comprehensive income/(loss)	**–**	**–**	**(11,872)**	**471,031**	**1,297,251**	**1,756,410**	**29,654**	**1,786,064**
Dividends (Note 26)	–	–	–	–	(199,997)	(199,997)	(2,296)	(202,293)
Distributions to Samruk-Kazyna (Note 26)	–	–	–	–	(273,870)	(273,870)	–	(273,870)
Acquisition of joint ventures (Notes 6 and 7)	–	–	–	–	(63,634)	(63,634)	–	(63,634)
Acquisition of KMG Kashagan B.V. under common control (Note 6)	–	–	–	–	(1,777,076)	(1,777,076)	–	(1,777,076)
Transactions with Samruk-Kazyna (Note 26)	–	–	–	–	385,997	385,997	–	385,997
Contribution from the related party (Note 26)	–	–	–	–	3,742	3,742	–	3,742
Equity contribution to subsidiary	–	–	–	–	–	–	383	383
Other distributions	–	–	–	–	(2,769)	(2,769)	–	(2,769)
As at December 31, 2022	**916,541**	**1,142**	**(1,759)**	**4,209,612**	**4,809,455**	**9,934,991**	**(61,541)**	**9,873,450**

Deputy Chairman of the Management Board

D.S. Karabayev

Chief accountant

A.S. Yesbergenova

The accounting policies and explanatory notes on pages 10 through 99 form an integral part of these consolidated financial statements.

1 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. General

Joint stock company "National Company "KazMunayGas" (further the Company, JSC NC "KazMunayGas" or Parent Company) is oil and gas enterprise of the Republic of Kazakhstan (further RK), which was established on February 27, 2002 as a closed joint stock company pursuant to the Decree No. 811 of the President of the RK dated February 20, 2002 and the resolution of the Government of the RK (further the Government) No. 248 dated February 25, 2002. The Company was formed as a result of the merger of closed joint stock companies "National Oil and Gas Company Kazakhoil" and "National Company Transport Nefti i Gaza". As the result of the merger, all assets and liabilities, including ownership interest in all entities owned by these companies, have been transferred to the Company. The Company was reregistered as a joint stock company in accordance with the legislation of the RK in March 2004.

Starting from June 8, 2006, the sole shareholder of the Company was joint stock company "Kazakhstan Holding Company for State Assets Management "Samruk", which in October 2008 was merged with the state owned Sustainable Development Fund "Kazyna" and formed joint stock company "National Welfare Fund Samruk-Kazyna", now renamed to joint stock company "Sovereign Wealth Fund Samruk-Kazyna" (further Samruk-Kazyna). The Government is the sole shareholder of SamrukKazyna. On August 7, 2015, the National Bank of RK (further NB RK) purchased 9.58% plus one share of the Company from Samruk-Kazyna. From December 8, 2022, 3.00% of shares of the Company are freely available on the Astana International Exchange (further AIX) and the Kazakhstan Stock Exchange (further KASE) stock exchanges.

As at December 31, 2022, the Company has interest in 59 operating companies (as of December 31, 2021: 60) (jointly "the Group").

The Company has its registered office in the RK, Astana, Dinmukhamed Kunayev, 8.

The principal activity of the Group includes, but is not limited, to the following:

- Participation in the development and implementation of the uniform public policy in the oil and gas sector;
- Representation of the state interests in subsoil use contracts through interest participation in those contracts; and
- Corporate governance and monitoring of exploration, development, production, oil servicing, processing, petrochemistry, transportation and sale of hydrocarbons and the designing, construction and maintenance of oil-and-gas pipeline and field infrastructure.

The consolidated financial statements comprise the financial statements of the Company and its controlled subsidiaries (Note 3).

These consolidated financial statements of the Group were approved for issue by the Deputy Chairman of the Management Board and the Chief accountant on March 6, 2023.

2. Basis of preparation

These consolidated financial statements have been prepared on a historical cost basis, except as described in the accounting policies and the notes to these consolidated financial statements. All values in these consolidated financial statements are rounded to the nearest millions, except when otherwise indicated.

Statement of compliance

These consolidated financial statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued by International Accounting Standards Board (IASB).

The preparation of the consolidated financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the Group consolidated financial statements are disclosed in Note 4.

In course of preparation of these consolidated financial statements the Group management considered the current international economic and geopolitical environment including the war in Ukraine (Note 37).The consolidated financial statements were prepared on a going concern basis.

Foreign currency translation

Functional and presentation currency

Items included in the financial statements of each of the Group's entities included in these consolidated financial statements are measured using the currency of the primary economic environment in which the entities operate (the functional currency). The consolidated financial statements are presented in Kazakhstan tenge (tenge or KZT), which is the Company's functional and presentation currency.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the consolidated statement of comprehensive income.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rates as at the dates of the initial transactions. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value is determined.

Differences arising on settlement or translation of monetary items are recognized in profit or loss with the exception of monetary items that are designated as part of the hedge of the Group's net investment in foreign operation. These are recognized in other comprehensive income until the net investment is disposed of, at which time, the cumulative amount is reclassified to profit or loss. Tax charges and credits attributable to exchange differences on those monetary items are also recorded in other comprehensive income.

Group Companies

The results and financial position of all of the Group's subsidiaries, joint ventures and associates (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at that reporting date;
- Income and expenses for each statement of comprehensive income presented are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rate on the date of the transaction); and
- All resulting exchange differences are recognized as a separate component of other comprehensive income.

Exchange rates

Weighted average currency exchange rates established by KASE are used as official currency exchange rates in the Republic of Kazakhstan. The currency exchange rate of KASE as at December 31, 2022 was 462.65 tenge to 1 United States dollar (US dollar). This rate was used to translate monetary assets and liabilities denominated in US dollar as at December 31, 2022 (2021: 431.80 tenge to 1 US dollar). The currency exchange rate of KASE as at March 6, 2023 was 432.83 tenge to 1 US dollar. For the year ended December 31, 2022, the Group had net foreign exchange gain of KZT 40,925 million due to fluctuations in foreign exchange rates to tenge.

Renegotiation of loans in the context of IBOR reform

In the context of IBOR reform, some financial instruments have already been amended or will be amended as they transition from IBORs to risk free rates (further RFR). In addition to the interest rate of a financial instrument changing, there may be other changes made to the terms of the financial instrument at the time of transition. For financial instruments measured at amortised cost, the Group first applies the following practical expedients:

- A practical expedient to require contractual changes, or changes to cash flows that are directly required by the reform, to be treated as changes to a floating interest rate, equivalent to a movement in a market rate of interest;
- Permit changes required by IBOR reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued;
- Provide temporary relief to entities from having to meet the separately identifiable requirement when an RFR instrument is designated as a hedge of a risk component.

Second, for any changes not covered by the practical expedient, the Group applies judgement to assess whether the changes are substantial and if they are, the financial instrument is derecognized and a new financial instrument is recognized. If the changes are not substantial, the Group adjusts the gross carrying amount of the financial instrument by the present value of the changes not covered by the practical expedient, discounted using the revised effective interest rate.

3. Summary of significant accounting policies

Changes in accounting policies and disclosures

New and amended standards and interpretations

The accounting policies adopted in the preparation of the consolidated financial statements are consistent with those followed in the preparation of the Group's annual consolidated financial statements for the year ended December 31, 2021, except for the adoption of new standards and interpretations effective as of January 1, 2022.

The Group has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

Several amendments and interpretations apply for the first time in 2022, but do not have an impact on the consolidated financial statements of the Group.

The Group presented only the list of standards effective and applicable for the Group.

Onerous Contracts – Costs of Fulfilling a Contract – Amendments to IAS 37

The amendments specify that when assessing whether a contract is onerous or loss-making, an entity needs to include costs that relate directly to a contract to provide goods or services including both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. These amendments had no impact on the consolidated financial statements of the Group as there were no onerous contracts identified.

Reference to the Conceptual Framework – Amendments to IFRS 3

The amendments add an exception to the recognition principle of IFRS 3 Business Combinations to avoid the issue of potential 'day 2' gains or losses arising for liabilities and contingent liabilities that would be within the scope of IAS 37 Provisions, Contingent Liabilities and Contingent Assets or IFRIC 21 Levies, if incurred separately. The exception requires entities to apply the criteria in IAS 37 or IFRIC 21, respectively, instead of the Conceptual Framework, to determine whether a present obligation exists at the acquisition date. These amendments had no impact on the consolidated financial statements of the Group as there were no contingent assets, liabilities and contingent liabilities within the scope of these amendments arisen during the period.

Property, Plant and Equipment: Proceeds before Intended Use – Amendments to IAS 16

The amendment prohibits entities from deducting from the cost of an item of property, plant and equipment, any proceeds of the sale of items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognizes the proceeds from selling such items, and the costs of producing those items, in profit or loss. These amendments had no impact on the consolidated financial statements of the Group as there were no sales of such items produced by property, plant and equipment made available for use on or after the beginning of the earliest period presented.

IFRS 9 Financial Instruments – Fees in the '10 per cent' test for derecognition of financial liabilities

The amendment clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. There is no similar amendment proposed for IAS 39 Financial Instruments: Recognition and Measurement. These amendments had no impact on the consolidated financial statements of the Group as there were no modifications of the Group's financial instruments during the period.

Standards issued but not yet effective

There are new pronouncements issued as at 31 December 2022:

- Definition of Accounting Estimates – Amendments to IAS 8
- Disclosure of Accounting Policies – Amendments to IAS 1 and IFRS 2 Practice Statement
- Deferred Tax related to Assets and Liabilities arising from a Single Transaction – Amendments to IAS 12
- Lease Liability in a Sale and Leaseback – Amendments to IFRS 16
- Classification of Liabilities as Current or Non-current – Amendments to IAS 1
- Sale or Contribution of Assets between an Investor and its Associate or Joint Venture – Amendments to IFRS 10 and IAS 28

Basis of consolidation

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries as of December 31, 2022. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if and only if the Group has: power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee); exposure, or rights, to variable returns from its involvement with the investee, and; the ability to use its power over the investee to affect its returns.

Generally, there is a presumption that a majority of voting rights result in control. To support this presumption and when the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including: the contractual arrangement with the other vote holders of the investee; rights arising from other contractual arrangements; the Group's voting rights and potential voting rights.

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control over the subsidiary. Assets, liabilities, revenue and expenses of a subsidiary acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

The financial statements of the subsidiaries are prepared for the same reporting period as the parent company, using consistent accounting policies. Profit or loss and each component of other comprehensive income are attributable to the equity holders of the parent of the Group and to the non-controlling interests, even if this results in the non-controlling interest having a deficit balance. When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies. All intra-group balances, transactions, unrealized gains and losses resulting from intra-group transactions and dividends are eliminated in full on consolidation. A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognizes the related assets (including goodwill), liabilities, non-controlling interest and other components of equity while any resultant gain or loss is recognized in profit or loss. Any investment retained is recognized at fair value.

Subsidiaries

As at December 31, 2022 and 2021, the following direct significant subsidiaries were included in these consolidated financial statements:

Significant entities	Main activity	Country of incorporation	Percentage ownership	
			2022	2021 (restated)
KazMunayGas Exploration Production JSC (further KMG EP)	Exploration and production	Kazakhstan	**99.72%**	99.72%
KazMunayTeniz LLP	Exploration and production	Kazakhstan	**100%**	100%
KMG Karachaganak LLP	Exploration and production	Kazakhstan	**100%**	100%
Kazakhturkmunay LLP	Exploration and production	Kazakhstan	**100%**	100%
KMG Kashagan B.V. (Note 6)	Exploration and production	Netherlands	**100%**	100%
KazTransOil JSC	Oil transportation	Kazakhstan	**90%**	90%
KazMorTransFlot LLP	Oil transportation and construction	Kazakhstan	**100%**	100%
Cooperative KazMunayGas PKI U.A.	Refinery and marketing of oil products	Netherlands	**100%**	100%
Atyrau Refinery LLP	Refinery	Kazakhstan	**99.53%**	99.53%
Pavlodar oil chemistry refinery LLP	Refinery	Kazakhstan	**100%**	100%
KMG International N.V. (further KMGI)	Refinery and marketing of oil products	Romania	**100%**	100%
KMG Drilling&Services LLP	Drilling services	Kazakhstan	**100%**	100%

Business combinations and goodwill

Business combinations are accounted for using the acquisition method. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date fair value and the amount of any non-controlling interest in the acquiree. For each business combination, the acquirer measures the non-controlling interest in the acquiree either at fair value or at the proportionate share of the acquiree's identifiable net assets. Acquisition costs incurred are expensed and included in general and administrative expenses.

When the Group acquires a business, it assesses the financial assets acquired and liabilities assumed for appropriate classification and designation in accordance with the contractual terms, economic circumstances and pertinent conditions as at the acquisition date. This includes the separation of embedded derivatives in host contracts by the acquiree.

Any contingent consideration to be transferred by the acquirer will be recognized at fair value at the acquisition date. Contingent consideration classified as an asset or liability that is a financial instrument and within the scope of IFRS 9 Financial Instruments, is measured at fair value with changes in fair value recognized in the statement of profit or loss in accordance with IFRS 9. If the contingent consideration is not within the scope of IFRS 9, it is measured at fair value through profit and loss. Contingent consideration that is classified as equity is not remeasured and its subsequent settlement is accounted for within equity.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the reassessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

After initial recognition, goodwill is measured at cost less any accumulated impairment losses. For the purpose of impairment testing, goodwill acquired in a business combination is, from the acquisition date, allocated to each of the Group's cash-generating units that are expected to benefit from the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units.

Where goodwill forms part of a cash-generating unit and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal of the operation. Goodwill disposed in this circumstance is measured based on the relative values of the operation disposed of and the portion of the cash-generating unit retained.

Business combinations achieved in stages

The acquisition date fair value of the acquirer's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date through profit or loss.

In a business combination achieved in stages the acquirer recognizes goodwill as of the acquisition date measured as the excess of (a) over (b) below:

(a) The aggregate of: (i) the consideration transferred measured in accordance with this IFRS 3 Business Combinations, which generally requires acquisition-date fair value; (ii) the amount of any non-controlling interest in the acquiree measured in accordance with this IFRS; and (iii) the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree;

(b) The net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed.

Acquisition of subsidiaries from parties under common control

Acquisitions of subsidiaries from parties under common control are accounted for using the pooling of interest method.

The assets and liabilities of the subsidiary transferred under common control are recorded in the consolidated financial statements at the carrying amounts of the transferring entity (the Predecessor) at the date of the transfer. Related goodwill, if any, inherent in the Predecessor's original acquisition is also recorded in the consolidated financial statements. Any difference between the total book value of net assets, including the Predecessor's goodwill, and the consideration paid is accounted for in the consolidated financial statements as an adjustment to equity.

The consolidated financial statements, including corresponding figures, are presented as if the subsidiary had been acquired by the Group on the date it was originally acquired by the Predecessor.

Acquisition of joint ventures and associates from parties under common control

Acquisition of joint ventures and associates from parties under common control are accounted for using the pooling of interest method.

The Group's share in the assets and liabilities of the joint ventures and associates transferred under common control is recorded in the consolidated financial statements at the carrying amounts of the transferring entity (the Predecessor) at the date of the transfer. Any difference between the Group's share in the total book value of net assets, and the consideration paid is accounted for in the consolidated financial statements as an adjustment to equity.

Joint operations

A joint operation is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets and obligations for the liabilities, relating to the arrangement. In relation to its interests in joint operations, the Group recognizes its: Assets, including its share of any assets held jointly; Liabilities, including its share of any liabilities incurred jointly; Revenue from the sale of its share of the output arising from the joint operation; Share of the revenue from the sale of the output by the joint operation; Expenses, including its share of any expenses incurred jointly.

Investment in associates and joint ventures

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but which does not comprise control or joint control over those policies.

A joint venture is a type of joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint venture. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control. Under contractual arrangement that establishes joint control the Group may own less than 50% of shares in joint ventures.

The considerations made in determining significant influence or joint control are similar to those necessary to determine control over subsidiaries. The Group's investments in its joint venture and associates are accounted for using the equity method.

Under the equity method, the investment in a joint venture or an associate is initially recognized at cost. The carrying amount of the investment is adjusted to recognize changes in the Group's share of net assets of the joint venture or associate since the acquisition date. Goodwill relating to the joint venture or associate is included in the carrying amount of the investment and is neither amortized nor individually tested for impairment.

The consolidated statement of comprehensive income reflects the Group's share of the results of operations of the joint venture or associate. Any change in other comprehensive income of those investees is presented as part of the Group's other comprehensive income. In addition, when there has been a change recognized directly in the equity of the joint venture or associate, the Group recognizes its share of any changes, when applicable, in the consolidated statement of changes in equity. Unrealized gains and losses resulting from transactions between the Group and the joint venture or associate are eliminated to the extent of the interest in the joint venture or associate.

The aggregate of the Group's share in profit or loss of a joint venture and an associate is shown on the face of the consolidated statement of comprehensive income and represents profit or loss after tax and non-controlling interest in the subsidiaries of the joint venture or associate. The financial statements of the joint venture or associate are prepared for the same reporting period as the Group. When necessary, adjustments are made to bring their accounting policies in line with those of the Group.

After application of the equity method, the Group determines whether it is necessary to recognize an impairment loss on its investment in its joint venture or associate. At each reporting date, the Group determines whether there is objective evidence that the investment in the joint venture or associate is impaired. If there is such evidence, the Group calculates the amount of impairment as the difference between the recoverable amount of the associate or joint venture and its carrying value, and then recognizes the loss as "Impairment of investment in joint venture and associate" in the consolidated statement of comprehensive income.

Upon loss of joint control over the joint venture or significant influence over the associate, the Group measures and recognizes any retained investment at its fair value. Any difference between the carrying amount of the joint venture or associate upon loss of joint control or significant influence and the fair value of the retained investment and proceeds from disposal is recognized in profit or loss.

Current versus non-current classification

The Group presents assets and liabilities in the consolidated statement of financial position based on current/non-current classification. An asset is classified as current when it is: expected to be realized or intended to sold or consumed in normal operating cycle; held primarily for the purpose of trading; expected to be realized within 12 (twelve) months after the reporting period; or it is cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least 12 (twelve) months after the reporting period. All other assets are classified as non-current.

A liability is classified as current when it is: expected to be settled in normal operating cycle; held primarily for the purpose of trading; due to be settled within 12 (twelve) months after the reporting period; or there is no unconditional right to defer the settlement of the liability for at least 12 (twelve) months after the reporting period. The Group classifies all other liabilities as non-current.

Deferred tax assets and liabilities are always classified as noncurrent assets and liabilities.

Oil and natural gas exploration, evaluation and development expenditure

Costs incurred before obtaining subsoil use rights (licenses)

Costs incurred before obtaining full subsoil use rights (licenses) are expensed in the period in which they are incurred, except when costs are incurred after signing preliminary agreements with the Government of RK, in such cases costs incurred after this date are capitalized in exploration and evaluation assets.

Subsoil use rights and property acquisition costs

Exploration and production subsoil use rights and related property acquisition costs are capitalized within exploration and evaluation assets and subclassified as intangible. Each property under exploration and appraisal is reviewed on an annual basis to confirm that drilling activity is planned and it is not impaired. If no future activity is planned, the carrying amount of the exploration subsoil use right and related property acquisition costs is written off. Upon determination of economically recoverable reserves ('proved reserves' or 'commercial reserves') and internal approval of development, the carrying amount of the subsoil use right and related property acquisition costs held on a fieldbyfield basis is aggregated with exploration and evaluation assets and transferred to oil and gas assets or intangible assets.

Exploration and evaluation costs

Once the legal right to explore has been acquired, geological and geophysical exploration costs and costs directly associated with exploration and appraisal wells, including unsuccessful development or delineation wells are capitalized as exploration and evaluation intangible or tangible assets, according to the nature of the costs, until the drilling of the well is complete and the results have been evaluated. These costs include employee remuneration, materials and fuel used, rig costs and payments made to contractors. If no expected reserves are found, the exploration and evaluation asset is tested for impairment. If extractable hydrocarbons are found and, subject to further appraisal activity, which may include the drilling of further wells, are likely to be developed commercially; the costs continue to be carried as an asset while sufficient/continued progress is made in assessing the commerciality of the hydrocarbon reserves. All such carried costs are subject to technical, commercial and management review as well as review for impairment at least once a year to confirm the continued intent to develop or otherwise extract value from the discovery.

When proved reserves of hydrocarbons are determined and development is sanctioned, the relevant expenditure is transferred to oil and gas assets after impairment is assessed and impairment loss recognized, if any.

When this is no longer the case, and the Group decides to relinquish the contract territory to the Government and terminate the subsoil use contracts, the assets are written off.

Development costs

Expenditures on the construction, installation or completion of infrastructure facilities such as platforms, pipelines and the drilling of development wells, are capitalized within oil and gas assets.

Oil and gas assets and other property, plant and equipment

Oil and gas assets and other property, plant and equipment are stated at cost less accumulated depreciation, depletion and impairment.

The initial cost of an asset comprises its purchase price or construction cost, borrowing cost for long-term construction or development project, if recognition criteria is met, any costs directly attributable to bringing the asset into operation and the initial estimate of decommissioning obligation, if there is any. The purchase price or construction cost is the aggregate amount paid and the fair value of any other consideration given to acquire the asset.

Oil and gas assets are depreciated using a unit-of-production method, whereas tangible assets are depreciated over proved developed reserves and intangible assets – over proved reserves. Certain oil and gas assets with useful lives less than the remaining life of the fields or term of the subsoil use contracts are depreciated on a straight-line basis over useful lives.

Property, plant and equipment other than oil and gas assets and land principally comprise buildings, machinery and equipment, vehicles and others that are depreciated on a straight-line basis over the expected remaining useful average lives as follows:

Refinery assets	4–100 years
Pipelines	2–30 years
Buildings and improvements	2–100 years
Machinery and equipment	2–30 years
Vehicles	3–35 years
Other	2–20 years
Land	Not depreciated

The expected useful lives of property, plant and equipment are reviewed on an annual basis and, if necessary, changes in useful lives are accounted for prospectively.

The carrying value of property, plant and equipment is reviewed for impairment whenever events or changes in circumstances indicate the carrying value may not be recoverable.

An item of property, plant and equipment, inclusive of production wells which stop producing commercial quantities of hydrocarbons and are scheduled for abandonment, is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the item) is included in the profit or loss in the period the item is derecognized.

Intangible assets

Intangible assets are stated at cost, less accumulated amortization and accumulated impairment losses. Intangible assets include expenditure on acquiring subsoil use rights for oil and natural gas exploration, evaluation and development, computer software and goodwill. Intangible assets acquired separately from a business are carried initially at cost. The initial cost is the aggregate amount paid and the fair value of any other consideration given to acquire the asset.

Intangible assets, except for goodwill and subsoil use rights, are amortized on a straight-line basis over the expected remaining useful life. The expected useful lives of the assets are reviewed on an annual basis and, if necessary, changes in useful lives are accounted for prospectively. Computer software costs have an estimated useful life of 3 to 7 years.

The carrying value of intangible assets is reviewed for impairment whenever events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is tested for impairment annually (as at December 31) and when circumstances indicate that the carrying value may be impaired.

Impairment is determined for goodwill by assessing the recoverable amount of each cash-generating unit (or group of cash-generating units) to which the goodwill relates. Where the recoverable amount of the cash generating unit is less than their carrying amount an impairment loss is recognized. Impairment losses relating to goodwill cannot be reversed in future periods.

Impairment of non-financial assets

The Group assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the Group estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating unit's (CGU) fair value less costs to sell and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

In determining fair value less costs to sell, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded subsidiaries or other available fair value indicators.

Impairment losses of continuing operations are recognized in the consolidated statement of comprehensive income in those expense categories consistent with the function of the impaired asset.

The Group bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the Group's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of 5 (five) years. For longer periods, a long-term growth rate is calculated and applied to projected future cash flows after the fifth year.

For assets excluding goodwill, an assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or may have decreased. If such indication exists, the Group estimates the asset's or cash-generating unit's recoverable amount. A previously recognized impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognized. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceed the carrying amount that would have been determined, net of accumulated depreciation, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statement of comprehensive income.

Impairment of exploration and evaluation assets

Exploration and evaluation assets are tested for impairment when reclassified to oil and gas development tangible or intangible assets or whenever facts and circumstances indicate impairment.

One or more of the following facts and circumstances indicate that the Group should test exploration and evaluation assets for impairment (the list is not exhaustive):

- The period for which the Group entity has the right to explore and appraise in the specific area has expired during the period or will expire in the near future, and is not expected to be renewed;
- Substantive expenditure on the further exploration for and evaluation of hydrocarbon resources in the specific area is neither budgeted nor planned;

- Exploration for and evaluation of hydrocarbon resources in the specific area have not led to the discovery of commercially viable quantities of hydrocarbon resources and the Group entity has decided to discontinue such activities in the specific area;
- Sufficient data exist to indicate that, although a development in the specific area is likely to proceed, the carrying amount of the exploration and evaluation asset is unlikely to be recovered in full from successful development or by sale.

Non-current assets held for sale and discontinued operations

Non-current assets and disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Non-current assets and disposal groups are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition.

Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

In the consolidated statement of comprehensive income of the reporting period, and of the comparable period of the previous year, income and expenses from discontinued operations are reported separately from income and expenses from continuing operations, down to the level of profit after taxes, even when the Group retains a non-controlling interest in the subsidiary after the sale. The resulting profit or loss (after taxes) is reported separately in the consolidated statement of comprehensive income.

Property, plant and equipment and intangible assets once classified as held for sale are not depreciated or amortized.

Asset retirement obligation (decommissioning)

Provision for decommissioning is recognized in full, on a discounted cash flow basis, when the Group has an obligation to dismantle and remove a facility or an item of plant, property and equipment and to restore the site on which it is located, and when a reasonable estimate of that provision can be made. The amount recognized is the present value of the estimated future expenditure determined in accordance with local conditions and requirements. A corresponding item of property, plant and equipment of an amount equivalent to the provision is also created. This asset is subsequently depreciated as part of the capital costs of the production and transportation facilities based on the appropriate depreciation method.

Changes in the measurement of an existing decommissioning provision that result from changes in the estimated timing or amount of the outflow of resources embodying economic benefits required to settle the obligation, or change in the discount rate, is accounted for so that:

(a) Changes in the provision are added to, or deducted from, the cost of the related asset in the current period;

(b) The amount deducted from the cost of the asset shall not exceed its carrying amount. If a decrease in the provision exceeds the carrying amount of the asset, the excess is recognized immediately in the consolidated statement of comprehensive income; and

(c) If the adjustment results in an addition to the cost of an asset, the Group considers whether this is an indication that the new carrying amount of the asset may not be fully recoverable. If it is such an indication, the Group tests the asset for impairment by estimating its recoverable amount, and accounts for any impairment loss, in accordance with IAS 36.

Financial assets

Initial recognition and measurement

Financial assets are classified, at initial recognition, as subsequently measured at amortized cost, fair value through other comprehensive income, and fair value through profit or loss. The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient, the Group initially measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under IFRS 15.

In order for a debt financial asset to be classified and measured at amortized cost or fair value through other comprehensive income, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level. The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the market place (regular way trades) are recognized on the trade date, i.e., the date that the Group commits to purchase or sell the asset.

Subsequent measurement

For purposes of subsequent measurement, financial assets are classified in two categories:
- Financial assets at amortized cost (debt instruments);
- Financial assets at fair value through profit or loss.

The Group does not have financial assets at fair value through other comprehensive income.

Initial recognition and measurement

Financial assets at amortized cost (debt instruments)

This category is the most relevant to the Group. The Group measures financial assets at amortized cost if both of the following conditions are met:
- The financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows; and
- The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortized cost are subsequently measured using the effective interest rate method and are subject to impairment. Gains and losses are recognized in profit or loss when the asset is derecognized, modified or impaired. The Group's financial assets at amortized cost include trade and other receivables, loans due from related parties and bank deposits.

Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include certain loans due from related parties, which contain embedded derivative financial instruments. Financial assets with cash flows that are not solely payments of principal and interest are classified and measured at fair value through profit or loss, irrespective of the business model. Notwithstanding the criteria for debt instruments to be classified at amortized cost or at fair value through other comprehensive income, as described above, debt instruments may be designated at fair value through profit or loss on initial recognition if doing so eliminates, or significantly reduces, an accounting mismatch.

Financial assets at fair value through profit or loss are carried in the consolidated statement of financial position at fair value with net changes in fair value recognized in the consolidated statement of comprehensive income within the profit and loss.

Derecognition

A financial asset is primarily derecognized (removed from the consolidated statement of financial position) when:
- The rights to receive cash flows from the asset have expired; or
- The Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risks and rewards of ownership. When it has neither transferred nor retained substantially all of the risks and rewards of the asset, nor transferred control of the asset, the Group continues to recognize the transferred asset to the extent of its continuing involvement. In that case, the Group also recognizes an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained. Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

Impairment of financial assets

The Group recognizes an allowance for expected credit losses (ECL) for all debt instruments not held at fair value through profit or loss. ECL are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECL are recognized in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECL are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade and other receivables, the Group applies a simplified approach in calculating ECL. Therefore, the Group does not track changes in credit risk, but instead recognizes a loss allowance based on lifetime ECL at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

The Group considers a financial asset in default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts in full before taking into account any credit enhancements held by the Group. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Inventories

Inventories are stated at the lower of cost and net realizable value on a first-in first-out (FIFO) basis. Cost includes all costs incurred in the normal course of business in bringing each product to its present location and condition. The cost of crude oil and refined products is the cost of production, including the appropriate proportion of depreciation, depletion and amortization and overheads based on normal capacity. Net realizable value of crude oil and refined products is based on estimated selling price in the ordinary course of business less any costs expected to be incurred to complete the sale.

Value added tax (VAT)

The tax authorities permit the settlement of VAT on sales and purchases on a net basis. VAT receivable represents VAT on domestic purchases net of VAT on domestic sales. Export sales are zero rated.

Cash and cash equivalents

Cash and cash equivalents include cash in bank and cash on hand, demand deposits with banks with original maturities of three months or less.

Financial liabilities

Initial recognition and measurement

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans borrowings and payables, or as derivatives financial instruments.

All financial liabilities are recognized initially at fair value and in the case of loans and borrowings, plus directly attributable transaction costs.

The Group's financial liabilities include trade and other payables, loans and borrowings and derivative financial instruments.

Subsequent measurement

The measurement of financial liabilities depends on their classification as follows:

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss includes financial liabilities held for trading and financial liabilities designated upon initial recognition as at fair value through profit or loss.

Financial liabilities are classified as held for trading if they are acquired for the purpose of selling in the near term. This category includes derivative financial instruments entered into by the Group that are not designated as hedging instruments in hedge relationships as defined by IFRS 9. Separated embedded derivatives are also classified as held for trading unless they are designated as effective hedging instruments.

Gains or losses on liabilities held for trading are recognized in profit or loss.

The Group has not designated any financial liabilities upon initial recognition as at fair value through profit or loss.

Trade and other payables

Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method.

Loans and borrowings

After initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest rate method. Gains and losses are recognized in the consolidated statement of comprehensive income when the liabilities are derecognized as well as through the effective interest rate amortization process.

Amortized cost is calculated by taking into account any discount or premium on acquisition and fee or costs that are an integral part of the effective interest rate. The effective interest rate amortization is included in finance costs.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least twelve months after the reporting date. Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized as part of the cost of that asset. Other borrowing costs are recognized as an expense when incurred.

Financial guarantee contracts

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. Financial guarantee contracts are recognized initially as a liability at fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequently, the liability is measured at the higher of the expected credit losses allowance calculated under IFRS 9 and the amount recognized less cumulative amortization, if any.

Derecognition

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in profit or loss.

Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount reported in the consolidated statement of financial position if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the assets and settle the liabilities simultaneously.

Fair value of financial instruments

The fair value of financial instruments that are traded in active markets at each reporting date is determined by reference to quoted market prices or dealer price quotations (bid price for long positions and ask price for short positions), without any deduction for transaction costs.

For financial instruments not traded in an active market, the fair value is determined using appropriate valuation techniques. Such techniques may include using recent arm's length market transactions; reference to the current fair value of another instrument that is substantially the same; a discounted cash flow analysis or other valuation models.

Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When the Group expects a provision to be reimbursed, for example under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain.

If the effect of the time value of money is material, provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and, where appropriate, the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage of time is recognized as a finance cost.

Provision for obligations to the Government

The Government assigns various sponsorship and financing obligations to the Group. Management of the Group believes that such Government's assignments represent constructive obligations of the Group and require recognition on the basis of respective resolution of the Government. Furthermore, as the Government is the ultimate controlling party of the Group, the expenditures on these assignments are recognized as other distributions to the Shareholders directly in the equity, in the consolidated financial statements.

Employee benefits

Pension scheme

Payments to defined contribution retirement benefit plans are charged as an expense as they fall due. Payments made to state – managed retirement benefit schemes are dealt with as defined contribution plans where the Group's obligations under the scheme are equivalent to those arising in a defined contribution retirement benefit plan.

Long-term employee benefits

The Group provides long-term employee benefits to employees before, on and after retirement, in accordance with the collective agreements between the Group entities and their employees. The collective agreement provides for certain one-off retirement payments, financial aid for employees' disability, anniversaries, funeral and other benefits. The entitlement to benefits is usually conditional on the employee remaining in service up to retirement age.

The expected costs of the benefits associated with one-off retirement payments are accrued over the period of employment using the same accounting methodology as used for defined benefit post-employment plans with defined payments upon the end of employment. Actuarial gains and losses arising in the year are taken to other comprehensive income. For this purpose, actuarial gains and losses comprise both the effects of changes in actuarial assumptions and experience adjustments arising because of differences between the previous actuarial assumptions and what has actually occurred. Other movements are recognized in the current period, including current service cost, any past service cost and the effect of any curtailments or settlements.

The most significant assumptions used in accounting for defined benefit obligations are discount rate and mortality assumptions. The discount rate is used to determine the net present value of future liabilities and each year the unwinding of the discount on those liabilities is charged to the consolidated statement of comprehensive income as finance costs. The mortality assumption is used to project the future stream of benefit payments, which is then discounted to arrive at a net present value of liabilities.

Employee benefits other than one-off retirement payments are considered as other long-term employee benefits. The expected cost of these benefits is accrued over the period of employment using the same accounting methodology as used for the defined benefit plan. Actuarial gains and losses on other long-term employee benefits are recognized in the profit or loss. These obligations are valued by independent qualified actuaries on an annual basis.

Revenue recognition

Revenues are recognized when (or as) the Group satisfies a performance obligation by transferring a promised good or service (i.e. an asset) to a customer. An asset is transferred when (or as) the customer obtains control of that asset, which usually occurs when the title is passed, provided that the contract price is fixed or determinable and collectability of the receivable is reasonably assured. Specifically, domestic sales of crude oil and gas, as well as petroleum products and materials are usually recognized when title passes. For export sales, title generally passes at the border of the RK. Revenue is measured at the fair value of the consideration received or receivable taking into account the amount of any trade discounts, volume rebates and reimbursable taxes.

Sales of support services are recognized as services are performed provided that the service price can be determined and no significant uncertainties regarding the receipt of revenues exist.

Interest income and expense

For all financial instruments measured at amortized cost, and interest income and interest expense are recorded using the effective interest rate. Effective interest rate is the rate that exactly discounts the estimated future cash payments or receipts over the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income and interest expense is included in finance costs in the consolidated statement of comprehensive income.

Trade receivables

A receivable represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due).

Contract liabilities

A contract liability is the obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Group transfers goods or services to the customer, a contract liability is recognized when the payment is made or the payment is due (whichever is earlier). Contract liabilities are recognized as revenue when the Group performs under the contract.

Expense recognition

Expenses are recognized as incurred and are reported in the consolidated financial statements in the period to which they relate on an accrual basis.

Income taxes

Income tax for the year comprises current income tax, excess profit tax and deferred tax. Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted by the reporting date. Current income tax (CIT) relating to items recognized directly in equity is recognized in equity and not in the consolidated statement of comprehensive income.

Excess profit tax (EPT) is treated as an income tax and forms part of income tax expense. In accordance with the applicable tax legislation, the Group accrues and pays EPT in respect of each subsoil use contract, at varying rates based on the ratio of aggregate annual income to deductions for the year for a particular subsoil use contract. The ratio of aggregate annual income to deductions in each tax year triggering the application of EPT is 1.25:1. EPT rates are applied to the part of the taxable income (taxable income after corporate income tax and allowable adjustments) related to each subsoil use contract in excess of 25% of the deductions attributable to each contract.

Deferred tax is calculated with respect to both CIT and EPT. Deferred EPT is calculated on temporary differences for assets allocated to subsoil use contracts at the expected rate of EPT to be paid under the contract.

Deferred income tax is provided using the liability method on temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred income tax liabilities are recognized for all taxable temporary differences, except:

- Where the deferred income tax liability arises from the initial recognition of goodwill or of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- In respect of taxable temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

Deferred income tax assets are recognized for all deductible temporary differences, carryforward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carryforward of unused tax credits and unused tax losses can be utilized except:

- When the deferred income tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; and
- In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred income tax assets are recognized only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred income tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred income tax asset to be utilized. Unrecognized deferred income tax assets are reassessed at each reporting date and are recognized to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered. Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the reporting date.

Deferred income tax relating to items recognized directly in equity is recognized in equity and not in the consolidated statement of comprehensive income. Deferred income tax assets and deferred income tax liabilities are offset, if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred income taxes relate to the same taxable entity and the same taxation authority. Deferred tax assets are recognized for all allowances and unused tax losses to the extent that it is probable that taxable temporary differences and business nature of such expenses will be proved. Significant management judgment is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of future taxable profits together with future tax planning strategies.

Equity

Non-controlling interest

Non-controlling interests are presented in the consolidated statement of financial position within equity, separately from the equity of the Company's owners. Total comprehensive income is attributed to the Company's owners and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Dividends

Dividends are recognized as a liability and deducted from equity at the reporting date only if they are declared before or on the reporting date. Dividends are disclosed when they are declared before the reporting date or after the reporting date but before the consolidated financial statements are authorized for issue.

Distributions to the Shareholders

Expenditures incurred by the Group based on the respective resolution of the Government based on the RK President's charge or decision and instructions of Samruk-Kazyna are accounted for as other distributions through equity. Such expenditures include costs associated with non-core activity of the Group (construction of social assets to be transferred to Samruk-Kazyna).

Subsequent events

The results of post-year-end events that provide evidence of conditions that existed at the reporting date (adjusting events) are reflected in the consolidated financial statements. Post-year-end events that are not adjusting events are disclosed in the notes to the consolidated financial statements when material.

4. Significant accounting estimates and judgements

The preparation of the Group's consolidated financial statements requires management to make judgments, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities and the disclosure of contingent liabilities and assets, at the reporting date. However, uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

Impairment testing assumptions

The Group assessed the existence of impairment indicators of non-current assets and where impairment indicators were identified, the Group performed the impairment tests.

The Group's long-term assumptions for Brent oil prices, KZT/USD exchange rate and inflation projections have been revised and are based on externally sourced forecasts and rates of the independent research organizations considering long-tern market expectations. Production volumes estimates are based on proved developed and undeveloped reserves for subsidiaries, and on proved and probable reserves for significant investments in joint ventures and associates. Production period is either based on subsoil use contracts' expiration date or on extended license period, to which the Group has strong intention to extend its licenses. Estimated production volumes are based on the Group's production plans that are mostly used for the purposes of application filing for extension of subsoil use contracts.

Discount rates were estimated on the weighted average cost of capital of the individual cash generating unit and ranged between 12.01–17.09% depending on the functional currency, production period, size, equity risk premium, beta and gearing ratio of the relevant CGU.

The long-term price assumptions applied were derived from Bloomberg consensus; so did the near-term commodity price assumptions, a summary of which, in real 2022 terms, is provided below:

	2023	2024	2025	2026	2027
Brent oil (ICE Brent $/bbl)	93.94	88.00	85.00	80.05	81.65

In "Exploration and production of oil and gas segment" net impairment charges were 12,113 million tenge for 2022. Impairment charges mainly relate to the exploration and evaluation assets in the amount of 8,895 million tenge of Southern Urikhtau project and in the amount of 3,172 million tenge of Isatay project.

Headroom of the majority of oil and refining assets are sensitive to changes in price or other assumptions. The changes within next financial periods may result in recoverable amount of these assets above or below the current carrying amounts and therefore there is a risk of impairment reversals or charges in those periods.

Oil and gas reserves

Oil and gas reserves are a material factor in the Group's computation of depreciation, depletion and amortization expenses. The Group estimates its oil and gas reserves in accordance with the methodology of the Society of Petroleum Engineers (SPE). In estimating its reserves under SPE methodology, the Group uses long-term planning prices. Using planning prices for estimating proved reserves removes the impact of the volatility inherent in using year-end spot prices. Management believes that long-term planning price assumptions, which are also used by management for their business planning and investment decisions are more consistent with the long-term nature of the upstream business and provide the most appropriate basis for estimating oil and gas reserves.

All reserve estimates involve some degree of uncertainty. The uncertainty depends mainly on the amount of reliable geological and engineering data available at the time of the estimate and the interpretation of this data.

The relative degree of uncertainty can be conveyed by placing reserves into one of two principal classifications, either proved or unproved. Proved reserves are more certain to be recovered than unproved reserves and may be further sub-classified as developed and undeveloped to denote progressively increasing uncertainty in their recoverability.

Estimates are reviewed and revised annually. Revisions occur due to the evaluation or re-evaluation of already available geological, reservoir or production data, availability of new data, or changes to underlying price assumptions. Reserve estimates may also be revised due to improved recovery projects, changes in production capacity or changes in development strategy. Proved developed reserves are used to calculate the unit of production rates for depreciation, depletion and amortization in relation to oil and gas production assets. The Group has included in proved reserves only those quantities that are expected to be produced during the initial subsoil use contract period. This is due to the uncertainties surrounding the outcome of such renewal procedures, since the renewal is ultimately at the discretion of the Government. An increase in the Group's subsoil use contract periods and corresponding increase in reported reserves would generally lead to lower depreciation, depletion and amortization expense and could materially affect earnings. A reduction in proved developed reserves will increase depreciation, depletion and amortization expense (assuming constant production), reduce income and could also result in an immediate write-down of the property's book value. Given the relatively small number of producing fields, it is possible that any changes in reserve estimates year on year could significantly affect prospective charges for depreciation, depletion and amortization.

Please refer Note 15 for details on annual impairment test results.

Recoverability of oil and gas assets, downstream, refining and other assets

The Group assesses assets or CGU for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Where an indicator of impairment exists, a formal estimate of the recoverable amount is made, which is considered to be the higher of the fair value less costs to sell and value in use. These assessments require the use of estimates and assumptions such as long-term oil prices, discount rates, future capital requirements, operating performance (including production and sales volumes) that are subject to risk and uncertainty. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset/CGU is considered to be impaired and is written down to its recoverable amount. In assessing recoverable values, the estimated future cash flows are adjusted for the risks specific to the asset group and are discounted to their present value using a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Fair value less costs to sell is identified as the price that would be received to sell the asset in an orderly transaction between market participants and does not reflect the effects of factors that may be specific to the entity and not applicable to entities in general.

KMGI CGU, including goodwill

As at December 31, 2022 and 2021, the Group performed its annual impairment tests for goodwill and downstream, refining and other assets due to existence of impairment indicators at the CGUs of KMGI. As the result of the impairment analysis, recoverable amount of KMGI CGUs exceeded their carrying values (Note 15).

Pavlodar refinery, goodwill

As of December 31, 2022 and 2021 the Group has goodwill of 88,553 million tenge related to acquisition of Pavlodar oil chemistry refinery LLP (further Pavlodar refinery) (Note 19). The Group performed annual impairment test for the Pavlodar refinery goodwill using the current tolling business scheme employed by Pavlodar refinery in December 2022 and 2021. The Group considered the forecast for oil tolling volumes, oil tolling tariffs, capital expenditures, among other factors, when reviewing for indicators of impairment. The recoverable amount is calculated using a discounted cash flow model. In 2022, the discount rate of 12.86% (2021: 12.06%) was calculated based on the pre-tax weighted average cost of capital. The inherent risk was included by applying an individual beta factor. The beta factor was estimated based on the publicly available market data. Forecasted cash flows till to 2031 were based on five-years business plan of Pavlodar refinery 2023–2027 (2021: 2022–2026 years), which assumes current management estimates on potential changes in operating and capital costs. As at December 31, 2022 and 2021 the recoverable amount of goodwill, which was determined based on value-in-use, exceeded its book value, as such no impairment of Pavlodar refinery goodwill was recognized.

Sensitivity to changes in assumptions

Results of the assessment of recoverable amount of Pavlodar refinery goodwill are sensitive to changes in key assumptions, in particular, assumptions related to changes in discount rate and target EBITDA in terminal period. Increase in discount rates by 1.0% to 13.86% (2021: 13.06%) and decrease of target EBITDA in terminal period by 1% would not result decrease of the recoverable amount of CGU Pavlodar refinery to its carrying value.

Other CGUs

Revision to the Group's commodity price and other assumptions have not resulted in impairment charges in any other CGUs of the Refining and trading of crude oil and refined products segment.

Assets retirement obligations

Oil and gas production facilities

Under the terms of certain subsoil use contracts, legislation and regulations the Group has legal obligations to dismantle and remove tangible assets and restore the land at each production site. Specifically, the Group's obligation relates to the ongoing closure of all non-producing wells and final closure activities such as removal of pipes, buildings and recultivation of the contract territories, and also obligations to dismantle and remove tangible assets and restore territory at each production site. Since the subsoil use contract terms cannot be extended at the discretion of the Group, the settlement date of the final closure obligations has been assumed to be the end of each subsoil use contract period. The extent of the Group's obligations to finance the abandonment of wells and for final closure costs depends on the terms of the respective subsoil use contracts and current legislation.

Where neither subsoil use contracts nor legislation include an unambiguous obligation to undertake or finance such final abandonment and closure costs at the end of the subsoil use contract term, no liability has been recognized. There is some uncertainty and significant judgment involved in making such a determination. Management's assessment of the presence or absence of such obligations could change with shifts in policies and practices of the Government or in the local industry practice.

The Group calculates asset retirement obligations separately for each contract. The amount of the obligation is the present value of the estimated expenditures expected to be required to settle the obligation adjusted for expected inflation and discounted using average long-term risk-free interest rates for emerging market sovereign debt adjusted for risks specific to the Kazakhstan market.

At each reporting date the Group reviews site restoration provisions, and adjusts them to reflect the current best estimate in accordance with IFRIC 1 Changes in Existing Decommissioning, Restoration and Similar Liabilities.

Estimating the future closure costs involves significant estimates and judgments by management. Most of these obligations are many years in the future and, in addition to ambiguities in the legal requirements, the Group's estimate can be affected by changes in asset removal technologies, costs and industry practice. The Group estimates future well abandonment cost using current year prices and the average long-term inflation rate.

The long-term inflation and discount rates used to determine the obligation in the consolidated statement of financial position across the Group entities at December 31, 2022 were in the range from 2.09% to 15.05% and from 6.42% to 12.38%, respectively (December 31, 2021: from 2.23% to 8.10% and from 3.80% to 10.25%, respectively). As at December 31, 2022 the carrying amounts of the Group's asset retirement obligations relating to decommissioning of oil and gas facilities were 88,163 million tenge (December 31, 2021: 174,913 million tenge) (Note 29).

Major oil and gas pipelines

According to the Law of the RK On Major Pipelines which was made effective on July 4, 2012 KazTransOil JSC (further KTO) has legal obligation to decommission its major oil pipelines at the end of their operating life and to restore the land to its original condition. Asset retirement obligation is calculated based on estimate of the work to decommission and rehabilitate. As at December 31, 2022, the carrying values of the Group's asset retirement obligations relating to decommissioning of pipelines and land were 40,665 million tenge (December 31, 2021: 34,547 million tenge) (Note 29).

Environmental remediation obligations provision

The enforcement of environmental regulation in Kazakhstan is evolving and subject to ongoing changes. In accordance with the amendments to the Environmental Code of the RK effective from 1 July 2021, the management believes that there are possible liabilities that may have an impact on the Group's financial position and results of operations.

At the date of issuance of the consolidated financial statements the Group analyses the changes and, accordingly, cannot reliably estimate the amount of additional potential liabilities related to the asset retirement and land recultivation, except for those reflected in these consolidated financial statements.

The Group continues to monitor this matter and will adjust for new facts and circumstances, and any clarification provided by the State body in regards to the application of the Environmental Code of the RK.

The Group also makes judgments and estimates in establishing provisions for environmental remediation obligations. Environmental expenditures are capitalized or expensed depending upon their future economic benefit. Expenditures that relate to an existing condition caused by past operations and do not have a future economic benefit are expensed.

Liabilities are determined based on current information about costs and expected plans for remediation and are recorded on discounted basis. The Group's environmental remediation provision represents management best estimate based on an independent assessment of the anticipated expenditure necessary for the Group to remain in compliance with the current regulatory regime in Kazakhstan and Europe. The Group has classified this obligation as non-current except for the portion of costs, included in the annual budget for 2023. For environmental remediation provisions, actual costs can differ from estimates because of changes in laws and regulations, public expectations, discovery and analysis of site conditions and changes in clean-up technology. Movements in the provision for environmental remediation obligations are disclosed in Note 29.

Employee benefits

The cost of defined long-term employee benefits payable before, on and after retirement and the present value of the obligation are determined using actuarial valuations. An actuarial valuation involves making various assumptions that may differ from actual developments in the future. These include the determination of the discount rate, future salary increases, mortality rates and future pension increases.

Due to the complexity of the valuation, the underlying assumptions and its long-term nature, a defined benefit obligation is highly sensitive to changes in these assumptions. All assumptions are reviewed at each reporting date.

Taxation

In assessing tax risks, management considers to be probable obligations the known areas of tax positions which the Group would not appeal or does not believe it could successfully appeal, if assessed by tax authorities. Such determinations inherently involve significant judgment and are subject to change as a result of changes in tax laws and regulations, amendments to the taxation terms of the Group's subsoil use contracts, the determination of expected outcomes from pending tax proceedings and current outcome of ongoing compliance audits by tax authorities. The provision for tax risks other than on income tax are disclosed under provisions for taxes in Note 29. Contingent liabilities for tax risks other than on income tax are disclosed in Note 35. Provisions and contingent liabilities related to income tax are included or disclosed as income tax liabilities or contingencies (see Note 32 and 35 for further details).

Useful lives of property, plant and equipment

The Group assesses the remaining useful lives of items of property, plant and equipment at least at each financial year-end and, if expectations differ from previous estimates, the changes are accounted for prospectively as a change in an accounting estimate in accordance with IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors.

Fair value of financial instruments

Where the fair value of financial assets and financial liabilities recorded in the consolidated statement of financial position cannot be derived from active markets, they are determined using valuation techniques including the discounted cash flows model. The inputs to these models are taken from observable markets where possible, but where this is not feasible, a degree of judgment is required in establishing fair values. The judgments include considerations of inputs such as liquidity risk, credit risk and volatility. Changes in assumptions about these factors could affect the reported fair value of financial instruments presented in the consolidated financial statements. Further details are disclosed in Note 34.

5. Loss of control

PSA LLP (further PSA)

On December 20, 2022, the Company transferred to Corporate fund Samruk-Kazyna Trust 100% interest in PSA for 1 tenge. As a result, the Group lost control over PSA.

The results of PSA for the period ended December 20, 2022 are presented below:

In millions of tenge	January 1, 2022 – December 20, 2022
General and administrative expenses	(8,950)
Finance costs	(58)
Net foreign exchange loss	(39)
Loss for the period	**(9,047)**

The net cash flows incurred by PSA period ended December 20, 2022 are as follows:

In millions of tenge	January 1, 2022 – December 20, 2022
Operating	(7,702)
Investing	(28)
Financing	11,871
Net increase in cash and cash equivalents	**4,108**

At the date of loss of control net assets of PSA were as follows:

In millions of tenge	Net assets at the date of loss of control
Assets	
Property, plant and equipment	36
Intangible assets	64
Right-of-use assets	255
VAT receivable	12
Other current assets	109
Cash and cash equivalents	4,137
Total assets	**4,613**
Liabilities	
Lease liabilities	286
Trade accounts payable	1,736
Other current liabilities	709
Total liabilities	**2,731**
Net assets directly associated with disposal group	**1,882**

Since the transfer of PSA was carried out pursuant to the instructions of Samruk-Kazyna, the difference between the sale price and the carrying amount of net assets of PSA at the date of loss of control was recorded as transactions with Samruk-Kazyna and presented in the line "Other distributions" in consolidated statement of changes in equity.

KazTransGas JSC (further KTG)

On March 11, 2021, the Company and Samruk-Kazyna entered into a trust management agreement with respect to 100% common shares of KTG. On November 9, 2021, the Company transferred to Samruk-Kazyna 100% shares of KTG for 1 tenge and the trust management agreement was terminated.

The transaction was preceded by fulfilment of a number of legal and financial conditions, including approvals from KMG lenders and relevant government agencies. The last condition was fulfilled on November 8, 2021. Starting from November 8, 2021, KTG was classified as a discontinued operation.

The Company's obligation on the financial guarantee of the Company and KTG under syndicated loan of Beineu-Shymkent Gas Pipeline LLP, the joint venture of KTG, was transferred to KTG (Note 30).

The business of KTG represented the entirety of the Group's Gas trading and transportation segment until November 8, 2021. With KTG being disposed, the Gas trading and transportation segment is no longer presented in the segment note.

The results of KTG for the period ended November 8, 2021 are presented below:

In millions of tenge	January 1, 2021 – November 8, 2021
Revenue	708,110
Share in profit of joint ventures, net	275,100
Finance income	19,750
Other operating income	18,288
Total revenue and other income from discontinued operations	**1,021,248**
Cost of purchased gas and other materials	(158,438)
Production expenses	(66,266)
Taxes other than income tax	(12,645)
Depreciation, depletion and amortization	(63,502)
Transportation and selling expenses	(248,832)
General and administrative expenses	(18,420)
Finance costs	(36,330)
Net foreign exchange loss	(4,423)
Other expenses	(4,399)
Profit before income tax from discontinued operations	**407,993**
Income tax expenses	(55,515)
Profit after income tax for the period from discontinued operations	**352,478**

The net cash flows incurred by KTG period ended November 8, 2021 are as follows:

In millions of tenge	January 1, 2021 – November 8, 2021
Operating	184,675
Investing	(8,689)
Financing	(44,270)
Net increase in cash and cash equivalents	**134,138**

At the date of loss of control net assets of KTG were as follows:

In millions of tenge	As at November 8, 2021
Assets	
Property, plant and equipment	968,467
Investments in joint ventures	662,208
Loans due from related parties	176,019
VAT receivable	94,439
Inventories	41,834
Trade accounts receivable	127,567
Other non-current assets	95,088
Other current assets	77,582
Cash and cash equivalents	380,438
Assets classified as held for sale	**2,623,642**
Liabilities	
Borrowings	490,813
Provisions	119,902
Trade accounts payable	132,708
Other non-current liabilities	25,157
Other current liabilities	32,694
Deferred income tax liabilities	72,909
Liabilities directly associated with assets classified as held for sale	**874,183**
Net assets directly associated with disposal group	**1,749,459**

Other non-current liabilities of KTG as of the date of loss of control were adjusted for the Company's obligation on the financial guarantee for 6,445 million tenge.

Since the transfer of KTG was carried out pursuant to the order of the President of the RK and the decision of the Samruk-Kazyna, the difference between the sale price and the carrying amount of net assets of KTG at the date of loss of control was recorded as transactions with Samruk-Kazyna.

6. Acquisitions under common control

Acquisition of joint venture under common control

Kazakhstan Petrochemical Industries Inc. LLP (further KPI)

On June 13, 2022, Samruk-Kazyna transferred 49.50% of the shares KPI to the Company. The cost of the acquisition was 91,175 million tenge and was paid by setting off a part of the amount against the provided financial aid from the Company to Samruk- Kazyna (Note 24). KPI is engaged in the implementation of the investment project "Construction of the first integrated petrochemical complex in Atyrau region".

49.50% interest in KPI was accounted for as an acquisition of the joint venture from the parties under common control and accounted for under the pooling of interest method based on its carrying value. Samruk-Kazyna Ondeu LLP (further SKO), subsidiary of Samruk-Kazyna, and the Company have joint control over the KPI where decisions about the relevant activities of KPI require unanimous consent.

The difference between the consideration paid and carrying value of identifiable assets and liabilities of KPI at the date of acquisition was recognized as distribution to Samruk-Kazyna and presented in the line "Acquisition of joint ventures" in consolidated statement of changes in equity in the amount of 74,743 million tenge.

The following table illustrates the carrying value of KPI assets and liabilities as at the date of the acquisition (based on Predecessor's accounting books):

In millions of tenge	
Non-current assets	898,524
Current assets	81,276
Non-current liabilities	(868,850)
Current liabilities	(77,754)
Net assets	**33,196**

In millions of tenge	
Share of ownership	49.5%
The Group's share in net assets	**16,432**
Purchase consideration transferred	91,175
Difference between consideration and carrying value of the investment in joint venture recognized in equity	**74,743**

Acquisition of subsidiary under common control

KMG Kashagan B.V. (further Kashagan)

On October 16, 2015, Coöperatieve KazMunaiGaz U.A. (further Cooperative), a subsidiary of the Company, sold 50% of its shares in Kashagan to Samruk-Kazyna with a right to buy back all or part of the shares (further Option) effective from January 1, 2018 to December 31, 2020 which was later extended to December 31, 2022.

In 2017, the Amsterdam Court imposed certain restrictions on 50% of shares in Kashagan owned by Samruk-Kazyna (further Restrictions). During the Restrictions period, these shares of Kashagan cannot be sold, transferred or pledge. As of December 31, 2021 the Restrictions remained in force.

On June 14, 2022 the Amsterdam Court lifted the Restrictions.

On September 14, 2022 the Cooperative and Samruk-Kazyna signed an Amendment to Share Option Agreement and Exercise of Option (further Amendment Agreement), which set the exercise price of the Option in the amount of 3,781.7 million US dollars (equivalent to 1,777,076 million tenge presented in statement of changes in equity).

Amendment Agreement and Agreement on Transfer of Debt and Set-Off dated 14 September 2022 between the Company, Samruk-Kazyna and Cooperative determine the following way for consideration payment:

- The amount of 2,476.3 million US dollars to be converted at the agreed exchange rate of 475.00 tenge to 1 US dollar for subsequently setting off a part of the amount against the provided financial aid from the Company to Samruk- Kazyna for 424,587 million tenge, and paying the rest of the amount by the Company from the proceeds of the sale of bonds for 751,631 million tenge (Notes 27 and 33);
- The amount of 566.7 million US dollars to be paid with 10 business days after the completion of the deal (paid as at December 31, 2022; equivalent to 271,032 million tenge per exchange rate at the date of payment);
- The amount of 375.1 million US dollars to be paid by December 31, 2022 (paid as at December 31, 2022; equivalent to 175,654 million tenge per exchange rate at the date of payment) and the amount of 363.6 million US dollars to be paid by 30 June 2023 (as at December 31, 2022: 168,239 million tenge) (Notes 30 and 33).

On September 15, 2022 the Group fulfilled conditions of the Amendment Agreement, completing the transaction, exercised the Option and 50% of Kashagan shares were re-registered in favor of Cooperative.

As a result of exercising the Option, the Group has control over Kashagan and recognized Kashagan as a subsidiary. The acquisition accounted for as an acquisition of the subsidiary from the parties under common control and accounted for under the pooling of interest method based on the carrying value of assets and liabilities of Kashagan based on Predecessor's accounting books. Comparative consolidated financial position as at December 31, 2021, consolidated statement of comprehensive income for the year ended December 31, 2021 and consolidated statement of cash flows for the year ended December 31, 2021, as well as the related notes to the consolidated financial statements for the year ended December 31, 2021, were restated, as if the acquisition has occurred from the beginning of the earliest period presented.

The difference between the consideration and net assets of Kashagan was recognized in equity.

Impact on comparative data due to acquisition of Kashagan is presented below:

In millions of tenge	As at December 31, 2021
Impact on financial position:	
Increase in assets	
Increase in non-current assets	
Increase in exploration and evaluation assets	191,463
Increase in property, plant and equipment	3,301,832
Increase in intangible assets	707,161
Increase in right-of-use assets	27,594
Decrease in investments in joint ventures and associates	(2,404,820)
	1,823,230
Increase in current assets	
Increase in inventories	41,095
Increase in trade accounts receivable	83,139
Increase in VAT receivable	6,534
Increase in income tax prepaid	223
Increase in other current non-financial assets	8,997
Increase in other current financial assets	269
Increase in short-term bank deposits	51,839
Increase in cash and cash equivalents	164,701
	356,797
Increase in total assets	**2,180,027**
Increase in non-current liabilities	
Increase in lease liabilities	20,306
Increase in provisions	107,723
Increase in other current non-financial liabilities	219
Increase in deferred income tax liabilities	157,437
	285,685
Increase in current liabilities	
Increase in trade accounts payable	36,924
Increase in lease liabilities	9,021
Increase in provisions	2,202
Increase in other taxes payable	10,276
Increase in other current non-financial liabilities	175
	58,598
Increase in total liabilities	**344,283**
Increase in equity	
Increase in currency translation reserve	1,478,048
Increase in retained earnings	357,696
Increase in equity, attributable to equity holders of the Parent Company	**1,835,744**
Increase in total equity	**1,835,744**

In millions of tenge	For the year ended December 31, 2021
Impact on the results:	
Revenue and other income	
Revenue from contracts with customers	620,542
Share in profit of a joint venture	(88,423)
Finance income	484
Total revenue and other income	**532,603**
Costs and expenses	
Cost of purchased oil, gas, petroleum products and other materials	(10,711)
Production expenses	(28,026)
Taxes other than income tax	(32,557)
Depreciation, depletion and amortization	(200,922)
Transportation and selling expenses	(51,527)
General and administrative expenses	(2,021)
Finance costs	(13,558)
Foreign exchange loss, net	(174)
Other expenses	(3,118)
Total costs and expenses	**(342,614)**
Profit before income tax	**189,989**
Income tax expenses	(99,855)
Profit for the year	**90,134**
Other comprehensive income	
Other comprehensive income to be reclassified to profit or loss in subsequent periods	
Exchange differences on translation of foreign operations	**44,248**
Net other comprehensive income to be reclassified to profit or loss in the subsequent periods, net of tax	**44,248**
Total comprehensive income for the year, net of tax	**134,382**
Net profit for the year attributable to:	
Equity holders of the Parent Company	90,134
	90,134
Total comprehensive income attributable to:	
Equity holders of the Parent Company	134,382
	134,382

The net cash flows effect for the year ended December 31, 2021 were as follows:

In millions of tenge	2021
Operating	132,780
Investing	(81,122)
Financing	(7,852)
Net increase in cash and cash equivalents	**47,432**

Increase in equity, attributable to equity holders of the Parent Company due to the acquisition of Kashagan amounted to 1,701,362 million tenge as at December 31, 2020.

The business of Kashagan represented in the Group's Exploration and production of oil and gas segment in these consolidated financial statements.

KLPE LLP (further – KLPE)

On December 1, 2022, the Company acquired 100% interest in charter capital of KLPE for 2 tenge from Samruk-Kazyna Ondeu LLP (further SKO) and Polimer Production LLP, subsidiaries of Samruk-Kazyna. Primary activity of KLPE is the construction of the first integrated gas and chemical complex in Kazakhstan.

As a result of acquisition, the Group has control over KLPE and recognized KLPE as a subsidiary. The acquisition accounted for as an acquisition of the subsidiary from the parties under common control and accounted for under the pooling of interest method based on the carrying value of assets and liabilities of KLPE based on Predecessor's accounting books. Comparative consolidated financial position as at December 31, 2021, consolidated statement of comprehensive income for the year ended December 31, 2021 and consolidated statement of cash flows for the year ended December 31, 2021, as well as the related notes to the consolidated financial statements for the year ended December 31, 2021, were restated, as if the acquisition has occurred from the beginning of the earliest period presented.

The difference between the consideration and net assets of KLPE was recognized in equity.

Impact on comparative data due to acquisition of KLPE is presented below:

In millions of tenge	As at December 31, 2021
Impact on financial position:	
Increase in assets	
Increase in non-current assets	
Increase in property, plant and equipment	18,098
Increase in intangible assets	108
Increase in investments in joint ventures and associates	82
Increase in other non-financial assets	3,129
	21,417
Increase in current assets	
Increase in income tax prepaid	42
Increase in other current non-financial assets	62
Increase in cash and cash equivalents	3,643
	3,747
Increase in total assets	**25,164**
Increase in current liabilities	
Increase in trade accounts payable	2,141
Increase in other taxes payable	355
Increase in other current financial liabilities	187
	2,683
Increase in total liabilities	**2,683**
Increase in equity	
Increase in retained earnings	22,481
Increase in equity, attributable to equity holders of the Parent Company	**22,481**
Increase in total equity	**22,481**

In millions of tenge	For the year ended December 31, 2021
Impact on the results:	
Revenue and other income	
Share in loss of a joint venture	(18)
Finance income	143
Total revenue and other income	**125**
Costs and expenses	
Taxes other than income tax	(48)
Depreciation, depletion and amortization	(54)
General and administrative expenses	(893)
Foreign exchange loss, net	(42)
Other expenses	(22)
Total costs and expenses	**(1,059)**
Loss before income tax	**(934)**
Loss for the year	**(934)**
Net loss for the year attributable to:	
Equity holders of the Parent Company	(934)
	(934)

The net cash flows effect for the year ended December 31, 2021 were as follows:

In millions of tenge	2021
Operating	(1,802)
Investing	(14,212)
Financing	16,396
Net increase in cash and cash equivalents	**387**

Increase in equity, attributable to equity holders of the Parent Company due to the acquisition of KLPE amounted to 7,019 million tenge as at December 31, 2020.

The business of KLPE represented in the Group's other segment in these consolidated financial statements.

7. Acquisition of joint venture

PETROSUN LLP (further Petrosun)

On July 1, 2022, in accordance with the minutes of the meeting of the Commission under the chairmanship of the Prime-Minister of RK for the demonopolization of the economy, namely the market of fuels and lubricants, the Company acquired 49% interest in Petrosun, that specializes in the sale of liquefied petroleum gas and petroleum products. The acquisition price was 1 tenge. The difference between the consideration paid and the fair value of identifiable assets and liabilities of Petrosun at the date of acquisition was recognized as a contribution from Samruk-Kazyna based on instruction in minutes above and presented in the line "Acquisition of joint ventures" in consolidated statement of changes in equity in the amount of 10,989 million tenge (Note 26).

49% interest in Petrosun is recognized as a joint venture and accounts for using the equity method in accordance with IAS 28 Investments in Associates and Joint Ventures. CNPC INTERNATIONAL IN KAZAKHSTAN LLP (the second owner of Petrosun) and the Company have joint control over Petrosun where decisions about the relevant activities of Petrosun require the unanimous consent.

These consolidated financial statements include share in Petrosun's profits for the six months since the acquisition date in the amount of 23,184 million tenge (Note 9).

The fair values of the identifiable assets and liabilities of Petrosun as at the date of acquisition are as presented below:

In millions of tenge	
Non-current assets	35
Current assets, including:	103,762
Inventories	**33,770**
Advanced paid	**54,930**
Current liabilities, including:	(81,371)
Contract liabilities	**(34,237)**
Borrowings	**(38,198)**
Total identifiable net assets at fair value	**22,426**
Share of ownership	49%
The Group's share in net assets at fair value	**10,989**
Purchase consideration transferred	–
Difference between consideration and fair value of the investment in joint venture recognized in equity	**10,989**

8. Revenue from contracts with customers

In millions of tenge	2022	2021 (restated)
Type of goods and services		
Sales of crude oil and gas	4,593,971	3,711,540
Sales of refined products	3,369,860	2,095,837
Refining of oil and oil products	204,390	203,425
Oil transportation services	187,533	170,734
Other revenue	330,630	277,799
	8,686,384	**6,459,335**
Geographical markets		
Kazakhstan	1,215,470	978,344
Other countries	7,470,914	5,480,991
	8,686,384	**6,459,335**
Timing of revenue recognition		
At a point in time	8,503,597	6,277,200
Over time	182,787	182,135
	8,686,384	**6,459,335**

9. Share in profit of joint ventures and associates, net

In millions of tenge	2022	2021 (restated)
Joint ventures		
Tengizchevroil LLP	742,660	441,665
Mangistau Investments B.V. Group (MMG)	48,486	80,154
Petrosun (Note 7)	23,184	–
Valsera Holdings B.V. Group (PKOP)	21,009	11,868
KazGerMunay LLP	20,530	6,108
Kazakhstan-China Pipeline LLP	16,783	13,464
Kazakhoil-Aktobe LLP	12,648	13,379
KazRosGas LLP	554	20,952
Teniz Service LLP	(6,497)	(3,089)
Ural Group Limited	(11,470)	(11,060)
KPI (Note 6)	(18,227)	–
Other	4,234	2,143
Associates		
Caspian Pipeline Consortium	117,763	90,904
PetroKazakhstan Inc.	6,502	8,042
Other	13,151	5,762
	991,310	**680,292**

10. Cost of purchased oil, gas, petroleum products and other materials

In millions of tenge	2022	2021 (restated)
Purchased oil for resale	3,620,699	2,626,857
Cost of oil for refining	765,164	558,603
Materials and supplies	415,809	256,761
Purchased petroleum products for resale	87,644	97,964
Purchased gas for resale	65,068	67,017
	4,954,384	**3,607,202**

11. Production expenses

In millions of tenge	2022	2021 (restated)
Payroll	433,672	319,264
Repair and maintenance	190,577	126,172
Realized losses from derivatives on petroleum products (Note 30)	121,539	14,954
Energy	119,205	98,258
Short-term lease expenses	78,568	28,213
Transportation costs	30,953	52,187
Environmental protection	21,461	6,929
Write off of inventories to net realizable value	19,473	5,631
Others	126,940	69,449
	1,142,388	**721,057**

12. Taxes other than income tax

In millions of tenge	2022	2021 (restated)
Rent tax on crude oil export	215,765	129,056
Mineral extraction tax	163,334	123,010
Export customs duty	131,732	107,074
Excise	90,012	35,227
Property tax	29,222	27,642
Other taxes	47,740	39,235
	677,805	**461,244**

13. Transportation and selling expenses

In millions of tenge	2022	2021 (restated)
Transportation	153,403	139,016
Payroll	16,591	11,899
Other	35,346	32,524
	205,340	**183,439**

14. General and administrative expenses

In millions of tenge	2022	2021 (restated)
Payroll	77,671	65,792
Consulting services	20,668	15,925
Maintenance	6,148	5,620
Social payments	5,829	4,594
Accrual of expected credit losses for trade receivables and other current financial assets (Note 23)	2,756	3,268
VAT non-recoverable	2,582	2,599
Communication	1,861	4,081
Allowance for fines, penalties and tax provisions	605	2,114
Accrual of impairment of other current non-financial assets (Note 23)	2	101
Reversal of impairment of VAT receivable	(1,942)	(5,144)
Management fees	–	21,478
Other	43,988	30,964
	160,168	**151,392**

For the year ended December 31, 2022, the total payroll amounted to 527,934 million tenge (2021: 396,955 million tenge) and was included in production expenses, transportation and selling expenses and general and administrative expenses in the consolidated statement of comprehensive income.

15. Impairment of property, plant and equipment, intangible assets, assets classified as held for sale and exploration expenses

In millions of tenge	2022	2021 (restated)
Impairment charge and reversal		
Property, plant and equipment (Note 17)	562	17,013
Intangible assets (Note 19)	139	(59)
Investment property	7	–
Assets classified as held for sale	–	3,770
	708	**20,724**
Exploration expenses (impairment and write-off) (Note 18)		
Southern Urikhtay project	8,895	–
Isatay project	3,172	–
Zhambyl project	–	59,283
Brownfields of KMG EP	–	19,800
Others	46	–
	12,113	**79,083**
	12,821	**99,807**

Impairment was recognized for the following CGUs:

In millions of tenge	2022	2021 (restated)
Barys, Berkut, Beket Ata and Turkistan sea vessels	1,801	4,453
CGUs of KMGI	–	8,298
Others	(1,093)	7,973
	708	**20,724**

Sea vessels

The recoverable amount of the sea vessels of KazMorTransFlot LLP was determined on the basis of value-in-use method. Value-in-use was assessed as the present value of the future cash flows expected to be derived from the sea vessels until the end of the existing and probable contracts at the discount rate of 14.00% (2021: 10.70%). As a result of the test, the Group recognized an impairment loss of 1,801 million tenge for the year ended December 31, 2022, in regards of Barys, Turkistan and Beket Ata sea vessels (2021: 4,453 million tenge on Barys and Berkut sea vessels).

CGUs of KMGI

On July 2, 2021, an incident occurred at the Petromidia Refinery (further Petromidia), subsidiary of KMGI, that led to fire and resulted in temporarily interruption of the production until damaged facilities are repaired. KMGI conducted assessments to estimate the incident consequences and recognized impairment of property, plant and equipment of Petromidia for 1,615 million tenge.

For the year ended December 31, 2021, based on the results of the property, plant and equipment physical inspection, KMGI recognized an impairment loss of property, plant and equipment for 6,683 million tenge.

Based on the impairment analysis performed in 2022, no impairment of KMGI CGUs was identified.

Exploration expenses

For the year ended December 31, 2022, the Group has recognized impairment of exploration and evaluation assets in the amount of 8,895 million tenge of Southern Urikhtau project, for which the contract territory was decided to be relinquished to the Government by the Group.

Also, the Group recognized impairment of exploration and evaluation assets in the amount of 3,172 million tenge of Isatay project for which the Company and the second partner, Isatay Operating Company LLP, decided to exit the project and relinquish the contract territory to the Government.

For the year ended December 31, 2021, the Group has recognized exploration expenses in the amount of 59,283 million tenge of Zhambyl project, the subsoil use contract for which was terminated and the contract territory was relinquished to the Government. Also, the Group partially reduced the contract area at Taisoigan site and, accordingly, wrote off exploration and evaluation expenses in the amount of 19,800 million tenge.

16. Finance income / finance cost

Finance income

In millions of tenge	2022	2021 (restated)
Interest income on bank deposits, financial assets, loans and bonds	115,476	65,282
Amortization of issued financial guarantees	–	1,704
Total interest income	**115,476**	**66,986**
Revaluation of financial assets at fair value through profit or loss	895	12,022
Other	4,216	6,218
	120,587	**85,226**

Finance costs

In millions of tenge	2022	2021 (restated)
Interest expense on loans and bonds	258,135	226,691
Commission for the early redemption of the loan (Note 27)	4,498	–
Interest expense on lease liabilities (Note 28)	4,188	5,151
Unwinding of discount on payables to Samruk-Kazyna for exercising the Option (Note 30)	3,929	–
Total interest expense	**270,750**	**231,842**
Unwinding of discount on asset retirement obligations, for environmental obligation and other provisions (Note 29)	17,947	12,871
Unwinding of discount on employee benefits obligations (Note 29)	4,723	4,412
Other	13,426	13,698
	306,846	**262,823**

17. Property, plant and equipment

In millions of tenge	Oil and gas assets	Pipelines	Refinery assets	Buildings and improvements	Machinery and equipment	Vehicles	Other	Capital work in progress	Total
Net book value as at December 31, 2020 (restated)	**4,407,460**	**808,757**	**1,171,110**	**289,702**	**453,821**	**84,661**	**112,138**	**370,587**	**7,698,236**
Foreign currency translation	97,868	1,075	7,241	908	1,288	894	1,822	4,720	115,816
Change in estimate	11,107	(382)	–	(3)	–	–	–	–	10,722
Additions	54,131	3,163	2,063	6,716	42,099	6,857	3,471	338,360	456,860
Disposals	(27,370)	(9,103)	(39,685)	(5,401)	(7,141)	(5,033)	(4,933)	(685)	(99,351)
Loss of control over subsidiaries	–	–	–	(631)	(557)	(248)	(222)	(38)	(1,696)
Depreciation charge	(277,033)	(27,370)	(114,521)	(19,786)	(36,632)	(9,925)	(11,091)	–	(496,358)
Accumulated depreciation and impairment on disposals	23,602	8,586	11,649	4,525	5,935	4,102	4,710	373	63,482
(Impairment)/reversal of impairment (Note 15)	(3,939)	(3)	(8,276)	2	13	(4,451)	22	(381)	(17,013)
Discontinued operations (Note 5)	(32,655)	(549,852)	–	(73,865)	(261,707)	(4,196)	(4,547)	(41,645)	(968,467)
Transfers to assets classified as held for sale	–	–	(24)	(11,452)	(33,477)	(48)	(450)	–	(45,451)
Transfers from exploration and evaluation assets (Note 18)	16,674	–	–	–	–	–	–	–	16,674
Transfers from investment property	–	–	–	2,296	–	–	7	–	2,303
Other changes	(5,077)	1,387	125	1	82	1	1,408	(7,774)	(9,847)
Transfers	163,579	26,459	91,738	18,811	75,467	2,611	6,833	(385,498)	–
Net book value as at December 31, 2021 (restated)	**4,428,347**	**262,717**	**1,121,420**	**211,823**	**239,191**	**75,225**	**109,168**	**278,019**	**6,725,910**
At cost	6,436,571	394,496	2,624,793	507,485	588,037	214,572	243,865	327,734	11,337,553
Accumulated depreciation and impairment	(2,008,224)	(131,779)	(1,503,373)	(295,662)	(348,846)	(139,347)	(134,697)	(49,715)	(4,611,643)
Net book value as at December 31, 2021 (restated)	**4,428,347**	**262,717**	**1,121,420**	**211,823**	**239,191**	**75,225**	**109,168**	**278,019**	**6,725,910**

In millions of tenge	Oil and gas assets	Pipelines	Refinery assets	Buildings and improvements	Machinery and equipment	Vehicles	Other	Capital work in progress	Total
Net book value as at December 31, 2021 (restated)	**4,428,347**	**262,717**	**1,121,420**	**211,823**	**239,191**	**75,225**	**109,168**	**278,019**	**6,725,910**
Foreign currency translation	275,403	1,760	21,162	6,698	3,925	2,490	5,491	9,300	326,229
Change in estimate	(105,568)	(7,609)	–	(3,405)	–	–	–	–	(116,582)
Additions	84,069	638	938	18,920	9,953	5,743	873	384,227	505,361
Disposals	(46,201)	(1,761)	(3,295)	(948)	(5,125)	(4,810)	(4,179)	(863)	(67,182)
Loss of control over subsidiaries (Note 5)	–	–	–	–	–	–	(36)	–	(36)
Depreciation charge	(262,374)	(13,821)	(110,749)	(17,008)	(26,885)	(9,395)	(10,486)	–	(450,718)
Accumulated depreciation and impairment on disposals	44,364	1,651	2,901	820	4,704	4,073	3,677	625	62,815
Reversal of impairment/ (impairment) (Note 15)	909	643	(3,009)	(1,449)	(1,017)	(140)	4,499	(998)	(562)
Transfers from assets classified as held for sale	–	–	–	324	5	11	68	–	408
Transfers from exploration and evaluation assets (Note 18)	3,253	–	–	–	–	–	–	–	3,253
Transfers from investment property	–	–	–	2,073	–	–	–	–	2,073
Other changes	(635)	(65)	11	–	(784)	–	279	62	(1,132)
Transfers	176,668	22,413	46,006	15,779	41,763	1,343	5,732	(309,704)	–
Net book value as at December 31, 2022	**4,598,235**	**266,566**	**1,075,385**	**233,627**	**265,730**	**74,540**	**115,086**	**360,668**	**6,989,837**
At cost	6,915,401	412,952	2,765,873	560,414	646,407	222,283	258,267	411,846	12,193,443
Accumulated depreciation and impairment	(2,317,166)	(146,386)	(1,690,488)	(326,787)	(380,677)	(147,743)	(143,181)	(51,178)	(5,203,606)
Net book value as at December 31, 2022	**4,598,235**	**266,566**	**1,075,385**	**233,627**	**265,730**	**74,540**	**115,086**	**360,668**	**6,989,837**

Additions

In 2022, additions were mainly attributable to development drilling at Ozenmunaigas JSC, Embamunaigas JSC, subsidiaries of KMG EP, KMG Karachaganak LLP and Kashagan for the total amount of 280,470 million tenge, overhauls at Rompetrol Rafinare, subsidiary of KMGI for 75,792 million tenge, replacement of the section of the pipelines "Uzen-Atyrau-Samara" and "Astrakhan-Mangyshlak" for a total of 39,538 million tenge in KazTransOil JSC.

Other

For the year ended December 31, 2022, the Group capitalized to the carrying amount of property, plant and equipment borrowing costs related to construction of 1,304 million tenge at the average interest rate of 4.40% (for the year ended December 31, 2021: 32 million tenge at the average interest rate of 2.10%) (Note 27).

As at December 31, 2022, the cost of fully depreciated but still in use property, plant and equipment was 384,815 million tenge (as at December 31, 2021: 329,355 million tenge).

As at December 31, 2022, property, plant and equipment with the net book value of 778,757 million tenge were mainly pledged as collateral to secure borrowings of the Group (as at December 31, 2021: 837,744 million tenge).

Capital commitments are disclosed in Note 35.

18. Exploration and evaluation assets

In millions of tenge	Tangible	Intangible	Total
Net book value as at December 31, 2020 (restated)	**320,219**	**24,228**	**344,447**
Additions	9,342	831	10,173
Foreign currency translation	4,822	–	4,822
Change in estimate	77	–	77
Write-off (Note 15)	(76,869)	(2,214)	(79,083)
Discontinued operations (Note 5)	(19,250)	(14)	(19,264)
Loss of control over subsidiaries	–	(427)	(427)
Transfers to intangible assets (Note 19)	–	(8,768)	(8,768)
Transfer to property, plant and equipment (Note 17)	(16,674)	–	(16,674)
Other changes	(299)	–	(299)
Net book value as at December 31, 2021 (restated)	**221,368**	**13,636**	**235,004**
Additions	17,417	510	17,927
Foreign currency translation	13,682	–	13,682
Change in estimate	33	–	33
Transfer to property, plant and equipment (Note 17)	(3,253)	–	(3,253)
Impairment (Note15)	(10,418)	(1,695)	(12,113)
Other changes	173	(173)	–
Net book value as at December 31, 2022	**239,002**	**12,278**	**251,280**

As at December 31, 2022 and 2021, the exploration and evaluation assets are represented by the following projects:

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
North Caspian project	206,007	191,463
Zhenis	18,310	4,692
Embamunaigas JSC	14,084	16,357
Urikhtau	4,889	13,726
Other	7,990	8,766
	251,280	**235,004**

19. Intangible assets

In millions of tenge	Licenses	Subsoil use rights (under production)	Goodwill	Marketing related intangible assets	Software	Other	Total
Net book value as at December 31, 2020 (restated)	**519,388**	**207,377**	**99,564**	**24,824**	**20,123**	**19,686**	**890,962**
Foreign currency translation	13,110	5,219	285	643	111	683	20,051
Additions	957	451	–	–	1,619	1,759	4,786
Disposals	(55)	–	–	–	(1,930)	(71)	(2,056)
Amortization charge	(24,693)	(10,266)	–	–	(7,280)	(1,540)	(43,779)
Accumulated amortization and impairment on disposals	37	–	–	–	1,775	70	1,882
Reversal of impairment (Note 15)	–	–	–	–	54	5	59
Loss of control over subsidiaries	(1)	–	–	–	(2)	(1)	(4)
Transfers from assets classified as held for sale	–	–	–	–	42	–	42
Transfers from exploration and evaluation assets (Note 18)	–	–	–	–	–	8,768	8,768
Discontinued operations (Note 5)	(152)	–	–	–	(5,246)	(599)	(5,997)
Other changes	234	(1,056)	–	–	3,924	11,675	14,777
Transfers	1,315	–	–	–	4,211	(5,526)	–
Net book value as at December 31, 2021 (restated)	**510,140**	**201,725**	**99,849**	**25,467**	**17,401**	**34,909**	**889,491**
Foreign currency translation	36,280	14,389	807	1,819	351	1,916	55,562
Additions	765	637	–	–	2,414	7,811	11,627
Disposals	(2,546)	–	–	–	(3,605)	(516)	(6,667)
Amortization charge	(23,284)	(7,990)	–	–	(6,370)	(1,245)	(38,889)
Accumulated amortization and impairment on disposals	2,271	–	–	–	3,326	362	5,959
Loss of control (Note 5)	–	–	–	–	–	(64)	(64)
Impairment (Note 15)	–	–	–	–	–	(139)	(139)
Other changes	274	669	–	–	425	5	1,373
Transfers	801	2,790	–	–	4,304	(7,895)	–

In millions of tenge	Licenses	Subsoil use rights (under production)	Goodwill	Marketing related intangible assets	Software	Other	Total
Net book value as at December 31, 2022	**524,701**	**212,220**	**100,656**	**27,286**	**18,246**	**35,144**	**918,253**
At cost	698,951	268,892	209,401	70,041	78,576	100,138	1,425,999
Accumulated amortization and impairment	(174,250)	(56,672)	(108,745)	(42,755)	(60,330)	(64,994)	(507,746)
Net book value as at December 31, 2022	**524,701**	**212,220**	**100,656**	**27,286**	**18,246**	**35,144**	**918,253**
At cost	654,056	246,092	208,594	65,371	72,271	95,689	1,342,073
Accumulated amortization and impairment	(143,916)	(44,367)	(108,745)	(39,904)	(54,870)	(60,780)	(452,582)
Net book value as at December 31, 2021 (restated)	**510,140**	**201,725**	**99,849**	**25,467**	**17,401**	**34,909**	**889,491**

As at December 31, 2022 and 2021, marketing related intangible assets were represented by trademarks of KMGI.

Carrying amount of goodwill is allocated to each of the group of cash-generating units as follows:

Cash-generating unit	December 31, 2022	December 31, 2021
Pavlodar refinery CGU	88,553	88,553
CGUs of KMGI	12,103	11,296
Total goodwill	**100,656**	**99,849**

In 2022 and 2021, based on the impairment test results, no impairment of Pavlodar refinery or KMGI goodwill was recognized. For the detailed discussion of Pavlodar refinery goodwill impairment test refer to Note 4.

20. Bank deposits

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Denominated in US dollar	1,230,928	611,060
Denominated in tenge	6,616	7,549
Less: allowance for expected credit losses	(177)	(199)
	1,237,367	**618,410**

As at December 31, 2022, the weighted average interest rate for long-term bank deposits was 0.94% in US dollars and 0.74% in tenge (December 31, 2021: 1.04% in US dollars and 0.94% in tenge).

As at December 31, 2022, the weighted average interest rate for short-term bank deposits was 2.64% in US dollars and 1.24% in tenge (December 31, 2021: 0.26% in US dollars and 5.48% in tenge).

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Maturities under 1 year	1,178,138	562,352
Maturities between 1 and 2 years	94	140
Maturities over 2 years	59,135	55,918
	1,237,367	**618,410**

As at December 31, 2022 bank deposits include those pledged as collateral of 59,229 million tenge (December 31, 2021: 56,058 million tenge), which are represented mainly by 55,517 million tenge at restricted bank accounts designated as a liquidation fund per requirements of subsoil use contracts (December 31, 2021: 51,163 million tenge).

21. Investments in joint ventures and associates

In millions of tenge	Main activity	Place of business	December 31, 2022		December 31, 2021 (restated)	
			Carrying value	Percentage ownership	Carrying value	Percentage ownership
Joint ventures						
Tengizchevroil LLP (TCO)	Oil and gas exploration and production	Kazakhstan	3,825,053	20.00%	3,105,942	20.00%
Mangistau Investments B.V. Group (MMG)	Oil and gas development and production	Kazakhstan	164,716	50.00%	207,410	50.00%
KazRosGas LLP (KRG)	Processing and sale of natural gas and refined gas products	Kazakhstan	58,812	50.00%	54,317	50.00%
Kazakhstan-China Pipeline LLP (KCP)	Oil transportation	Kazakhstan	37,138	50.00%	25,355	50.00%
KazGerMunay LLP (KGM)	Oil and gas exploration and production	Kazakhstan	32,070	50.00%	32,289	50.00%
Ural Group Limited (UGL)	Oil and gas exploration and production	Kazakhstan	31,490	50.00%	41,453	50.00%
Kazakhoil-Aktobe LLP (KOA)	Production of crude oil	Kazakhstan	26,911	50.00%	25,262	50.00%
Valsera Holdings B.V. Group (PKOP)	Oil refining	Kazakhstan	26,351	50.00%	9,590	50.00%
Petrosun LLP (Petrosun) (Note 7)	Sale of liquefied gas and oil products	Kazakhstan	24,373	49.00%	–	–
Teniz Service LLP (Teniz Service)	Design, construction and operation of infrastructure facilities, offshore oil operations support	Kazakhstan	10,396	48,996%	16,894	48,996%
Other			42,014		30,607	

In millions of tenge	Main activity	Place of business	December 31, 2022		December 31, 2021 (restated)	
			Carrying value	Percentage ownership	Carrying value	Percentage ownership
Associates						
Caspian Pipeline Consortium (CPC)	Transportation of liquid hydrocarbons	Kazakhstan / Russia	521,882	20.75%	473,880	20.75%
PetroKazakhstan Inc. (PKI)	Exploration, production and processing of oil and gas	Kazakhstan	94,635	33.00%	84,905	33.00%
Other			51,562		37,742	
			4,947,403		**4,145,646**	

All of the above joint ventures and associates are strategic for the Group's business.

As at December 31, 2022, the Group's share in unrecognized losses of joint ventures and associates was equal to 19,950 million tenge (December 31, 2021: 1,811 million tenge).

The following table summarizes the movements in the investments in 2022 and 2021:

In millions of tenge	2022	2021 (restated)
On January 1 (restated)	**4,145,646**	**4,214,205**
Share in profits of joint ventures and associates, net (Notes 5 and 9)	991,310	955,392
Acquisitions under common control (Notes 6 and 33)	17,368	–
Acquisition (Note 7)	10,989	–
Dividends received	(462,309)	(415,359)
Change in dividends receivable	(41,682)	(48,511)
Impairment of investments	–	(64)
Other changes in the equity of the joint venture	(637)	9,391
Additional contributions without change in ownership	15,398	1,926
Transfers to assets classified as held for sale	(76)	–
Eliminations and adjustments[1]	(1,944)	(6,308)
Discontinued operations (Note 5)	–	(662,208)
Foreign currency translation	273,340	97,182
On December 31	**4,947,403**	**4,145,646**

The following tables illustrate summarized financial information of material joint ventures, based on financial statements of these entities for 2022:

In millions of tenge	TCO	MMG	KRG	KCP	KGM
Non-current assets	25,713,747	464,868	40,100	137,004	71,787
Current assets, including	3,046,293	111,126	99,637	42,103	53,303
Cash and cash equivalents	**1,905,924**	**28,622**	**59,000**	**17,871**	**46,729**
Non-current liabilities, including	(7,808,607)	(144,698)	(269)	(58,417)	(21,559)
Non-current financial liabilities	**(4,163,850)**	**–**	**–**	**(32,197)**	**–**
Current liabilities, including	(1,826,167)	(99,344)	(21,844)	(46,415)	(39,392)
Current financial liabilities	**–**	**–**	**–**	**(33,900)**	**–**
Equity	**19,125,266**	**331,952**	**117,624**	**74,275**	**64,139**
Share of ownership	20%	50%	50%	50%	50%
Equity method adjustments	–	(1,260)	–	–	–
Carrying amount of the investments as at December 31, 2022	**3,825,053**	**164,716**	**58,812**	**37,138**	**32,070**
Revenue	10,949,194	910,069	192,427	86,319	150,039
Depreciation, depletion and amortization	**(1,129,895)**	**(26,647)**	**(323)**	**(10,269)**	**(22,550)**
Finance income	36,076	594	2,765	357	791
Finance costs	(99,857)	(9,404)	–	(4,593)	(994)
Income tax expenses	(1,591,414)	(38,267)	(4,040)	(8,703)	(39,783)
Profit for the year from continuing operations	**3,713,299**	**96,971**	**1,107**	**33,566**	**41,061**
Other comprehensive income	1,114,004	1,784	7,884	–	4,115
Total comprehensive income	**4,827,303**	**98,755**	**8,991**	**33,566**	**45,176**
Dividends received	207,892	92,071	–	5,000	22,826

The following tables illustrate summarized financial information of material joint ventures, based on financial statements of these entities for 2022:

In millions of tenge	UGL	KOA	PKOP	Petrosun	Teniz Service
Non-current assets	275,714	51,963	454,653	28	14,283
Current assets, including	1,851	17,357	120,412	123,612	16,745
Cash and cash equivalents	**1,704**	**1,186**	**79,079**	**14,662**	**2,570**
Non-current liabilities, including	(171,042)	(4,101)	(377,788)	–	(573)
Non-current financial liabilities	**(133,544)**	**–**	**(340,106)**	**–**	**–**
Current liabilities, including	(3,543)	(11,397)	(97,393)	(73,899)	(9,236)
Current financial liabilities	**–**	**–**	**(82,347)**	**–**	**–**
Equity	**102,980**	**53,822**	**99,884**	**49,741**	**21,219**
Share of ownership	50%	50%	50%	49%	48,996%
Impairment of the investment	(20,000)	–	–	–	–
Accumulated unrealized losses	–	–	(23,591)	–	–
Carrying amount of the investments as at December 31, 2022	**31,490**	**26,911**	**26,351**	**24,373**	**10,396**
Revenue	223	90,330	219,429	676,932	3,182
Depreciation, depletion and amortization	**(26)**	**(111)**	**(38,552)**	**(22)**	**(645)**
Finance income	–	933	244	870	27
Finance costs	(8,387)	(261)	(31,616)	(812)	(49)
Income tax expenses	(3,005)	(10,266)	(10,260)	(12,722)	(58)

1 — Equity method eliminations and adjustments represent capitalized borrowing costs on the loans provided by the Company and subsidiaries to joint ventures.

In millions of tenge	UGL	KOA	PKOP	Petrosun	Teniz Service
(Loss)/profit for the year from continuing operations	**(22,939)**	**25,296**	**42,018**	**47,315**	**(13,261)**
Other comprehensive income/(loss)	2,746	–	(228)	–	–
Total comprehensive (loss)/income	**(20,193)**	**25,296**	**41,790**	**47,315**	**(13,261)**
Dividends received	–	14,000	2,189	9,800	–

The following tables illustrate summarized financial information of material joint ventures, based on financial statements of these entities for 2021:

In millions of tenge	TCO	MMG	KRG	KCP	KGM	UGL
Non-current assets	21,900,722	480,741	45,961	149,828	65,184	254,152
Current assets, including	1,454,491	160,802	80,906	80,675	54,869	911
Cash and cash equivalents	**331,602**	**101,431**	**31,428**	**58,398**	**49,531**	**830**
Non-current liabilities, including	(6,307,907)	(138,617)	(225)	(122,857)	(18,405)	(129,822)
Non-current financial liabilities	**(3,886,200)**	**–**	**–**	**(94,393)**	**–**	**(95,775)**
Current liabilities, including	(1,517,597)	(86,154)	(18,009)	(56,937)	(37,070)	(2,335)
Current financial liabilities	**(60,529)**	**–**	**–**	**(44,617)**	**–**	**–**
Equity	**15,529,709**	**416,772**	**108,633**	**50,709**	**64,578**	**122,906**
Share of ownership	20%	50%	50%	50%	50%	50%
Impairment of investments	–	–	–	–	–	(20,000)
Equity method adjustments	–	(976)	–	–	–	–
Carrying amount of the investments as at December 31, 2021	**3,105,942**	**207,410**	**54,317**	**25,355**	**32,289**	**41,453**
Revenue	6,793,158	763,148	196,978	74,019	118,071	–
Depreciation, depletion and amortization	**(894,739)**	**(66,434)**	**(221)**	**(10,119)**	**(59,318)**	**(61)**
Finance income	2,341	181	2,908	226	743	–
Finance costs	(62,409)	(9,296)	–	(4,750)	(1,752)	(3,918)
Income tax expenses	(946,429)	(55,667)	(12,467)	(6,889)	(27,785)	(171)
Profit/(loss) for the year from continuing operations	**2,208,327**	**160,308**	**41,903**	**26,927**	**12,216**	**(22,120)**
Other comprehensive income/(loss)	393,933	18	4,394	(1)	1,596	3,995
Total comprehensive income/(loss)	**2,602,260**	**160,326**	**46,297**	**26,926**	**13,812**	**(18,125)**
Dividends received	**177,260**	**15,338**	**45,532**	**1,800**	**7,441**	**–**

The following tables illustrate summarized financial information of material joint ventures, based on financial statements of these entities for 2021:

In millions of tenge	KOA	PKOP	Teniz Service	AGP (Note 5)	BSGP (Note 5)
Non-current assets	50,961	487,137	13,544	–	–
Current assets, including	18,936	119,241	34,290	–	–
Cash and cash equivalents	**11,652**	**66,868**	**8,728**	**–**	**–**
Non-current liabilities, including	(2,671)	(443,302)	(357)	–	–
Non-current financial liabilities	**–**	**(412,600)**	**–**	**–**	**–**
Current liabilities, including	(16,701)	(100,603)	(12,997)	–	–
Current financial liabilities	**–**	**(74,181)**	**–**	**–**	**–**
Equity	**50,525**	**62,473**	**34,480**	**–**	**–**
Share of ownership	50%	50%	48,996%	–	–
Accumulated unrealized losses	–	(21,647)	–	–	–
Carrying amount of the investments as at December 31, 2021	**25,262**	**9,590**	**16,894**	**–**	**–**
Revenue	65,050	181,777	106,302	732,768	167,239
Depreciation, depletion and amortization	**(3,492)**	**(38,773)**	**(106,478)**	**(69,439)**	**(16,839)**
Finance income	347	19	14	1,006	–
Finance costs	(588)	(24,063)	(2,383)	(31,528)	(10,840)
Income tax expenses	(6,905)	(13,179)	245	(112,025)	–
Profit/(loss) for the year from continuing operations	**26,758**	**23,737**	**(6,305)**	**436,821**	**113,246**
Other comprehensive (loss)/income	–	(353)	–	412	–
Total comprehensive income/(loss)	**26,758**	**23,384**	**(6,305)**	**437,233**	**113,246**
Dividends received	6,003	–	490	40,216	8,000

The following tables illustrate summarized financial information of material associates, based on their financial statements for 2022:

In millions of tenge	December 31, 2022	
	CPC	PKI
Non-current assets	**2,240,723**	**224,559**
Current assets	292,198	116,827
Non-current liabilities	(35,730)	(18,489)
Current liabilities	(196,152)	(15,586)
Equity	**2,301,039**	**307,311**
Share of ownership	20.75%	33%
Goodwill	44,416	–
Impairment of the investment	–	(6,778)
Carrying amount of the investment	**521,882**	**94,635**
Revenue	976,076	140,901
Depreciation, depletion and amortization	(216,491)	(24,217)
Finance income	8,119	439
Finance costs	–	(1,503)
Income tax expenses	(122,394)	(17,548)

In millions of tenge	December 31, 2022	
	CPC	PKI
Profit for the year	**567,533**	**19,702**
Other comprehensive income	185,893	9,782
Total comprehensive income	**753,426**	**29,484**
Dividends received	98,854	2,890

The following tables illustrate summarized financial information of material associates, based on their financial statements for 2021:

In millions of tenge	December 31, 2021	
	CPC	PKI
Non-current assets	2,050,452	255,912
Current assets	229,939	88,537
Non-current liabilities	(32,699)	(20,905)
Current liabilities	(163,712)	(45,717)
Equity	**2,083,980**	**277,827**
Share of ownership	20.75%	33%
Goodwill	41,454	–
Impairment of the investment	–	(6,778)
Carrying amount of the investment as at December 31	**473,880**	**84,905**
Revenue	925,320	113,185
Depreciation, depletion and amortization	(174,032)	(17,008)
Finance income	775	249
Finance costs	(1,685)	(1,675)
Income tax expenses	(128,913)	(1,112)
Profit for the year	**438,091**	**24,369**
Other comprehensive income	60,033	3,149
Total comprehensive income	**498,124**	**27,518**
Dividends received	96,489	2,676

The following tables illustrate aggregate financial information of individually immaterial joint ventures (the Group's proportional share):

In millions of tenge	December 31, 2022	December 31, 2021
Group share in:		
Non-current assets	39,088	30,611
Current assets	18,950	16,171
Non-current liabilities	(13,922)	(6,563)
Current liabilities	(8,800)	(10,720)
Goodwill	172	172
Accumulated unrecognized share of losses	1,706	936
Other changes	4,820	–

In millions of tenge	December 31, 2022	December 31, 2021
Carrying amount of the investments as at December 31	**42,014**	**30,607**
Profit for the year from continuing operations	4,013	4,302
Other comprehensive (loss)/income	(1,148)	22
Total comprehensive income	**2,865**	**4,324**
Unrecognized share of loss	–	(273)

The following tables illustrate aggregate financial information of individually immaterial associates (the Group's proportional share):

In millions of tenge	December 31, 2022	December 31, 2021
Group share in:		
Non-current assets	53,699	47,781
Current assets	87,702	93,419
Non-current liabilities	(15,673)	(13,860)
Current liabilities	(75,041)	(90,409)
Impairment of the investment in associates	–	(64)
Accumulated unrecognized share of losses	875	875
Carrying amount of the investments as at December 31	**51,562**	**37,742**
Profit for the year from continuing operations	31,339	16,338
Other comprehensive income	3,675	425
Total comprehensive income	**35,014**	**16,763**

22. Inventories

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Materials and supplies (at cost)	179,296	148,484
Crude oil (at cost)	69,332	62,326
Refined products (at lower of cost and net realizable value)	60,670	89,725
Gas products (at cost)	127	57
	309,425	**300,592**

As at December 31, 2022 carrying value of inventories under pledge as collateral amounted to 126,345 million tenge (December 31, 2021: 121,772 million tenge).

23. Trade accounts receivable and other current financial and non-financial assets

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Trade accounts receivable		
Trade accounts receivable	549,163	528,639
Less: allowance for expected credit losses	(29,626)	(27,245)
	519,537	**501,394**
Other current financial assets		
Other receivables	98,485	102,968
Dividends receivable	320	6,375
Reservation of cash for repayment of borrowings (Note 27)	–	259,459
Less: allowance for expected credit losses	(41,748)	(39,030)
	57,057	**329,772**
Other current non-financial assets		
Advances paid and prepaid expenses	60,198	46,139
Taxes receivable, other than VAT	43,030	33,158
Other	6,040	6,479
Less: impairment allowance	(131)	(103)
	109,137	**85,673**
Total other current assets	**166,194**	**415,445**

As at December 31, 2022 and 2021, the above assets were non-interest bearing.

As at December 31, 2022, trade accounts receivable with a carrying value of 167,255 million tenge are pledged as collateral (December 31, 2021: 131,000 million tenge).

As at December 31, 2021, the Group reserved cash in the amount of 259,459 million tenge for repayment of the loan from The Export-Import Bank of China (further Eximbank), including interest accrued. Cash reserved was used for early redemption of the loan from Eximbank, including interest accrued, in January 2022 (Note 27).

As of December 31, 2022 and 2021, trade accounts receivable is denominated in the following currencies:

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
US dollars	325,296	328,207
Tenge	114,303	104,660
Romanian Leu	73,508	60,616
Euro	3,871	3,615
Other currency	2,559	4,296
	519,537	**501,394**

Movements in the allowance for expected credit losses and impairment were as follows:

In millions of tenge	Individually impaired	
	Trade accounts receivable and other current financial assets	Other current non-financial assets
As at December 31, 2020 (restated)	**69,246**	**3,546**
Charge for the year, net (Notes 5 and 14)	3,819	100
Written-off	(3,915)	(1,410)
Transfers and reclassifications	2,121	(2,121)
Discontinued operations (Note 5)	(4,932)	(12)
Foreign currency translation	(64)	–
As at December 31, 2021 (restated)	**66,275**	**103**
Charge for the year, net (Note 14)	2,756	2
Written-off	(748)	(1)
Discontinued operations (Note 5)	–	(2)
Foreign currency translation	3,091	29
As at December 31, 2022	**71,374**	**131**

Set out below is the information about credit risk exposure on the Group's trade receivables using a provision matrix:

In millions of tenge	Days past due					Total
	Current	<30 days	30–60 days	61–90 days	>91 days	
December 31, 2022						
Expected credit loss rate	0.23%	3.80%	9.83%	41.72%	95.84%	
Trade accounts receivable	484,411	32,690	3,489	857	27,716	549,163
Expected credit losses	**(1,120)**	**(1,242)**	**(343)**	**(358)**	**(26,563)**	**(29,626)**
December 31, 2021 (restated)						
Expected credit loss rate	0.32%	3.17%	18.42%	8.28%	94.05%	
Trade accounts receivable	488,607	11,088	617	1,661	26,666	528,639
Expected credit losses	**(1,561)**	**(352)**	**(114)**	**(138)**	**(25,080)**	**(27,245)**

24. Loans and receivables due from related parties

In millions of tenge	December 31, 2022	December 31, 2021
At amortized cost		
NB RK notes (Note 33)	70,192	–
Loans due from related parties (Note 33)	31,062	478,064
Bonds receivable from Samruk-Kazyna (Note 33)	19,665	18,433
Less: allowance for expected credit losses	(1,878)	(3,249)
	119,041	**493,248**
At fair value through profit or loss		
Loans due from related parties (Note 33)	117,511	123,161
Guaranteed returns from shareholders of joint venture	13,179	11,750
	130,690	**134,911**
Total loans and receivables due from related parties	**249,731**	**628,159**

Loans and receivables due from related parties are denominated in the following currencies:

In millions of tenge	December 31, 2022	December 31, 2021
US dollars	146,435	156,374
Tenge	103,296	470,677
Other foreign currencies	–	1,108
	249,731	**628,159**

In millions of tenge	December 31, 2022	December 31, 2021
Current portion	119,874	485,765
Non-current portion	129,857	142,394
	249,731	**628,159**

In 2022, the Company purchased short-term notes of the NB RK in the total amount of 87,000 million tenge, out of which notes in the amount of 17,000 million tenge were redeemed.

As at December 31, 2022 the financial aid provided to Samruk-Kazyna has been fully repaid by setting of against the payable for the acquisition of 49.50% ownership interest in KPI for 91,175 million tenge, payable for the acquisition of 49.9% ownership interest in Silleno for 816 million tenge and the part of the payable for exercising the Option for 424,587 million tenge (acquisition of Kashagan) (Notes 6 and 33).

Movements in the allowance for expected credit losses of loans and receivables due from related parties were as follows:

In millions of tenge	
As at December 31, 2020	**3,947**
Charged, net	188
Foreign currency translation	52
Discontinued operations (Note 5)	(938)
As at December 31, 2021	**3,249**
Charged, net	71
Foreign currency translation	5
Discontinued operations (Note 5)	(1,447)
As at December 31, 2022	**1,878**

25. Cash and cash equivalents

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Term deposits with banks – US dollar	228,818	654,591
Term deposits with banks – tenge	231,543	238,430
Term deposits with banks – other currencies	17,550	32,343
Current accounts with banks – US dollar	200,478	198,500
Current accounts with banks – tenge	20,877	7,509
Current accounts with banks – other currencies	15,699	10,097
The contracts of reverse repo with original maturities of three months or less	27,499	–
Cash in transit	17,449	1,557
Cash-on-hand and cheques	2,961	1,337
Less: allowance for expected credit losses	(57)	(171)
	762,817	**1,144,193**

Term deposits with banks are made for various periods of between one day and three months, depending on the immediate cash requirements of the Group.

As at December 31, 2022, the weighted average interest rate for time deposits with banks was 1.12% in US dollars, 13.01% in tenge and 4.84% in other currencies (December 31, 2021: 0.15% in US dollars, 8.56% in tenge and 5.00% in other currencies).

As at December 31, 2022 and 2021, cash and cash equivalents were not pledged as collateral for obligations of the Group.

26. Equity

Share capital

Total number of outstanding, issued and paid shares comprises:

	December 31, 2022 and 2021
Number of shares issued and paid, including	**610,119,493**
Par value of 27,726.63 tenge	137,900
Par value of 10,000 tenge	20,719,604
Par value of 5,000 tenge	59,707,029
Par value of 2,500 tenge	71,104,187
Par value of 2,451 tenge	1
Par value of 1,000 tenge	1
Par value of 921 tenge	1
Par value of 858 tenge	1
Par value of 838 tenge	1
Par value of 704 tenge	1
Par value of 592 tenge	1
Par value of 500 tenge	458,450,766
Share capital (thousands of tenge)	**916,540,545**

As at December 31, 2022 and 2021, the Company had only one class of issued shares. As at December 31, 2022 and 2021, common shares in the number of 239,440,103 were authorized, but not issued. In 2022, there was no issuance of any ordinary share.

Dividends

In 2022, based on the decision of Samruk-Kazyna and NB RK, the Company declared and paid off dividends for 2021 of 327.80 tenge per common share in the total of 199,997 million tenge (2021: declared and paid-off dividends for 2020 of 81.95 tenge per common share in the total of 49,999 million tenge).

In 2022, the Group declared and paid-off dividends to the non-controlling interest holders of KTO, KMGI and KMG EP in the total amount of 2,296 million tenge and 1,975 million tenge, respectively (2021: 6,192 million tenge and 5,756 million tenge, respectively).

Transactions with Samruk-Kazyna

In 2022, the Company provided Samruk-Kazyna additional interest-free financial aid tranches of 23,605 million tenge (2021: 43,151 million tenge) under a long-term financial aid agreement signed on December 25, 2015, with a current maturity in 2022 (Note 33). In 2022, the difference between the fair value and nominal amount of the additional tranches of 1,906 million tenge (2021: 5,222 million tenge) was recognized as transactions with Samruk-Kazyna in the consolidated statement of changes in equity.

In September 2022, the Company placed bonds for 751,631 million tenge at a coupon interest rate of 3.00% per annum and due in 2035. The coupon rate is below market rate. Samruk-Kazyna purchased the bonds. The difference between the fair value and nominal amount of bonds of 380,477 million tenge was recognized as transactions with Samruk-Kazyna in the consolidated statement of changes in equity (Notes 27 and 33).

In September 2022, within the exercising of the Option the Group is due to Samruk-Kazyna in the amount of 738.8 million US dollars (equivalent to 350,321 million tenge per exchange rate at the date of recognition). The payable was recognized at fair value upon initial recognition. The difference between the fair value and nominal amount of the payable of 7,426 million tenge was recognized as transactions with Samruk-Kazyna in the consolidated statement of changes in equity (Notes 6 and 33).

Distributions to Samruk-Kazyna

In 2022, in accordance with the Government decree on the construction of a medical center in Zhana-ozen town and housing for the residents, living in Zhana-ozen town, the Group accrued liabilities and paid for 10,199 million tenge and 2,398 million tenge, respectively, (2021: 393 million tenge and 842 million tenge, respectively).

In 2021, the Company reversed its distribution to Samruk-Kazyna by 308 million tenge and received reimbursement of 308 million tenge from contractor due to savings, which was recognized in prior years under the construction for social facilities in Turkestan city.

In July 2022, based on the decision of Samruk-Kazyna and Cooperative, Kashagan declared and paid-off dividends in the amount of 1,133.4 million U.S. dollars (equivalent to 529,789 million tenge). Due to the recognition of the acquisition of Kashagan under common control the Group recognized dividends distributed to the former shareholder of Kashagan as Distributions to Samruk-Kazyna in the amount of 566.7 million U.S. dollars (equivalent to 263,671 million tenge) (Note 6).

Contributions from the related party

In 2022, SKO, a previous shareholder of KLPE, made a contribution to the share capital of KLPE for 3,742 million tenge (2021: 16,396 million tenge). Due to the acquisition of KLPE under common control (Note 6) the Group recognized this as contribution from the related party in the consolidated statement of changes in equity.

Acquisitions of joint ventures

The difference between the consideration paid for acquisition of 49.9% ownership interest in Silleno from SKO in the amount of 816 million tenge and the carrying value of investment in Silleno in the amount of 120 million tenge was recognized as contribution from Samruk-Kazyna and presented in the line "Acquisition of joint ventures" in consolidated statement of changes in equity.

The difference between the consideration paid for acquisition of 49% interest in Petrosun for 1 tenge and the fair value of identifiable assets and liabilities of Petrosun at the date of acquisition in the amount of 10,989 million tenge was recognized as a contribution from Samruk-Kazyna and presented in the line "Acquisition of joint ventures" in consolidated statement of changes in equity in the amount of 10,989 million tenge (Note 7).

Book value per share

In accordance with the decision of KASE dated October 4, 2010 financial statements shall disclose book value per share (ordinary and preferred) as of the reporting date, calculated in accordance with the KASE rules.

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Total assets	16,650,763	15,857,452
Less: intangible assets	918,253	889,491
Less: total liabilities	6,777,313	5,840,546
Net assets	**8,955,197**	**9,127,415**
Number of ordinary shares	610,119,493	610,119,493
Book value per ordinary share (in thousand tenge)	**14,678**	**14,960**

Earnings per share

In thousand tenge	2022	2021 (restated)
Weighted average number of common shares for basic and diluted earnings per share	610,119,493	610,119,493
Basic and diluted earnings per share	2,159	2,109
Basic and diluted earnings per share from continuing operations	2,159	1,531
Basic and diluted earnings per share from discontinued operations	**–**	**0,578**

Non-controlling interests

The following tables illustrate information of subsidiaries in which the Group has significant non-controlling interests:

	Country of incorporation and operation	December 31, 2022		December 31, 2021	
		Non-controlling shares	Carrying value	Non-controlling shares	Carrying value
Rompetrol Downstream S.R.L.	Romania	45.37%	66,468	45.37%	56,869
KTO	Kazakhstan	10.00%	53,642	10.00%	49,100
Rompetrol Petrochemicals S.R.L.	Romania	45.37%	17,464	45.37%	15,935
KMG EP	Kazakhstan	0.28%	8,119	0.28%	6,115
Rompetrol Vega	Romania	45.37%	(23,768)	45.37%	(15,113)
Rompetrol Rafinare S.A.	Romania	45.37%	(212,487)	45.37%	(219,641)
Other			29,021		17,453
			(61,541)		**(89,282)**

The following tables illustrate summarized financial information of subsidiaries on a stand-alone basis, in which the Group has significant non-controlling interests as at December 31, 2022 and for the year then ended:

In millions of tenge	Rompetrol Downstream S.R.L.	KTO	Rompetrol Petrochemicals S.R.L.	KMG EP	Rompetrol Vega	Rompetrol Rafinare S.A.
Summarized statement of financial position						
Non-current assets	93,101	652,668	3,210	1,047,369	31,254	119,520
Current assets	166,214	119,379	36,121	1,600,377	15,215	48,757
Non-current liabilities	(16,185)	(149,990)	(664)	(83,988)	(43,795)	(85,885)
Current liabilities	(96,635)	(91,602)	(176)	(202,509)	(55,058)	(550,715)
Total equity	**146,495**	**530,455**	**38,491**	**2,361,249**	**(52,384)**	**(468,323)**
Attributable to:						
Equity holder of the Parent Company	80,027	476,813	21,027	2,353,130	(28,616)	(255,836)
Non-controlling interests	**66,468**	**53,642**	**17,464**	**8,119**	**(23,768)**	**(212,487)**

In millions of tenge	Rompetrol Downstream S.R.L.	KTO	Rompetrol Petrochemicals S.R.L.	KMG EP	Rompetrol Vega	Rompetrol Rafinare S.A.
Summarized statement of comprehensive income						
Revenue	1,178,244	255,627	–	1,294,096	122,133	2,233,851
Profit/(loss) for the year from continuing operations	**13,557**	**45,582**	**858**	**708,225**	**(16,794)**	**50,548**
Total comprehensive income/(loss) for the year, net of tax	**21,156**	**55,416**	**3,370**	**721,462**	**(19,076)**	**15,768**
Attributable to:						
Equity holder of the Parent Company	11,557	49,874	1,841	719,442	(10,421)	8,614
Non-controlling interests	9,599	5,542	1,529	2,020	(8,655)	7,154
Dividends declared to non-controlling interests	**–**	**(1,000)**	**–**	**(16)**	**–**	**–**
Summarized cash flow information						
Operating activity	36,791	73,513	(3,149)	218,119	4,570	67,361
Investing activity	14,540	(47,288)	3,150	(222,714)	(1,012)	(16,045)
Financing activity	(44,507)	17,011	–	(2,390)	(3,490)	(50,443)
Net increase/(decrease) in cash and cash equivalents	**6,824**	**44,659**	**1**	**2,189**	**68**	**873**

The following tables illustrate summarized financial information of subsidiaries on a stand-alone basis, in which the Group has significant non-controlling interests as at December 31, 2021 and for the year then ended:

In millions of tenge	Rompetrol Downstream S.R.L.	KTO	Rompetrol Petrochemicals S.R.L.	KMG EP	Rompetrol Vega	Rompetrol Rafinare S.A.
Summarized statement of financial position						
Non-current assets	94,973	595,294	3,078	1,515,936	30,700	142,738
Current assets	195,726	80,960	32,700	369,789	11,550	65,598
Non-current liabilities	(57,646)	(112,607)	(632)	(81,740)	(29,969)	(66,933)
Current liabilities	(107,713)	(78,607)	(24)	(141,796)	(45,589)	(625,494)
Total equity	**125,340**	**485,040**	**35,122**	**1,662,189**	**(33,308)**	**(484,091)**
Attributable to:						
Equity holder of the Parent Company	68,471	435,940	19,187	1,656,074	(18,195)	(264,450)
Non-controlling interests	**56,869**	**49,100**	**15,935**	**6,115**	**(15,113)**	**(219,641)**
Summarized statement of comprehensive income						
Revenue	81,210	238,176	–	1,026,022	81,210	1,225,765

In millions of tenge	Rompetrol Downstream S.R.L.	KTO	Rompetrol Petrochemicals S.R.L.	KMG EP	Rompetrol Vega	Rompetrol Rafinare S.A.
Profit/(loss) for the year from continuing operations	**6,326**	**64,872**	**(1,503)**	**240,606**	**2,637**	**(64,132)**
Total comprehensive income/(loss) for the year, net of tax	**8,383**	**68,620**	**1,317**	**244,322**	**1,568**	**(75,719)**
Attributable to:						
Equity holder of the Parent Company	4,579	61,758	719	243,638	857	(41,364)
Non-controlling interests	3,804	6,862	598	684	711	(34,355)
Dividends declared to non-controlling interests	–	(5,076)	–	(16)	–	–
Summarized cash flow information						
Operating activity	12,442	89,776	(8)	291,813	3,547	36,361
Investing activity	3,235	(48,768)	–	(237,951)	(1,660)	(16,996)
Financing activity	(6,378)	(52,802)	–	(17)	(1,884)	(49,899)
Net increase/(decrease) in cash and cash equivalents	**9,299**	**(11,516)**	**(8)**	**57,459**	**3**	**(30,534)**

27. Borrowings

In millions of tenge	December 31, 2022	December 31, 2021
Fixed interest rate borrowings	3,584,422	3,041,001
Weighted average interest rates	6.43%	5.72%
Floating interest rate borrowings	558,912	705,326
Weighted average interest rates (Note 34)	8.61%	5.78%
	4,143,334	**3,746,327**

As at December 31, 2022 and 2021, borrowings are denominated in the following currencies:

In millions of tenge	December 31, 2022	December 31, 2021
US dollar	3,152,169	3,213,820
Tenge	704,752	294,581
Russian ruble	245,349	221,207
Euro	23,069	8,424
Other currencies	17,995	8,295
	4,143,334	**3,746,327**

In millions of tenge	December 31, 2022	December 31, 2021
Current portion	367,443	484,980
Non-current portion	3,775,891	3,261,347
	4,143,334	**3,746,327**

As at December 31, 2022 and 2021, the bonds comprised:

In millions of tenge	Issuance amount	Redemption date	Interest	December 31, 2022	December 31, 2021
Bonds					
KASE 2022	751.6 billion KZT	2035	3.00% (14.5% effective interest rate)	379,306	–
Bonds LSE 2020	750 million USD	2033	3.50%	349,059	325,735
AIX 2019	56 billion KZT	2024	5.00%	34,385	33,123
Bonds LSE 2018	1.5 billion USD	2048	6,375%	685,181	639,046
Bonds LSE 2018	1.25 billion USD	2030	5,375%	579,391	540,156
Bonds LSE 2018	0.5 billion USD	2025	4.75%	232,586	216,760
Bonds LSE 2017	1.25 billion USD	2047	5.75%	561,160	522,827
Bonds LSE 2017	1 billion USD	2027	4.75%	460,655	428,552
Total				**3,281,723**	**2,706,199**

In September 2022, the Company placed bonds for 751,631 million tenge at a coupon interest rate of 3.00% per annum and due in 2035. Samruk-Kazyna purchased the bonds. The coupon rate of the bonds is below market rate. The difference between the fair value and nominal amount of bonds of 380,477 million tenge was recognized as a transaction with Samruk-Kazyna in the consolidated statement of changes in equity (Notes 26 and 33).

The increase in carrying value of bonds in 2022, also is due to the effect of the foreign currency exchange rate on bonds placed at the London Stock Exchange (further LSE) and denominated in US dollars for 190,916 million tenge.

As at December 31, 2022 and 2021, the borrowings comprised:

In millions of tenge	Issuance amount	Redemption date	Interest	December 31, 2022	December 31, 2021
Loans					
VTB Bank (PJSC)	38 billion RUB	2027	Key Rate of Central Bank of Russia Federation + 2.25%	245,349	221,207
Halyk bank JSC (Halyk bank)	151 billion KZT	2024–2025	11.00%	135,062	138,119
Development bank of Kazakhstan JSC (DBK) (Note 33)	157 billion KZT	2023–2026	7.00%-9.00%	100,694	119,243
Cargill	150 million USD	2023–2024	3M SOFR +2.61% 3M LIBOR + 2.50% 3M SOFR + 2.98%	70,165	43,343
Halyk bank	100 million USD[1]	2024	5.00% (USD), 16.00%-19.00% (KZT)	46,460	43,302
ING Bank NV	250 million USD	2024	COF[1] (4.80%) + 2.00%	31,871	24,034
Credit Agricole	250 million USD	2023	COF (4.60%) + 2.00%	30,934	21,533
Halyk bank JSC	30 billion KZT	2032	Key Rate of NB RK + 2.50%	29,761	–
The Syndicate of banks (Unicredit Tiriac Bank, ING Bank, BCR, Raiffeisen Bank)	405–435 million USD[1]	2023	1M LIBOR + 2.75% 1M LIBOR + 2.5% 1W EURIBOR + 2.5%	26,270	84,096
The Syndicate of banks (BCR, Raiffeisen Bank, OTP, Alpha, Garanti)	83 million EUR	2029	6M EURIBOR + 3.00%	21,411	–
DBK (Note 33)	843.6 million USD	2023	10.99%	20,483	34,138
NATIXIS	250 million USD	2023	COF (4.65%) + 2.00%	18,165	–
Bank of Tokyo-Mitsubishi UFJ, Ltd (London Branch)	150 million USD	2023	COF (4.32%) + 1.70%	17,415	22,385
Banca Transilvania	57.96 million EUR	2023	1M ROBOR + 2.00%. 1M LIBOR + 2.50%	16,739	18,296
OTP Bank JSC	25.17 million USD	2030	3M ROBOR + 1.10%	11,801	–
Eximbank	1.13 billion USD	2026	6M LIBOR + 4.10%	–	242,555
Other	–	–	–	39,031	27,877
Total				**861,611**	**1,040,128**

In January 2022, Atyrau Refinery LLP (further Atyrau Refinery) made early full repayment of the loan from Eximbank for 604 million US dollars (equivalent to 259,459 million tenge), including accrued interest. For the repayment was used the cash reserved in November 2021 (Note 23).

1 — Revolving credit facility.
2 — Cost of funding.
3 — 75 million USD with revolving credit facility.

In 2012, Atyrau Refinery paid an insurance premium to China Export & Credit Insurance Corporation in the amount of 85 million USD (equivalent to 12,820 million tenge) under a loan Agreement with Eximbank. In connection with the early repayment of the loan, China Export & Credit Insurance Corporation returned the part of the insurance premium in December 2022 in the amount of 16 million USD (equivalent to 7,370 million tenge).

In 2022, KTO received a long-term loan from Halyk Bank for 29,593 million tenge with the key rate of the NB RK + 2.50% and maturity of 4 years to finance the first stage of the project "Reconstruction and expansion of the main water pipeline "Astrakhan-Mangyshlak".

In 2022, KMGI partially redeemed Syndicated loan (Unicredit Tiriac Bank, ING Bank, BCR, Raiffeisen Bank) used to finance its working capital for the total amount of 191.47 million US dollars (equivalent to 88,258 million tenge).

In 2022, KMGI received a long-term syndicated loan (BCR, Raiffeisen Bank, OTP, Alpha, Garanti) to finance the construction of the cogeneration power plant for 42 million euro (equivalent to 20,196 million tenge) at the rate of 6M Euribor + 3.00% per annum and maturity of 7 years.

In 2022, KMGI received a loan from NATIXIS to finance working capital for 39 million USD (equivalent to 18,097 million tenge) at the rate of COF (4.65%) + 2.00% per annum and maturity in 2023.

In 2022, KMGI received a long-term loan from OTP Bank JSC to finance the extension and development of gas stations for 25 million USD (equivalent to 11,404 million tenge) at the rates of Robor 3M + 1.10% per annum and maturity of 8 years.

In 2022, KMGI received a long-term loan from Cargill bank to finance working capital for 25 million USD (equivalent to 23,047 million tenge) at the rates of SOFR 3M+2.98% per annum and maturity till the year 2024.

The increase in carrying value of the loan from VTB Bank (PJSC) denominated in Russian ruble during the twelve months ended December 31, 2022, is due to the effect of the foreign currency exchange rate for 26,206 million tenge.

In 2022, Atyrau Refinery made partial repayment of the loans from DBK for 60 million US dollars (equivalent to 27,550 million tenge), including accrued interest.

In 2022, KMGI received a loan from Credit Agricole to finance working capital for 17 million USD (equivalent to 7,833 million tenge) at the rates of COF (4.60%) + 2.00% per annum and maturity till the year 2023.

In 2021, Atyrau Refinery received a long-term loan from VTB Bank (PJSC) for 38,169 million Russian rubles (equivalent to 229,015 million tenge) at the rate of key rate of Central Bank of Russia + 2.25% per annum and maturity of 6 years for full early repayment of the loan from Eximbank in 2022.

In 2021, Atyrau Refinery partially repaid for 105 million US dollars (equivalent to 44,734 million tenge) including accrued interest, and received a short-term loan from Halyk bank under revolving credit facility for 100 million US dollars (equivalent to 42,813 million tenge) with 5% interest rate for full early repayment of the loan from Eximbank in 2022 and to finance working capital.

In 2021, Atyrau Refinery received a long-term loan from Halyk bank in the total amount of 109,855 million tenge with 11% interest rate and maturity of 4 years to refinance its existing loans from JBIC and DBK. The loan from Halyk bank was partially repaid for 22,827 million tenge, including accrued interest.

In 2021, Atyrau Refinery made full early repayment of the loan from JBIC for 155 million US dollars (equivalent to 67,392 million tenge), including accrued interest.

In 2021, Atyrau Refinery made full and partial repayment of the loans from DBK for 142 million US dollars (equivalent to 59,507 million tenge), including accrued interest, and 29,409 million tenge, including accrued interest.

In 2021 KMGI received short-term and long-term loans to finance working capital from Cargill at the rate of 3M LIBOR + 2.60% and 3M LIBOR + 2.50%, respectively, for 50 million US dollars each (equivalent to 20,997 million tenge).

In 2021, KMGI partially repaid a short-term loan from ING Bank NV for 29 million US dollars (equivalent to 12,632 million tenge), including accrued interest.

In 2021, KMGI made partial repayment of its Syndicated loan (Unicredit Tiriac Bank, ING Bank, BCR, Raiffeisen Bank) for 97 million US dollars (equivalent to 41,447 million tenge).

Changes in liabilities arising from financing activities:

In millions of tenge	2022				2021			
	Short-term loans	Long-term loans	Bonds	Total	Short-term loans	Long-term loans	Bonds	Total
On January 1	**162,772**	**877,356**	**2,706,199**	**3,746,327**	**184,370**	**916,265**	**2,977,813**	**4,078,448**
Received in cash	87,401	141,601	751,632	980,634	82,753	368,343	–	451,096
Return of insurance premium in cash	–	7,370	–	7,370	–	–	–	–
Repayment of principal in cash	(86,481)	(128,671)	(1,091)	(216,243)	(108,134)	(218,733)	(12,685)	(339,552)
Repayment of principal and interest by reserved cash (Note 23)	–	(259,459)	–	(259,459)	–	(32,799)	–	(32,799)
Interest accrued	9,861	79,635	168,536	258,032	9,573	72,248	159,810	241,631
Commission for the early redemption of the loan (Note 16)	–	4,498	–	4,498	–	–	–	–
Interest paid[2]	(9,779)	(65,735)	(156,377)	(231,891)	(9,427)	(52,876)	(185,140)	(247,443)
Discount (Note 26)	–	–	(380,477)	(380,477)	–	–	–	–
Foreign currency translation	8,233	7,673	187,441	203,347	3,227	2,684	66,967	72,878
Foreign exchange loss	1,046	26,980	5,862	33,888	410	4,844	7,679	12,933
Discontinued operations (Note 5)	–	–	–	–		(182,568)	(308,245)	(490,813)
Other	–	(2,689)	(3)	(2,692)	–	(52)	–	(52)
On December 31	**173,053**	**688,559**	**3,281,722**	**4,143,334**	**162,772**	**877,356**	**2,706,199**	**3,746,327**
Current portion	173,053	145,309	49,081	367,443	162,772	292,708	29,500	484,980
Non-current portion	–	543,250	3,232,641	3,775,891	–	584,648	2,676,699	3,261,347

Covenants

The Group is required to comply with the financial and non-financial covenants under the terms of loan agreements. As of December 31, 2022 and 2021, the Group complied with all financial and non-financial covenants.

Hedge of net investment in the foreign operations

As at December 31, 2022, certain borrowings denominated in foreign currency were designated as hedge instrument for the net investment in the foreign operations. These borrowings are being used to hedge the Group's exposure to the US dollar foreign exchange risk on these investments. In 2022, a loss of 187,441 million tenge (2021: loss of 66,967 million tenge) on the translation of these borrowings were transferred to other comprehensive income and offset against translation gains of the net investments in foreign operations.

There is an economic relationship between the hedged item and the hedging instrument as the net investment creates a translation risk that will match the foreign exchange risk on the US Dollars borrowings. The Group has established a hedge ratio of 1:1 as the underlying risk of the hedging instrument is identical to the hedged risk component. The hedge ineffectiveness will arise when the amount of the investment in the foreign subsidiary becomes lower than the amount of the fixed rate borrowings. As at December 31, 2022 and 2021, there was no ineffective portion of the hedge.

1 — The repayment of the interest is classified in the consolidated statement of cash flows as operating cash flows.

28. Lease liabilities

Future minimum lease payments under leases together with the present value of the net minimum lease payments comprised the following:

In millions of tenge	Minimum lease payments		Present value of minimum lease payments	
	December 31, 2022	December 31, 2021 (restated)	December 31, 2022	December 31, 2021 (restated)
Within one year	16,629	19,541	15,682	18,009
Two to five years inclusive	23,368	20,483	16,770	13,001
After five years	61,176	62,842	49,102	43,411
	101,173	**102,866**	**81,554**	**74,421**
Less: amounts representing finance costs	(19,619)	(28,490)	–	–
Present value of minimum lease payments	**81,554**	**74,376**	**81,554**	**74,421**
Less: amounts due for settlement within 12 months	(16,629)	(19,541)	(15,682)	(18,009)
Amounts due for settlement after 12 months	**84,544**	**83,325**	**65,872**	**56,412**

As at December 31, 2022 interest calculation was based on effective interest rates ranging from 2.95% to 19.00% (December 31, 2021: from 2.95% to 19.00%).

Changes in lease liabilities for the year ended December 31, 2022 and 2021:

In millions of tenge	2022	2021 (restated)
On January 1	**74,421**	**106,109**
Additions of leases	14,219	40,782
Interest accrued (Notes 5 and 16)	4,188	7,334
Repayment of principal	(19,709)	(53,382)
Interest paid	(1,389)	(4,923)
Foreign exchange loss	(1,629)	(2,087)
Foreign currency translation	3,089	2,107
Modification	11,120	(428)
Early termination	(4,404)	(11,466)
Other	1,648	(9,625)
On December 31	**81,554**	**74,421**

29. Provisions

In millions of tenge	Asset retirement obligations	Provision for environmental obligation	Provision for taxes	Provision for gas transpor-tation	Employee benefit obligations	Other	Total
As at December 31, 2020 (restated)	**270,229**	**65,001**	**10,435**	**30,766**	**69,918**	**13,528**	**459,877**
Foreign currency translation	3,082	1,087	118	453	266	144	5,150
Change in estimate	10,793	(2,514)	–	–	503	151	8,933
Unwinding of discount (Notes 5 and 16)	14,007	3,759	–	–	4,515	152	22,433
Provision for the year	963	2,628	2,392	–	(2,905)	4,434	7,512
Recovered	(1,329)	–	(748)	–	–	(1,207)	(3,284)
Use of provision	(332)	(6,775)	(1,834)	–	(4,615)	(10,373)	(23,929)
Discontinued operations (Note 5)	(87,953)	–	(1)	(31,219)	(2,256)	(93)	(121,522)
As at December 31, 2021 (restated)	**209,460**	**63,186**	**10,362**	**–**	**65,426**	**6,736**	**355,170**
As at January 1, 2022 (restated)	**209,460**	**63,186**	**10,362**	**–**	**65,426**	**6,736**	**355,170**
Foreign currency translation	9,164	3,286	238	–	619	325	13,632
Change in estimate	(117,668)	4,755	–	–	–	(408)	(113,321)
Unwinding of discount (Note 16)	12,087	5,722	–	–	4,723	138	22,670
Provision for the year	15,943	9,998	1,785	–	4,554	42,548	74,828
Recovered	(61)	–	(1,070)	–	–	(608)	(1,739)
Use of provision	(97)	(5,594)	(392)	–	(4,257)	(1,006)	(11,346)
As at December 31, 2022	**128,828**	**81,353**	**10,923**	**–**	**71,065**	**47,725**	**339,894**

Detailed description of significant provisions, including critical estimates and judgments used, is included in Note 4.

Current portion and long-term portion are segregated as follows:

In millions of tenge	Asset retirement obligations	Provision for environmental obligation	Provision for taxes	Provision for gas transport-tation	Employee benefit obligations	Other	Total
Current portion	1,739	6,082	10,923	–	4,969	39,363	63,076
Long-term portion	127,089	75,271	–	–	66,096	8,362	276,818
As at December 31, 2022	**128,828**	**81,353**	**10,923**	**–**	**71,065**	**47,725**	**339,894**
Current portion	1,196	4,627	10,362	–	3,809	4,517	24,511
Long-term portion	208,264	58,559	–	–	61,617	2,219	330,659
As at December 31, 2021 (restated)	**209,460**	**63,186**	**10,362**	**–**	**65,426**	**6,736**	**355,170**

Other provisions

Other provisions accrued for the year ended December 31, 2022, mainly include provisions for legal disputes disclosed in Note 35.

30. Trade accounts payable and other financial and non-financial liabilities

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Trade accounts payable	**564,906**	**558,266**
Other financial liabilities		
Payables to Samruk-Kazyna for exercising the Option (Notes 6 and 33)	164,937	–
Due to employees	67,073	44,587
Other trade payables	32,048	16,446
Derivative financial instruments	1,598	2,127
Other	33,141	22,173
	298,797	**85,333**
Current portion	283,717	69,418
Non-current portion	15,080	15,915
	298,797	**85,333**
Other non-financial liabilities		
Contract liabilities	117,817	154,696
Other	16,876	19,196
	134,693	**173,892**
Current portion	93,145	134,444
Non-current portion	41,548	39,448
	134,693	**173,892**

As of December 31, 2022 and 2021, trade accounts payable were denominated in the following currencies:

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
US dollars	322,797	389,622
Tenge	127,663	84,521
Romanian Leu	72,676	71,932
Euro	34,638	3,387
Other currency	7,132	8,804
Total	**564,906**	**558,266**

As at December 31, 2022 and 2021, trade accounts payable and other financial liabilities were not interest bearing.

Derivative financial instruments

The Group uses different commodity derivatives as a part of price risk management in trading of crude oil and petroleum products.

Statement of financial position:

	December 31, 2022	December 31, 2021
Derivative financial asset (in other financial assets)	681	10,965
Derivative financial liability (in other financial liabilities)	(1,598)	(2,127)
Derivative financial (liability)/asset, net	**(917)**	**8,838**

Statement of comprehensive income:

	2022	2021
Realized losses from derivatives on petroleum products in production expenses (Note 11)	121,539	14,954

A movement in derivatives assets/(liabilities) is shown below:

	2022	2021
On January 1	**8,838**	**(128)**
Hedge Reserve	(11,872)	10,055
Inventory	1,524	(1,335)
Reversal of unrealized losses	–	130
Translation difference	593	116
On December 31	**(917)**	**8,838**

Derivative financial instruments are initially measured at fair value on the contract date, and are re-measured to fair value at subsequent reporting dates. Changes in the fair value of derivative financial instruments are recognized in profit or loss as they arise.

The Group has the following hedge transactions that qualify for fair value hedge:

Transaction	Hedged item	Risk hedged	Hedging instrument
Commodity purchase / sell at fixed price	Base operating stock (BOS) – meaning crude oil, feedstock, diesel, gasoline and jet Priced operational stock above or below BOS	Commodity price risk	Swap, Future, Purchase put / call option
Foreign exchange risk related to monetary item	Monetary item not in the functional currency of the Group	Change in foreign exchange rate	Swap, currency forward
Foreign exchange risk related to a firm commitment	Firm commitment not denominated in the functional currency of the Group	Change in foreign exchange rate	Swap, currency forward
Fair value risk related to fixed interest rates	Receivable or liability at fixed interest rate	Interest related fair value risk	Swap

The Group has the following hedge transactions that qualify for cash flow hedge:

Transaction	Hedged item	Risk hedged	Hedging instrument
Forecasted commodity purchase / sell	Forecasted refinery margin basket and forecasted Dated Brent differential	Commodity price risk	Swap, Future, Purchased put / call option
EUA certificates	Forecasted EUA certificates purchase	EUA certificate price risk	Futures

31. Other taxes payable

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
VAT	49,969	49,002
Rent tax on crude oil export	38,445	23,702
Mineral Extraction Tax	35,277	36,329
Individual income tax	7,991	6,868
Social tax	7,085	5,351
Excise tax	2,175	1,719
Withholding tax from non-residents	1,875	2,357
Export customs duty	–	5,842
Other	5,660	5,885
	148,477	**137,055**

32. Income tax expenses

As at December 31, 2022 income taxes prepaid of 36,167 million tenge (2021: 25,165 million tenge) are mainly represented by corporate income tax. As at December 31, 2022 income taxes payable of 66,648 million tenge (2021: 6,882 million tenge) are mainly represented by corporate income tax.

Income tax expense comprised the following for the years ended December 31:

In millions of tenge	2022	2021 (restated)
Current income tax		
Corporate income tax	204,156	116,562
Withholding tax on dividends and interest income	49,120	42,887
Excess profit tax	1,673	1,237
Deferred income tax		
Corporate income tax	124,728	125,606
Withholding tax on dividends	113,331	34,990
Excess profit tax	239	(34)
Income tax expenses	**493,247**	**321,248**

By Emergency Ordinance no. 186 issued December 28, 2022, a solidarity contribution was imposed on profits in the fossil fuel sector. The solidarity contribution is payable by companies operating in the crude oil, natural gas, coal, and refinery sectors on taxable profits of 2022 and 2023 exceeding 120% of the average taxable profit of the preceding four years, 2018 to 2021, at a rate of 60%. If the average taxable profit related to the period 2018–2021 is negative, for the purpose of calculating the solidarity contribution, it is considered that the average taxable profit is equal to zero. As of December 31, 2022, KMGI recognized income tax in the amount of 124.9 million US dollars (equivalent to 57,584 million tenge).

A reconciliation of income tax expenses applicable to profit before income tax at the statutory income tax rate (20% in 2022 and 2021) to income tax expenses was as follows for the years ended December 31:

In millions of tenge	2022	2021 (restated)
Profit before income tax from continuing operations	1,810,566	1,255,310
Profit before income tax from discontinued operations	–	407,993
Statutory tax rate	20%	20%
Income tax expense on accounting profit	**362,113**	**332,661**
Share in profit of joint ventures and associates	(87,797)	(69,812)
Other non-deductible expenses and non-taxable income	112,047	85,867
Effect of different corporate income tax rates	91,215	47,729
Excess profit tax	1,912	1,203
Change in unrecognized deferred tax assets	13,757	(20,885)
Income tax expenses	**493,247**	**376,763**
Income tax expenses attributable to continued operations	493,247	321,248
Income tax expenses attributable to discontinued operations	–	55,515
	493,247	**376,763**

Deferred tax balances, calculated by applying the statutory tax rates effective at the respective reporting dates to the temporary differences between the tax basis of assets and liabilities and the amounts reported in the consolidated financial statements, are comprised of the following at December 31:

In millions of tenge	2022					2021 (restated)				
	Corporate income tax	Excess profit tax	Withholding tax	Total	Recognized in profit and loss	Corporate income tax	Excess profit tax	Withholding tax	Total	Recognized in profit and loss
Deferred tax assets										
Property, plant and equipment	23,559	–	–	23,559	796	22,763	–	–	22,763	(12,831)
Tax loss carryforward	685,476	–	–	685,476	3,017	682,459	–	–	682,459	(43,555)
Employee benefits related accruals	6,624	–	–	6,624	1,648	4,976	–	–	4,976	(133)
Impairment of financial assets	1	–	–	1	–	1	–	–	1	(12)
Environmental liability	3,728	–	–	3,728	639	3,089	–	–	3,089	3,200
Other	85,114	–	–	85,114	(2,231)	100,653	–	–	100,653	6,057
Less: unrecognized deferred tax assets	(574,955)	–	–	(574,955)	(13,579)	(561,376)	–	–	(561,376)	21,063
Less: deferred tax assets offset with deferred tax liabilities	(187,949)	–	–	(187,949)	30,581	(218,530)	–	–	(218,530)	(5,809)
Deferred tax assets	**41,598**	**–**	**–**	**41,598**	**20,871**	**34,035**	**–**	**–**	**34,035**	**(32,020)**
Deferred tax liabilities										
Property, plant and equipment	567,641	597	–	568,238	115,840	452,040	358	–	452,398	102,464
Undistributed earnings of joint ventures and associates	–	–	615,747	615,747	113,331	–	–	465,891	465,891	34,990
Other	2,974	–	–	2,974	(583)	3,441	–	–	3,441	10,723
Less: deferred tax assets offset with deferred tax liabilities	(187,949)	–	–	(187,949)	30,581	(218,530)	–	–	(218,530)	(5,809)
Deferred tax liabilities	**382,666**	**597**	**615,747**	**999,010**	**259,169**	**236,951**	**358**	**465,891**	**703,200**	**142,368**
Net deferred tax liability	**341,068**	**597**	**615,747**	**957,412**	**–**	**202,916**	**358**	**465,891**	**669,165**	**–**
Deferred tax expense					**238,298**					**174,388**

Deferred corporate income tax and excess profit tax are determined with reference to individual subsoil use contracts. Deferred corporate income tax is also determined for activities outside of the scope of subsoil use contracts. A deferred tax asset is recognized only to the extent that it is probable that future taxable profits will be available against which the asset can be utilized. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realized. Unrecognized deferred tax asset arising mainly from tax losses carry forward amounted to 574,955 million tenge as at December 31, 2022 (2021: 561,376 million tenge).

Tax losses carry forward as at December 31, 2022 and 2021 in the RK expire for tax purposes after ten years from the date they are incurred.

The movements in the deferred tax liability/(asset) were as follows:

In millions of tenge	2022				2021 (restated)			
	Corporate income tax	Excess profit tax	Withholding tax	Total	Corporate income tax	Excess profit tax	Withholding tax	Total
Net deferred tax liability as at January 1	**202,916**	**358**	**465,891**	**669,165**	**132,643**	**392**	**419,083**	**552,118**
Foreign currency translation	13,308	–	36,525	49,833	3,064	–	11,818	14,882
Tax expense/(income) during the year recognized in profit and loss	124,728	239	113,331	238,298	139,432	(34)	34,990	174,388
Tax expense during the year recognized in other comprehensive income	116	–	–	116	48	–	–	48
Discontinued operations (Note 5)	–	–	–	–	(72,271)	–	–	(72,271)
Net deferred tax liability as at December 31	**341,068**	**597**	**615,747**	**957,412**	**202,916**	**358**	**465,891**	**669,165**

33. Related party disclosures

Terms and conditions of transactions with related parties

Related party transactions were made on terms agreed between the parties that may not necessarily be at market rates, except for certain regulated services, which are provided based on the tariffs available to related and third parties. Outstanding balances at the year-end are mainly unsecured and interest free and settlement occurs in cash, except as indicated below. The Group recognizes allowances for ECL on amounts owed by related parties.

Transactions balances

The following table provides the balances of transactions with related parties as at December 31, 2022 and 2021:

In millions of tenge	December 31,	Due from related parties	Due to related parties	Cash and deposits placed with related parties	Borrowings payable to related parties
Samruk-Kazyna entities	**2022**	**38,476**	**168,368**	**–**	**413,691**
	2021	497,242	1,074	–	33,123
Associates	**2022**	**16,348**	**3,431**	**–**	**–**
	2021	12,249	3,009	–	–
Other state-controlled parties	**2022**	**72,003**	**666**	**–**	**121,177**
	2021	2,349	638	86,481	153,381
Joint ventures	**2022**	**167,284**	**187,172**	**–**	**–**
	2021	166,721	170,911	–	–

Due from / to related parties

Samruk-Kazyna entities

As at December 31, 2022 the financial aid provided to Samruk-Kazyna has been fully repaid by setting of against the payable for the acquisition of 49.50% ownership interest in KPI for 91,175 million tenge (Note 6), payable for the acquisition of 49.9% ownership interest in Silleno for 816 million tenge and the part of the payable for exercising the Option for 424,587 million tenge (Note 6).

As at December 31, 2022 payables due to Samruk-Kazyna were mainly represented by the payable for the exercised Option for 164,937 million tenge (Notes 6 and 30).

Other state-controlled parties

During 2022, the Company purchased short-term notes of the NB RK in the total amount of 87,000 million tenge, out of which notes in the amount of 17,000 million tenge were redeemed.

Joint ventures

As at December 31, 2022 due from joint ventures were mainly represented by the loans given to PKOP of 53,889 million tenge (December 31, 2021: 74,612 million tenge), UGL of 63,622 million tenge (December 31, 2021: 48,549 million tenge) (Note 24).

As at December 31, 2022 due to joint ventures were mainly represented by accounts payable for crude oil to TCO for 153,610 million tenge (December 31, 2021: 130,786 million tenge).

Borrowings payable to related parties

Samruk-Kazyna entities

In September 2022, Samruk-Kazyna purchased the Company placed bonds for 751,631 million tenge. The difference between the fair value and nominal amount of bonds of 380,477 million tenge was recognized as transactions with Samruk-Kazyna in the consolidated statement of changes in equity (Notes 26 and 27).

Other state-controlled parties

As at December 31, 2022 the borrowings payable to related parties are represented by loans received from DBK by Atyrau refinery and Pavlodar refinery of 121,177 million tenge (December 31, 2021: 153,381 million tenge) (Note 27).

Transactions turnover

The following table provides the total amount of transactions, which have been entered into with related parties during 2022 and 2021:

In millions of tenge		Sales to related parties	Purchases from related parties	Interest earned from related parties	Interest incurred to related parties
Samruk-Kazyna entities	**2022**	**50,371**	**11,768**	**44,760**	**15,618**
	2021	17,589	11,500	36,805	6,448
Associates	**2022**	**18,705**	**67,615**	**235**	**–**
	2021	53,754	33,549	–	–
Other state-controlled parties	**2022**	**9,631**	**18,228**	**577**	**15,501**
	2021	32,810	16,788	315	21,529
Joint ventures	**2022**	**305,922**	**2,119,070**	**12,469**	**4**
	2021	267,824	1,689,050	30,626	1,109

Sales to related parties / purchases from related parties

Joint ventures

In 2022, sales to joint ventures were mainly represented by transportation and cargo servicing provided to TCO for 20,204 million tenge (2021: 16,698 million tenge), transportation charges and oil servicing provided to MMG for 58,141 million tenge and for 116,223 million tenge, respectively (2021: 53,892 million tenge and 85,094 million tenge, respectively).

In 2021, purchases from joint ventures were mainly attributable to purchases of crude oil from TCO to perform the oil delivery customer contract for 1,976,760 million tenge (2021: 1,234,019 million tenge).

Key management employee compensation

Total compensation to key management personnel (members of the Boards of directors and Management boards of the Group) included in general and administrative expenses in the accompanying consolidated statement of the comprehensive income was equal to 7,351 million tenge and 7,953 million tenge for the years ended December 31, 2022 and 2021, respectively. Compensation to key management personnel mainly consists of contractual salary and performance bonus based on operating results.

34. Financial risk management, objectives and policies

The Group's principal financial instruments mainly consist of borrowings, loans given, financial guarantees, cash and cash equivalents, bank deposits as well as accounts receivable and accounts payable. The Group is exposed to interest rate risk, foreign currency risk and credit risk. The Group further monitors the market risk and liquidity risk arising from all financial instruments.

Market risk

The Group takes on exposure to market risks. Market risks arise from open positions in interest rate, currency, and securities, all of which are exposed to general and specific market movements. The Group manages market risk through periodic estimation of potential losses that could arise from adverse changes in market conditions and establishing appropriate margin and collateral requirements. The sensitivity analyses in the following sections relate to the position as of December 31, 2022 and 2021.

Foreign currency risk

As a result of significant borrowings and accounts payable denominated in the US dollars and rubles, the Group's consolidated statement of financial position can be affected significantly by movement in the US dollar and ruble/ tenge exchange rates. The Group also has transactional currency exposures. Such exposure arises from revenues in the US dollars and rubles. The Group has a policy on managing its foreign currency risk in US dollar by matching US dollar and ruble denominated financial assets with US dollar and ruble denominated financial liabilities. The following table demonstrates the sensitivity to a reasonably possible change in the US dollar exchange rate, with all other variables held constant, of the Group's profit before income tax (due to changes in the cash flows of monetary assets and liabilities). The sensitivity of possible changes in exchange rates for other currencies are not considered due to its insignificance to the consolidated financial results of Group's operations.

In millions of tenge	Increase/(decrease) in tenge to US dollar exchange rate	Effect on profit before tax
2022	**+21%**	**(404,338)**
	(21%)	**404,338**
2021	+13%	(252,147)
	(11%)	193,960

In millions of tenge	Increase/ (decrease) in tenge to RUB exchange rate	Effect on profit before tax
2022	**+22%**	**(54,044)**
	(22%)	**54,044**
2021	+13%	(28,757)
	(13%)	28,757

Interest rate risk

Interest rate risk is the risk that the value of a financial instrument will fluctuate due to changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's long-term borrowings with floating interest rates. The Group's policy is to manage its interest rate cost using a mix of fixed and variable rate borrowings.

The following table demonstrates the sensitivity to a reasonably possible change in interest rates, with all other variables held constant, of the Group's profit before income tax (through the impact on floating rate borrowings). There is no significant impact on the Group's equity.

In millions of tenge	Increase/ decrease in basis points	Effect on profit before tax
2022		
LIBOR	**+2.45**	**(12,989)**
	-2.45	**12,989**
2021		
LIBOR	+1.25	(8,817)
	-0.25	1,763

Credit risk

The Group trades only with recognized, creditworthy parties. It is the Group's policy that all customers who wish to trade on credit terms are subject to credit verification procedures. In addition, receivable balances are monitored on an ongoing basis with the result that the Group's exposure to bad debts is not significant. The maximum exposure is the carrying amount as disclosed in Note 16. There are no significant concentrations of credit risk within the Group.

With respect to credit risks arising on other financial assets of the Group, which comprise cash and cash equivalents, bank deposits, loans and receivables from related parties and other financial assets, the Group's exposure to credit risks arises from default of the counterparty, with a maximum exposure equal to the carrying amount of these instruments.

The table below shows the risk profile of the Group's cash and cash equivalents, short-term and long-term deposits held in banks as at 31 December 2022 and 2021 using the Fitch credit ratings, or in their absence, using their equivalent rates in S&P and Moody's:

	As at 31 December	
	2022	**2021**
AA- to A+	15%	8%
A to A-	41%	34%
BBB+ to BBB-	41%	54%
BB+ to BB-	2%	1%
B+ to B-	**1%**	**3%**

Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in raising funds to meet commitments associated with its financial liabilities. Liquidity risk may result from an inability to sell a financial asset quickly at close to its fair value.

Liquidity requirements are monitored on a regular basis and management ensures that sufficient funds are available to meet any commitments as they arise.

The table below summarizes the maturity profile of the Group's financial liabilities as at December 31, 2022 and 2021 based on contractual undiscounted payments.

In millions of tenge	Due less than one month	Due later than one month but not later than three months	Due later than three months but not later than one year	Due later than one year but not later than five years	Due after 5 years[3]	Total
As at December 31, 2022						
Borrowings[1]	45,216	2,028	506,344	1,868,569	4,977,920	7,400,077
Trade accounts payable	105,697	297,109	162,100	–	–	564,906
Lease liabilities	2,890	1,720	12,410	39,080	26,216	82,316
Other financial liabilities	56,278	19,598	366,088	18,544	–	460,508
	210,081	**320,455**	**1,046,942**	**1,926,193**	**5,004,136**	**8,507,807**
As at December 31, 2021 (restated)						
Borrowings[1]	268,383	92	379,336	1,432,280	4,283,944	6,364,035
Trade accounts payable	250,553	262,982	7,778	–	–	521,313
Financial guarantees[1]	–	4	312	1,252	–	1,568
Lease liabilities	1,896	1,229	6,595	12,763	22,879	45,362
Other financial liabilities	38,906	17,673	15,932	16,979	–	89,490
	559,738	**281,980**	**409,953**	**1,463,274**	**4,306,823**	**7,021,768**

1 — The Group excludes from the maturity profile table the borrowings payable to project partners under the carry-in financing agreements, due to the uncertainty of maturity of these loans. As of December 31, 2022, the borrowings due to partners were 23,768 million tenge (December 31, 2021: 12,355 million tenge).

2 — The Group includes financial guarantees to the maturity profile table, however, the cash outflow in relation to financial guarantees is subject to certain conditions. Financial guarantee is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because of specified debtor fails to make payment when due in accordance with the original or modified terms of debt instrument. In 2022 and 2021 there was no significant instances of financial guarantees execution.

Capital management

The primary objective of the Group's capital management is to maximise the shareholder value. The Group manages its capital to ensure that Group will be able to continue as a going concern while maximising the return to stakeholders through the optimisation of the debt and equity balance.

The Company seeks to maintain a prudent capital structure to support its capital investment plans and maintain investment grade credit rating through the cycle. Maintaining sufficient financial flexibility is considered strategically important to mitigate industry cyclicality while also enabling the pursuit of organic and inorganic investment opportunities. The Company has a comprehensive and disciplined internal approval process for capital expenditures, new projects and debt incurrence.

For the purpose of the Group's capital management, the capital structure of the Group consists of borrowings disclosed in Note 27 less cash (Note 25) and short-term deposits (Note 20) and equity, comprising share capital, additional paid-in capital, other reserves and retained earnings as disclosed in Note 26.

The Group's management regularly reviews the capital structure. As part of this review, management considers the cost of capital and the risks associated with each class of capital. Also to achieve this overall objective, the Group's capital management, among other things, aims to ensure that it meets financial covenants attached to borrowings that define capital structure requirements. There have been no breaches of the financial covenants of any borrowing in the years ended December 31, 2022 and 2021 (Note 27).

In millions of tenge	December 31, 2022	December 31, 2021 (restated)
Borrowings	4,143,334	3,746,327
less: cash, cash equivalents and short-term bank deposits	2,000,184	1,762,603
Net debt	**2,143,150**	**1,983,724**
Equity	9,873,450	10,016,906
Capital and net debt	**12,016,600**	**12,000,630**

No changes were made in the overall strategy, objectives, policies or processes for managing capital during the years ended December 31, 2022 and 2021.

Fair values of financial instruments

The carrying amount of the Group financial instruments as at December 31, 2022 and 2021 are reasonable approximation of their fair value, except for the financial instruments disclosed below:

In millions of tenge	December 31, 2022					December 31, 2021 (restated)				
	Carrying amount	Fair value	Fair value by level of assessment			Carrying amount	Fair value	Fair value by level of assessment		
			Level 1	Level 2	Level 3			Level 1	Level 2	Level 3
Bonds receivable from Samruk-Kazyna	19,595	20,138	–	20,138	–	18,373	16,925	–	16,925	–
NB RK notes	70,192	70,192	–	70,192	–	–	–	–	–	–
Loans given to related parties at amortized cost, lease receivables from joint venture	29,254	29,242	–	–	29,242	474,875	472,528	–	448,658	23,870
Fixed interest rate borrowings	3,584,422	3,156,446	2,476,894	679,552	–	3,041,001	3,556,705	3,210,632	346,073	–
Floating interest rate borrowings	558,912	558,912	–	558,912	–	705,326	755,347	–	755,347	–

The fair value of bonds receivable from the Samruk-Kazyna and other debt instruments have been calculated by discounting the expected future cash flows at market interest rates.

All financial instruments for which fair value is recognized or disclosed are categorized within the fair value hierarchy, based on the lowest level input that is significant to the fair value measurement as a whole, as follows:

- Level 1 – quoted (unadjusted) market prices in active markets for identical assets or liabilities;
- Level 2 – valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable;
- Level 3 – valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable.

There were no transfers between Level 1 and Level 2 during the reporting period, and no transfers into or out of Level 3 category.

For assets and liabilities that are recognized at fair value on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period. There were no changes in the Group's valuation processes, valuation techniques, and types of inputs used in the fair value measurements during the year.

The significant unobservable inputs used in the fair value measurements categorized within Level 3 of the fair value hierarchy are shown below:

	Valuation technique	Significant unobservable inputs	Range as of December 31,	
			2022	2021
Loans given to related parties at amortized cost, lease receivables from joint venture	Discounted cash flow method	Interest/discount rate	6.4–18.9%	4.1–11.5%
Financial guarantee issued			–	4.5%

35. Contingent liabilities and commitments

Operating environment

Kazakhstan continues economic reforms and development of its legal, tax and regulatory frameworks as required by a market economy. The future stability of the Kazakhstan economy is largely dependent upon these reforms and developments and the effectiveness of economic, financial and monetary measures undertaken by the Government.

Commodity price risk

The Group generates most of its revenue from the sale of commodities, primarily crude oil and oil products. Historically, the prices of these products have been volatile and have fluctuated widely in response to changes in supply and demand, market uncertainty, the performance of the global or regional economies and cyclicality in industries. Prices may also be affected by the Government actions, including the imposition of tariffs and import duties, speculative trades, an increase in capacity or oversupply of the Group's products in its main markets. These external factors and the volatility of the commodity markets make it difficult to estimate future prices. A substantial or extended decline in commodity prices would materially and adversely affect the Group's business and the consolidated financial results and cash flows of operations. The Group mainly does not hedge its exposure to the risk of fluctuations in the price of its products.

Taxation

Kazakhstan's tax legislation and regulations are subject to ongoing changes and varying interpretations. Instances of inconsistent opinions between local, regional and national tax authorities are not unusual, including opinions with respect to IFRS treatment of revenues, expenses and other items in the financial statements. The current regime of penalties and interest related to reported and discovered violations of Kazakhstan's tax laws are severe. Due to uncertainties associated with Kazakhstan's tax system, the ultimate amount of taxes, penalties and interest, if any, may be in excess of the amount expensed to date and accrued at December 31, 2022. As at December 31, 2022, Management believes that its interpretation of the relevant legislation is appropriate and that it is probable that the Group's tax positions will be sustained, except as provided for or otherwise disclosed in these consolidated financial statements.

Transfer pricing control

Transfer pricing control in Kazakhstan has a very wide scope and applies to many transactions that directly or indirectly relate to international business regardless of whether the transaction participants are related or not. The transfer pricing legislation requires that all taxes applicable to a transaction should be calculated based on market price determined in accordance with the arm's length principle. The law on transfer pricing came into force in Kazakhstan from January 1, 2009. The law is not explicit and there is little precedence with some of its provisions. Moreover, the law is not supported by detailed guidance for application of transfer pricing control to various types, as a result, there is a risk that the tax authorities may take a position that differs from the Group's position, which could result in additional taxes, fines and interest. As at December 31, 2022 management believes that its interpretation of the transfer pricing legislation is appropriate and that it is probable that the Group's positions with regard to transfer pricing will be sustained.

Comprehensive tax audit at oil refineries of the Group

All three major oil refineries in the Group, Atyrau Refinery, Pavlodar Refinery and Shymkent Refinery were subject to a comprehensive tax audit covering periods of a few years (up to 2020) in 2020–2022. As a result of the audits, the total amount of additional charges for VAT for 37,728 million tenge, for income tax for 17,830 million tenge, for other taxes for 476 million tenge, including penalties for all additional charges of 8,959 million tenge and reduction in tax carry-forward losses for 119,871 million tenge. Atyrau Refinery, Pavlodar Refinery and Shymkent Refinery did not agree with the assessment and appealed to the Ministry of Finance of RK. The consideration of the appeals remains suspended by the Ministry of Finance of RK until the circumstances are clarified. The Group believes that additional tax assessment is not probable, as such, the Group did not recognize any provisions as of December 31, 2022.

Legal issues and claims

The civil litigation at KMGI

Faber Invest & Trade Inc. (further Faber), the non-controlling shareholder of KMGI subsidiaries, resumed several previous civil filings in 2020, one of which challenged the increase in the Rompetrol Rafinare Constanta, the KMGI subsidiary, share capital in 2003–2005. The hearings have been held periodically, but no final decisions were made. On July 13, 2021, the court rejected the complaint of Faber. However, Faber appealed against this decision. Based on the results of the hearing in December 2021, the court granted the complaint and returned the case for reconsideration. Most of Faber's lawsuits were dismissed by the Supreme Court in May and September 2022, including an appeal filed by Faber challenging Faber's corporate documents approving the bond issue and paying off historical budget debts as filed after the deadline. In January 2023, hearings were held on the claims filed by Faber. Faber withdrew its claims in two cases, and the court postponed the decision in the third. The next hearing in the Faber case is scheduled for March 2023. Faber has filed the same lawsuit for the third time, but now in the Constanta court. The first hearing has not yet been scheduled.

The Group believes that its position regarding Faber's new application will be resolved in a similar manner to other similar proceedings resolved in favor of the Group. Accordingly, the Group did not recognize a provision in this case as of December 31, 2022.

Civil legal dispute between the National Mineral Resources Agency (ANRM) and Oilfield Exploration Business Solutions S.A (OEBS), subsidiary of KMGI, at the Focsani field

On December 17, 2019 OEBS has been noticed by the ANRM that a Request for Arbitration would have been filed in to ICC Paris for an alleged breach by OEBS of the Concession Agreement as regards the exploration block near Focsani. Starting from that period, OEBS was in dispute with ANRM. On July 29, 2022 the Court decided to oblige OEBS to pay 10.1 million U.S. dollars from a total ANRM claim of 20 million U.S. dollars. As of December 31, the Group recognized a provision in the amount of 10.1 million dollars (equivalent to 4,673 million tenge) (Note 29).

Competition investigation Moldova

Since the beginning of 2021, Rompetrol Moldova (further RPM), a subsidiary of KMGI operating in Moldova, is involved in an investigation and related court proceedings initiated by the Competition Council of Moldova (further CCM) alleging RPM agreed with other industry players on retail prices for petroleum products. RPM is challenging the competition report prepared by the CCM investigation division that forms the basis for the allegations in accordance with applicable regulations. A few attempts to dismiss the said report were unsuccessful with the latest ruling rejecting RPM's request to dismiss the report issued by the local court on May 26, 2022. RPM has filed an appeal and a first hearing is scheduled for March 21, 2023. As of December 31, the Group recognized a provision in the amount of 12 million dollars (equivalent to 5,552 million tenge) (Note 29).

The case of arbitration between KazRosGas LLP, a joint venture of the company, (further KRG) and Karachaganak Petroleum Operating B.V. (further KPO)

On August 23, 2022, the Notice of Initiation of Arbitration Proceedings of KPO was submitted to the KRG by the Secretariat of the International Chamber of Commerce in Paris. KPO intends to increase the gas sale price under the existing Karachaganak Gas Purchase and Sale Agreement. If the gas price is agreed later than October 1, 2022, KRG and KPO shall recalculate the gas price for the period from October 1, 2022 to the date of the price agreement. In October 2022, a working group was established to develop a negotiating position of the Kazakh side on the peaceful settlement of the dispute over the arbitration process between the KRG and KPO, chaired by the First Vice Minister of Energy of RK. The working group also includes representatives of the Ministry of Energy of RK, JSC "NC "QazaqGaz", KMG and KRG. In order to ensure a stable supply of gas to the domestic market of the RK, KRG and the Ministry of Energy of RK sent letters to KPO contractors with a proposal to suspend arbitration proceedings until 2024–2025. In December 2022, the KPO informed about the readiness to hold further discussions to achieve a potential settlement of the price revision process. In January 2023, the KRG sent to the KPO a proposal to conclude an agreement on the suspension of arbitration proceedings for a period of 3 months, during which the parties will appoint a "negotiation period" of 2 months to resolve the dispute. As of December 31, 2022 and on the date of issue of the financial statements the parties are negotiating to resolve the dispute on mutually beneficial terms. The Group believes that the risk of loss is not probable as of December 31, 2022.

The case of an administrative offense of the Pavlodar Refinery initiated by the Department of Agency for protection and development of competition of RK (hereafter – Antimonopoly agency) of the Pavlodar region

During February-July 2022 the Prosecutor's Office of the Pavlodar region together with the Antimonopoly agency conducted an inspection of the Pavlodar Refinery operations for compliance with the legislation of the RK in the field of oil and petroleum products turnover, labor, tax and antimonopoly legislation for 2020–2021. On March 16, 2022 Antimonopoly agency issued the Conclusion which stated that Pavlodar Refinery set monopolistically high tariff for oil refining services. On July 25, 2022, Antimonopoly agency of the Pavlodar region initiated an administrative offence and issued a Protocol to the Specialized Court for Administrative Offenses of Pavlodar city for setting by the Pavlodar Refinery monopolistically high tariff for oil refining services in 2021 and to confiscate revenue for 2021 of 21,961 million tenge and impose fine of 6,226 million tenge. During August-September 2022, Pavlodar Refinery appealed several times to terminate Protocol and Conclusion. However, all appeals of Pavlodar Refinery were rejected. Pavlodar Refinery is planning to further follow the appealing process in higher judiciaries. In September 2022, after rejection of initial appeals the Group recognized a provision in the amount of KZT 28,187 million tenge (Note 29).

Inspection of the Prosecutor's Office of the Atyrau region with the involvement of Antimonopoly agency of the Atyrau Refinery

During February-September 2022 the Prosecutor's Office of the Atyrau region with the involvement of the Antimonopoly agency conducted an inspection of the Atyrau Refinery operations. On September 22, 2022 the Prosecutor's Office of the Atyrau region provided a conclusion of setting monopolistically high tariff for oil refining services in 2020–2021. The Atyrau Refinery has sent an official letter with justifying the approved tariff for oil refining services in 2020–2021. The Group believes that the risk of revenue confiscation and fine imposing are not probable, as such, the Group did not recognize any provisions as of December 31, 2022.

Cost recovery audits

Under the base principles of the production sharing agreements, the Government transferred to contractors the exclusive rights to conduct activities in the subsurface use area, but did not transfer rights to this subsurface use area either to ownership or lease. Thus, all extracted and processed oil (i.e. the hydrocarbons produced) are the property of the Government. Works are carried out on the basis of compensation and the Government pays to the contractors not in cash but in the form of the portion of oil production, thereby allowing the contractors to recover their costs and earn profit.

In accordance with the production sharing agreements, not all costs incurred by the contractors could be reimbursed. Certain expenditures need to be approved by the authorized bodies. The authorized bodies conduct the cost recovery audits. In accordance with the cost recovery audits completed prior to December 31, 2022, certain amounts of the costs incurred by contractors were assessed as non-recoverable. The parties to the production sharing agreements are in negotiations with respect to the recoverability of those costs.

As of December 31, 2022, the Group's share in the total disputed amounts of costs is 2,595 million US dollars (equivalent to 1,200,386 million tenge) (2021: 2,269 million US dollars, equivalent to 979,556 million tenge). The Group and its partners under the production sharing agreements are in negotiation with the Government with respect to the recoverability of these costs.

Kazakhstan local market obligation

The Government requires oil companies in the RK to supply a portion of the products to meet the Kazakhstan domestic energy requirement on an annual basis, mainly to maintain oil products supply balance on the local market and to support agricultural producers during the spring and autumn sowing and harvest campaigns.

Kazakhstan local market oil prices are significantly lower than export prices and even lower than the normal domestic market prices determined in an arm-length transaction. If the Government does require additional crude oil to be delivered over and above the quantities currently supplied by the Group, such supplies will take precedence over market sales and will generate substantially less revenue than crude oil sold on the export market, which may materially and adversely affect the Group's business, prospects, consolidated financial position and performance.

In 2022, in accordance with its obligations, the Group delivered 7,951 thousand tons of crude oil (2021: 7,114 thousand tons), including its share in the joint ventures and associates, to the Kazakhstan market.

Commitments under subsoil use contracts

As at December 31, 2022, the Group had the following commitment (net of VAT) related to minimal working program in accordance with terms of licenses, production sharing agreements and subsoil use contracts, signed with the Government, including its share in joint ventures and associate:

In millions of tenge	Capital expenditures	Operational expenditures
Year		
2023	314,158	80,598
2024	223,085	14,328
2025	306,900	14,803
2026	339,652	14,927
2027–2049	230,333	31,573
Total	**1,414,128**	**156,229**

As at December 31, 2021 commitments (net of VAT) under subsoil use contracts included:

In millions of tenge	Capital expenditures	Operational expenditures
Year		
2022	284,247	57,135
2023	122,340	4,373
2024	119,282	4,383
2025	180,402	4,314
2026–2048	146,972	21,372
Total	**853,243**	**91,577**

Oil supply commitments

As of December 31, 2022, Kashagan had commitments under the oil supply agreements in the total amount of 6.6 million tons (approximates 262,325 million tenge) (December 31, 2021: 8.6 million tons (approximates 281,550 million tenge).

Other contractual commitments

As at December 31, 2022, the Group, including its share in joint ventures commitments, had other capital commitments of approximately 240,794 million tenge (net of VAT) (as at December 31, 2021: 149,833 million tenge (net of VAT)), related to acquisition and construction of long-lived assets.

As at December 31, 2022, the Group had commitments in the total amount of 152,824 million tenge (as at December 31, 2021: 184,455 million tenge) under the investment programs approved by the joint order of Ministry of Energy of RK and Committee on Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of RK to facilitate production units.

Non-financial guarantees

As of December 31, 2022 and 2021, the Group has outstanding performance guarantees issued in favour of third parties whereas it provides guarantee should its joint venture or associate fail to perform their obligations under the natural gas purchase-sale, transportation and other agreements.

As of December 31, 2022 and 2021, the management of the Group believes that there were no expected cases of non-performance from the guaranteed parties and, accordingly, no obligations related to the above stated non-financial contingencies were recognized.

36. Segment reporting

The Group's operating segments have their own structure and management according to the type of the produced goods and services provided. Moreover, all segments are strategic directions of the business which offer different types of the goods and services in different markets. The functions have been defined as the operating segments of the Group because they are segments a) that engages in business activities from which revenues are generated and expenses incurred; b) whose operating results are regularly reviewed by the Group's chief operating decision makers to make decisions.

The Group's activity consists of three main operating segments: exploration and production of oil and gas, oil transportation, and refining and trading of crude oil and refined products. The Group presents the Company's activities separately in Corporate segment, since the Company performs not only the functions of the parent company, but also carries out operational activities. The remaining operating segments have been aggregated and presented as other operating segment due to their insignificance.

Disaggregation of revenue by types of goods and services is presented in Note 8 to the consolidated financial statements.

As at December 31, 2022 and 2021 disaggregated revenue mainly represents sales and services made to the external parties by the following operating segments:

						December 31, 2022
In millions of tenge	**Exploration and production of oil and gas**	**Oil transportation**	**Refining and trading of crude oil and refined products**	**Corporate**	**Other**	**Total**
Sales of crude oil and gas	668,270	–	3,925,701	–	–	4,593,971
Sales of refined products	4,334	–	2,577,156	775,804	12,566	3,369,860
Refining of oil and oil products	–	–	204,390	–	–	204,390
Oil transportation services	–	184,042	1,493	1,810	188	187,533
Other revenue	25,318	46,324	115,787	1,451	141,750	330,630
Total	**697,922**	**230,366**	**6,824,527**	**779,065**	**154,504**	**8,686,384**

						December 31, 2021
In millions of tenge	**Exploration and production of oil and gas**	**Oil transportation**	**Refining and trading of crude oil and refined products**	**Corporate**	**Other**	**Total**
Sales of crude oil and gas	611,876	–	3,099,664	–	–	3,711,540
Sales of refined products	(3,184)	–	1,527,802	559,515	11,704	2,095,837
Refining of oil and oil products	–	–	203,425	–	–	203,425
Oil transportation services	(630)	169,095	2,035	13	221	170,734
Other revenue	20,622	34,293	111,400	1,367	110,117	277,799
Total	**628,684**	**203,388**	**4,944,326**	**560,895**	**122,042**	**6,459,335**

Segment performance is evaluated based on revenues, net profit and adjusted EBITDA, which are measure on the same basis as in the consolidated financial statements.

EBITDA is a supplemental non-IFRS financial measure used by management to evaluate segments performance, and is defined as earnings before depreciation, depletion and amortization, impairment of property, plant and equipment, exploration and evaluation assets, intangible assets and assets classified as held for sale, exploration expenses, impairments of joint ventures and associates, finance income and expense, income tax expenses.

EBITDA, % is calculated as EBITDA of each reporting segment divided by the total EBITDA.

Eliminations and adjustments represent the exclusion of intra-group turnovers. Inter-segment transactions were made on terms agreed to between the segments that may not necessarily comply with market rates, except for certain regulated services, which are provided based on the tariffs available to related and third parties.

Geographic information

The Group's property, plant and equipment (Note 17) are located in the following countries:

In millions of tenge	2022	2021 (restated)
Kazakhstan	6,316,404	6,102,411
Other countries	673,433	623,499
	6,989,837	**6,725,910**

The following represents information about profit and loss for 2022 and assets and liabilities as at December 31, 2022 of operating segments of the Group:

In millions of tenge	Exploration and production of oil and gas	Oil transportation	Refining and trading of crude oil and refined products	Corporate	Other	Eliminations and adjustments	Total
Revenues from sales to external customers	697,922	230,366	6,824,527	779,065	154,504	–	8,686,384
Revenues from sales to other segments	1,569,854	151,266	154,147	82,486	125,585	(2,083,338)	–
Total revenue	**2,267,776**	**381,632**	**6,978,674**	**861,551**	**280,089**	**(2,083,338)**	**8,686,384**
Cost of purchased oil, gas, petroleum products and other materials	(39,249)	(18,645)	(6,001,281)	(471,008)	(38,972)	1,614,771	(4,954,384)
Production expenses	(470,203)	(211,538)	(431,781)	(189,323)	(218,212)	378,669	(1,142,388)
Taxes other than income tax	(534,565)	(17,376)	(15,242)	(100,782)	(9,840)	–	(677,805)
Transportation and selling expenses	(166,841)	(15,212)	(78,543)	(9,415)	–	64,671	(205,340)
General and administrative expenses	(32,854)	(17,123)	(51,220)	(30,453)	(30,682)	2,164	(160,168)
Share in profit of joint ventures and associates, net	819,011	136,499	57,587	–	(21,787)	–	991,310
EBITDA	**1,843,075**	**238,237**	**458,194**	**60,570**	**(39,404)**	**(23,063)**	**2,537,609**
EBITDA, %	**73%**	**9%**	**18%**	**3%**	**(2%)**	**(1%)**	
Depreciation, depletion and amortization	(308,695)	(44,760)	(141,047)	(2,820)	(9,263)	–	(506,585)
Finance income	556,187	4,212	19,731	137,177	16,776	(613,496)	120,587
Finance costs	(28,673)	(6,908)	(126,660)	(717,341)	(5,972)	578,708	(306,846)
Impairment of property, plant and equipment, intangible assets and assets classified as held for sale	460	472	(2,586)	–	946	–	(708)
Exploration expenses	(12,113)	–	–	–	–	–	(12,113)
Income tax expenses	(307,826)	(53,133)	(81,562)	(49,215)	(1,511)	–	(493,247)
Profit/(loss) for the year from continuing operations	**1,474,001**	**42,027**	**41,236**	**(168,543)**	**(39,315)**	**(32,087)**	**1,317,319**
Other segment information							
Investments in joint ventures and associates	4,179,880	582,862	102,569	–	82,092	–	4,947,403
Capital expenditures	321,014	68,276	111,664	17,678	16,283	–	534,915
Allowances for obsolete inventories, expected credit losses on trade receivables, loans and receivables from related parties, other current financial assets and impairment of other current non-financial assets	(6,197)	(10,966)	(47,786)	(28,912)	(9,066)	–	(102,927)
Assets of the segment	**11,637,703**	**1,373,621**	**2,998,805**	**1,445,989**	**386,151**	**(1,191,506)**	**16,650,763**
Liabilities of the segment	**1,427,150**	**311,632**	**1,976,159**	**4,584,712**	**120,799**	**(1,643,139)**	**6,777,313**

The following represents information about profit and loss for 2021 and assets and liabilities as at December 31, 2021 of operating segments of the Group:

In millions of tenge	Exploration and production of oil and gas	Oil transportation	Refining and trading of crude oil and refined products	Corporate	Other	Eliminations and adjustments	Total
Revenues from sales to external customers[1]	628,684	203,388	4,944,326	560,895	122,042	–	6,459,335
Revenues from sales to other segments[1]	1,223,371	78,579	157,380	46,222	86,598	(1,592,150)	–
Total revenue[1]	**1,852,055**	**281,967**	**5,101,706**	**607,117**	**208,640**	**(1,592,150)**	**6,459,335**
Cost of purchased oil, gas, petroleum products and other materials[1]	(40,862)	(14,477)	(4,508,909)	(265,594)	(33,494)	1,256,134	(3,607,202)
Production expenses[1]	(337,184)	(124,163)	(203,059)	(167,570)	(149,841)	260,760	(721,057)
Taxes other than income tax[1]	(378,861)	(14,105)	(14,998)	(45,855)	(7,425)	–	(461,244)
Transportation and selling expenses[1]	(154,960)	(5,444)	(66,646)	(10,353)	–	53,964	(183,439)
General and administrative expenses[1]	(28,244)	(18,312)	(36,366)	(46,296)	(25,044)	2,870	(151,392)
Share in profit of joint ventures and associates, net[1]	537,144	105,890	17,694	–	19,564	–	680,292
EBITDA[1]	**1,449,088**	**211,356**	**289,422**	**71,449**	**12,400**	**(18,422)**	**2,015,293**
EBITDA, %[1]	**73%**	**10%**	**14%**	**3%**	**1%**	**(1%)**	
Depreciation, depletion and amortization[1]	(327,355)	(41,694)	(140,870)	(3,034)	(10,091)	–	(523,044)
Finance income[1]	72,269	3,980	2,563	161,385	20,938	(175,909)	85,226
Finance costs[1]	(33,124)	(6,426)	(93,290)	(212,693)	(4,919)	87,629	(262,823)
Impairment of property, plant and equipment, intangible assets and assets classified as held for sale[1]	(3,987)	(4,796)	(8,217)	(324)	(3,400)	–	(20,724)
Exploration expenses	(79,083)	–	–	–	–	–	(79,083)
Income tax expenses[1]	(236,639)	(14,441)	(38,159)	(30,899)	(1,110)	–	(321,248)
Profit/(loss) for the year from continuing operations[1]	**683,666**	**48,688**	**36,922**	**300,334**	**(33,986)**	**(101,562)**	**934,062**
Other segment information							
Investments in joint ventures and associates	3,499,747	523,747	47,395	–	74,757	–	4,145,646
Capital expenditures	212,037	92,061	83,020	6,013	26,290	52,398	471,819
Allowances for obsolete inventories, expected credit losses on trade receivables, loans and receivables from related parties, other current financial assets and impairment of other current non-financial assets	(4,854)	(9,686)	(40,898)	(28,518)	(9,023)	–	(92,979)
Assets of the segment	**10,811,248**	**1,213,613**	**3,000,106**	**1,580,623**	**322,008**	**(1,070,146)**	**15,857,452**
Liabilities of the segment	**1,219,175**	**216,809**	**1,994,289**	**3,378,313**	**100,458**	**(1,068,498)**	**5,840,546**

1 — Certain numbers shown here do not correspond to the consolidated financial statements for the year ended December 31, 2021 and reflect adjustments made, refer to Note 6.

37. Impacts of the war in Ukraine

Since February 2022, due to the conflict between the Russian Federation and Ukraine, numerous sanctions have been announced by a majority of western countries against the Russian Federation. These sanctions are targeted to have a negative economic impact on the Russian Federation.

Due to the growing geopolitical tensions, since February 2022, there has been a significant increase in volatility in the securities and currency markets, as well as a significant depreciation of the tenge against the US dollar and the euro. There has also been a significant increase in the key rate of the NB RK from 9.75% to 16.75% during the year.

The Group has assessed the consequences of the sanctions and interest rate rises on the consolidated financial statements of the Group and continues to monitor these areas of increased risk for material changes.

Borrowing

The Group has a borrowing from VTB Bank PJSC (a Russian bank) of 37.5 billion ruble (equivalent to 225 billion tenge) with maturity in 2027 and interest rate of 'Key Rate of Central Bank of Russian Federation (key rate) + 2.25%' per annum as at December 31, 2022. There were significant fluctuations in key rate from 8.00% to 20.00% and then to 7.50% during the year. Scheduled quarterly payments of this loan's interest and principle amount were made in Russian rubles without any issue in 2022.

Assessment of significant influence

In accordance with IAS 28 Investments in associates and joint ventures, the Group has assessed and confirmed that the changes in the legal and operating environment of Russia and Ukraine have not impacted the ability to exercise significant influence over the CPC, KMG's associate, in Russia.

Operating environment of CPC, KMG's associate

On March 23, 2022, CPC, stopped loading oil at the Black Sea terminal due to damage of two out of three single-point moorings (SPM) caused by a storm. On April 24, 2022, oil loading at the second of three SPM systems on the CPC network at Novorossiysk was resumed.

On April 27, 2022, a Russian Court (the Arbitration Court of the Krasnodar Territory) fully satisfied the claim of Rosprirodnadzor (a Russian regulator) to recover from the CPC damage from an oil spill at the CPC Marine Terminal (occurred in August 2021), of 5.2 billion Russian ruble (equivalent to 30 billion tenge). The CPC recognized a provision for the full amount. In the consolidated financial statements of the Group, the provision was reflected in share in profit of associate for the 2022.

On July 6, 2022, a Russian Court (Primorsky District Court) ordered CPC to suspend operations for 30 days. Later the month-long suspension was replaced by a 200,000 Russian rubles fine (equivalent to 3,300 US dollars). CPC reflected this fine in its accounting books in July 2022. The operations of CPC were not stopped during the above period.

On August 22, 2022 while performing scheduled maintenance on SPM-1 and SPM-2, divers discovered cracks in subsea hose attachments to buoyancy tanks. On November 12 and 29, 2022, both SPM-1 and SPM-2 on the CPC network at Novorossiysk have resumed their operations.

All matters occurred during 2022 are resolved during the year, no further developments.

Impact of sanctions

On March 4, 2022, the European Union disconnected 7 Russian banks from SWIFT. The Group have oil transportation contracts with Russian entities. To avoid risks on settlements the Group changed the bank counterparties to the banks which are not under sanctions. Additionally, the currency of certain contracts has been changed from US Dollars to Russian rubles. Currency settlements were made without any issue during 2022.

Starting February 5, 2023, the European Union imposed a ban on imports of Russian diesel, jet fuel and other oil products transported via sea. This measure is not applicable to Group's operations in Kazakhstan or internationally.

38. Subsequent events

Purchasing of short-term notes

In January 2023, the Company purchased short-term notes of the NB RK in the total amount of 38,019 million tenge, and previously purchased by the Company in 2022 short-term notes of the NB RK in the amount of 70,000 million tenge were redeemed by the issuer.

Hydrocarbon production contract

On February 27, 2023, the Company entered into a contract with the Ministry of Energy of RK for the production of hydrocarbons at the Kalamkas-Sea, Khazar and Auezov subsoil blocks located in the Kazakhstani sector of the Caspian Sea.

Changes in legislation

In 2023, amendments to the Law of the Republic of Kazakhstan dated July 20, 2011 No. 463-IV "On state regulation of the production and circulation of certain types of petroleum products" came into force. According to these amendments, refineries have the right to sell petroleum products. The sale of oil products by the oil refineries will be carried out independently after a full or partial transition to a marketing scheme of work, which implies an independent purchase of oil and the sale of oil products produced from this oil. The Group does not expect significant impact of changes in legislation on its operations.

APPENDICES

REPORT ON COMPLIANCE / NON-COMPLIANCE WITH THE PRINCIPLES AND PROVISIONS OF THE CORPORATE GOVERNANCE CODE OF JSC SAMRUK-KAZYNA[1]

This report is developed in furtherance of item 6 of the Code, and covers information on KMG's compliance / non-compliance with the principles and provisions of the Code.

In general, at year-end 2022, KMG was in compliance with the provisions and principles of the Code, taking into account the following aspects:

1. **In line with item 2 of Chapter 1 of Section 2 of the Code** "It is recommended to provide the optimal asset structure for the Fund's Organisations. The parent company can be established in the form of a joint stock company in the Holding company. Other organisations are recommended to be established in the form of limited liability partnerships. In the Organisations that have been already established in the form of a joint stock company, it is recommended to consider the possibility of reorganisation in the form of a limited liability company with account of economic, legal and other aspects and interests of the Fund Group. When creating new Organisations, the preferred legal form is a limited liability partnership. Creation of new Organisations in the form of a joint stock company is allowed in exceptional cases, such as planned in the future transfer of the Organisation's shares to the Stock Exchange Market."

These requirements of the Code were generally complied with in KMG during the reporting period. KMG takes a consistent effort to optimise its asset structure. KMG's preferred form for new legal entities is a limited liability partnership as recommended by the Code. In 2022, the Company did not create joint stock companies or reorganise existing joint stock companies into limited liability partnerships. At the same time, the work on optimisation of the structure of KMG group assets will continue in accordance with the approved plans/programmes.

Under the privatisation and divestment programmes, KMG Group is reducing the number of its legal entities. On 29 December 2020, the Government of the Republic of Kazakhstan approved a Comprehensive Privatisation Plan for 2021–2025 covering 51 KMG Group companies, including 22 within the IPO perimeter (Resolution No. 908).

On 11 November 2022, the Board of Directors' resolution approved KMG's list of non-strategic assets (the "Non-Strategic Asset List"). This resolution also cancelled the Non-Strategic Asset List approved by the Board of Directors on 4 November 2021 and amended on 9 December 2021.

The Government of the Republic of Kazakhstan, by its Resolution No. 44 dated 2 February 2022 «On amending Resolution No. 908 of the Government of the Republic of Kazakhstan On Certain 2021–2025 Privatisation Matters dated 29 December 2020" (the "Government Resolution"), amended the Comprehensive Privatisation Plan for 2021–2025 (Resolution No. 523 dated 2 August 2022) approved by Government Resolution No. 908 dated 29 December 2020 with due consideration of the Key Criteria (Principles) approved by Government Resolution No. 44.

As a result, some of KMG Group's assets were included in Government Resolution No. 908.

2. **In line with item 14 of Chapter 1 of Section 2 of the Code** "Boards of Directors of the Fund and Organisations ensure the implementation of these standards and their observation. All officials and employees of the Fund and the Organisations must sign a statement confirming their familiarisation with the Code of Business Ethics and regularly reaffirm their knowledge of the Code."

These requirements of the Code were generally complied with at KMG as of 31 December 2022. KMG conducts its business in a fair, honest and transparent manner while also paying special attention to the observance of these principles by our colleagues and partners. To this effect, KMG approved the Code of Business Ethics, Anti-Corruption Policy, Conflict of Interest Policy for Employees and Officials, and the Counterparty Due Diligence Policy.

Every year, the Company conducts training for new hires and existing employees as regards compliance with ethical standards, commitments and conduct of employees. On top of that, employees provide a written statement of their commitment to observe the Code of Business Ethics and the Anti-Corruption Policy. At the same time, the Company takes a consistent effort to collect written acknowledgements from all its employees that they have read and understood the Code of Business Ethics.

3. **In line with item 5 of Chapter 3 of Section 2 of the Code** "Sustainable development should be integrated in:
   - management system;
   - development strategy;
   - key processes, including risk management, planning (long-term (strategy), medium-term (5-year development plan) and short-term (annual budget) periods), accountability, risk management, HR management, investments, operational activities and other as well as in the decision-making process at all levels – from bodies (General Meeting of Shareholders (the Sole Shareholder), Board of Directors, Executive Body), to ordinary employees."

This requirement of the Code was generally complied with in KMG during the reporting period. In 2020, KMG's Board of Directors adopted a resolution to approve the Sustainability Management System Guidelines, which include a description of the stakeholder engagement process, integration of sustainability principles into key processes and monitoring, annual reporting on sustainable development, implementation of priority areas (initiatives) in the field of sustainable development, enhancement and maintenance of a sustainability culture, risk identification and assessment, documentation management, and measurements of performance in the area of sustainable development. At the same time, the work continues to integrate sustainable development into key processes.

4. **In line with item 6 of Chapter 5 of Section 2 of the Code** "In companies in which 100% of shares are owned by the Fund, the following search and election process of a member of the Board of Directors exists:
   - the Fund, together with the Chairman of the Board of Directors, the Chairman of the Nomination and Remuneration Committee performs preparation and planning: analysis and definition of a set of the required competencies and skills in the Board of Directors, taking into account the tasks of the Organisation;
   - specifies the search channel of the candidates on their own or with the assistance of the recruiting organisation;
   - searches for candidates;
   - selects the candidate: assessment, interview and preparing the proposals for candidates (candidates for the Board of Directors of the Company are discussed with at least one member of the Nomination and Remuneration Committee of the Board of Directors of the Fund;
   - the decision of the Sole Shareholder;
   - publishing information on the Internet resource of the Organisation press release.

Holding companies can use this process in the Group."

This requirement of the Code was generally complied with in KMG during the reporting period. KMG Group companies have put in place a similar document regulating the search and selection of candidates for the Board of Directors at KMG's subsidiaries and associates, with no involvement of the Nomination and Remuneration Committee of KMG's Board of Directors required. This is due to KMG's adoption of a new 2022–2031 Development Strategy, which provides for managing the assets by means of a less centralised model.

1 — The Corporate Governance Code (the "Code") of JSC NC KazMunayGas ("KMG") is identical to that of JSC Samruk-Kazyna (the "Fund") and approved by the Fund's resolution dated 27 May 2015 (Minutes No. 22/15).

2 — Under the privatisation and divestment programmes, KMG Group is reducing the number of its legal entities. On 29 December 2020, the Government of the Republic of Kazakhstan approved a Comprehensive Privatisation Plan for 2021–2025 covering 51 KMG Group companies, including 22 within the IPO perimeter (Decree No. 908).

5. **In line with item 7 of Chapter 5 of Section 2 of the Code** "The Board of Directors approves the induction programme for newly elected members of the Board of Directors and a professional development programme for each member of the Board of Directors."

This requirement of the Code was generally complied with in KMG during the reporting period. An induction programme is in place for the newly elected members of the Board of Directors. Professional development programmes for the Board of Directors will be approved as necessary.

6. **In line with item 10 of Chapter 5 of Section 2 of the Code** "The establishment of the remuneration for a member of the Board of Directors should be made in accordance with the methodology developed by the Fund. Additionally, the expected positive effect to the Organisation of participation in the Board of Directors of particular member should be taken into account."

This requirement of the Code was generally complied with in KMG during the reporting period, as the Fund established remuneration for members of the Board of Directors in accordance with its approved methodology.

7. **7. In line with item 12 of Chapter 5 of Section 2 of the Code** "The recommended frequency of meetings of the Board of Directors is 8–12 meetings per year."

This requirement of the Code was generally complied with in KMG during the reporting period, with 12 meetings scheduled and held in 2022. The Board of Directors also held 9 extraordinary meetings.

8. **In line with item 15 of Chapter 5 of Section 2 of the Code** "With respect to the Corporate Secretary, the Organisation develops a programme of induction and succession planning."

This requirement of the Code was generally complied with in KMG during the reporting period. The Corporate Secretary and the Chairman of the Board of Directors regularly discuss relevant succession planning matters. Induction and succession planning programmes in relation to the Corporate Secretary will be approved in the first half of 2023.

9. **In line with item 3 of Chapter 6 of Section 2 of the Code** "The chief supervising the function of risk management and internal control is recommended not to be a risk owner, which provides for his independence and objectiveness. Combination of the functions on risk management and internal control with the functions associated with economic planning, corporate finance, treasury, taking investment decisions is prohibited. Combination with other functions is permissible, if there is no material conflict of interest."

This requirement of the Code was generally complied with in KMG during the reporting period. In line with KMG's current organisational structure, the Risk Management and Internal Control Service (the "RMICS") reports directly to the Deputy Chairman of the Management Board for Strategy, Investment and Business Development (position title as of 31 December 2022). The RMICS Head does not own any risk, which means there is no conflict of interest. Moreover, the RMICS Head is an independent participant of the Executive Body's Committees and has full voting right as a representative of the risk management unit.

MAJOR AND INTERESTED-PARTY TRANSACTIONS

Major transactions

In the reporting period, no transactions recognised as major transactions under the Law of the Republic of Kazakhstan On Joint Stock Companies and KMG's internal documents were made by the Board of Directors or the General Shareholders' Meeting[1].

Interested-party transactions

On 15 September 2022, the Company repurchased 50% of shares in KMG Kashagan B.V. from Samruk-Kazyna for USD 3.8 bln. The buyback is disclosed as an interested-party transaction and also as a transaction involving the acquisition or disposal of property, the value of which is 10% or more of the total book value of KMG's assets. KMG exercised its call option as part of the 2015 share option agreement to buy back 50% of KMG Kashagan B.V. from Samruk-Kazyna. KMG Kashagan B.V. owns 16.88% of the North Caspian Production Sharing Agreement (Kashagan project).

1 — In accordance with the Law On Joint-Stock Companies of the Republic of Kazakhstan, a major transaction is a transaction or a series of interrelated transactions resulting in the (potential) acquisition or disposal of property by a company, the value of which amounts to 25% or more of the total book value of such company's assets

5. **In line with item 7 of Chapter 5 of Section 2 of the Code**
   "The Board of Directors approves the induction programme for newly elected members of the Board of Directors and a professional development programme for each member of the Board of Directors."

This requirement of the Code was generally complied with in KMG during the reporting period. An induction programme is in place for the newly elected members of the Board of Directors. Professional development programmes for the Board of Directors will be approved as necessary.

6. **In line with item 10 of Chapter 5 of Section 2 of the Code** "The establishment of the remuneration for a member of the Board of Directors should be made in accordance with the methodology developed by the Fund. Additionally, the expected positive effect to the Organisation of participation in the Board of Directors of particular member should be taken into account."

This requirement of the Code was generally complied with in KMG during the reporting period, as the Fund established remuneration for members of the Board of Directors in accordance with its approved methodology.

7. **7. In line with item 12 of Chapter 5 of Section 2 of the Code**
   "The recommended frequency of meetings of the Board of Directors is 8–12 meetings per year."

This requirement of the Code was generally complied with in KMG during the reporting period, with 12 meetings scheduled and held in 2022. The Board of Directors also held 9 extraordinary meetings.

8. **In line with item 15 of Chapter 5 of Section 2 of the Code**
   "With respect to the Corporate Secretary, the Organisation develops a programme of induction and succession planning."

This requirement of the Code was generally complied with in KMG during the reporting period. The Corporate Secretary and the Chairman of the Board of Directors regularly discuss relevant succession planning matters. Induction and succession planning programmes in relation to the Corporate Secretary will be approved in the first half of 2023.

9. **In line with item 3 of Chapter 6 of Section 2 of the Code**
   "The chief supervising the function of risk management and internal control is recommended not to be a risk owner, which provides for his independence and objectiveness. Combination of the functions on risk management and internal control with the functions associated with economic planning, corporate finance, treasury, taking investment decisions is prohibited. Combination with other functions is permissible, if there is no material conflict of interest."

This requirement of the Code was generally complied with in KMG during the reporting period. In line with KMG's current organisational structure, the Risk Management and Internal Control Service (the "RMICS") reports directly to the Deputy Chairman of the Management Board for Strategy, Investment and Business Development (position title as of 31 December 2022). The RMICS Head does not own any risk, which means there is no conflict of interest. Moreover, the RMICS Head is an independent participant of the Executive Body's Committees and has full voting right as a representative of the risk management unit.

MAJOR AND INTERESTED-PARTY TRANSACTIONS

Major transactions

In the reporting period, no transactions recognised as major transactions under the Law of the Republic of Kazakhstan On Joint Stock Companies and KMG's internal documents were made by the Board of Directors or the General Shareholders' Meeting[1].

Interested-party transactions

On 15 September 2022, the Company repurchased 50% of shares in KMG Kashagan B.V. from Samruk-Kazyna for USD 3.8 bln. The buyback is disclosed as an interested-party transaction and also as a transaction involving the acquisition or disposal of property, the value of which is 10% or more of the total book value of KMG's assets. KMG exercised its call option as part of the 2015 share option agreement to buy back 50% of KMG Kashagan B.V. from Samruk-Kazyna. KMG Kashagan B.V. owns 16.88% of the North Caspian Production Sharing Agreement (Kashagan project).

1 — In accordance with the Law On Joint-Stock Companies of the Republic of Kazakhstan, a major transaction is a transaction or a series of interrelated transactions resulting in the (potential) acquisition or disposal of property by a company, the value of which amounts to 25% or more of the total book value of such company's assets

GLOSSARY

1P reserves – Proved reserves

2P reserves – Proved plus Probable reserves

3P reserves – Proved plus Probable plus Possible reserves

4ICP – Fourth Injection Compressor Project

5TL – 5th Trunkline

A&M – Agriculture & Mechanical

AC- Audit Committee

AG – Amangeldy Gas LLP

AGP – Asia Gas Pipeline

AIFC – Astana International Financial Centre

APG – Associated petroleum gas

APC – The Automated Process Control

BSc – Bachelor of Science

BCMS – business continuity management system

BATNEEC – Best Available Techniques not

Entailing Excessive Costs

BTUs – quadrillion

BP – British Petroleum

bln – billion

bcf – billion cubic feet

bln m³ – billion cubic meters

BGR-TBA – Bukhara gas-bearing region – Tashkent-BishkekAlmaty

BSGP – Beineu-Shymkent Gas Pipeline

BTUs – quadrillion

Code – KMG Corporate Governance Code

CFO – Chief Financial Officer

CDP – Carbon Disclosure Project

CPC – Caspian Pipeline Consortium

CFO – Cash flow from operating activities

CJSC – Closed joint-stock company

CNODC – China National Oil and Gas Exploration and Development Company

CFO – Chief Financial Officer

CNG – compressed natural gas

CNPC – China National Petroleum Corporation

CRMS – the corporate risk management system

CFA – Chartered Financial Analyst

Code – KMG Corporate Governance Code

COVINA – Companhia Vidreira Nacional

CDP – Carbon Disclosure Project

CNG – Compressed natural gas

Capex – Capital expenditures

CITIC – China International Trust and Investment Corporation

DBK – Development Bank of Kazakhstan

DTP – Digital Transformation Program

D&O – Directors and Officers

EP – Exploration & Production

ENPF – JSC Unified Accumulative Pension Fund

ESG – Environmental, social and corporate governance

ECB – European Central Bank

EIA – Environmental Impact Assessment Exporting Countries

EBITDA – Earnings before interest, taxes, depreciation and amortization

EIA – Electronic Industries Alliance

ESG – Environmental Social Governance

EDP – Electricidade de Portugal

E&E – exloration and evaluation

EY – Ernst & Young

FCF – Free cash flow

FDI – Foreign direct investment

FAR – Fatality Accident Rate

FGP – the Future Growth Project

FPSA – the Final Production Sharing Agreement

FC – Finance Committee

GJ – gigajoule

Gcal – gigacalorie

GHG – Greenhouse gas

GPS – Global Positioning System

GGFR – Global Gas Flaring Reduction Partnership

GRI – Global Reporting Initiative

GDP – Gross Domestic Product

GRI – Global Reporting Initiative's

G&A – General and administrative

GTU – Gas Treatment Unit

GHG – Greenhouse Gas

HDPE – high-density polyethylene

HSE – Health, safety and environment

HSE & SD Com – Health, Safety, Environment and Sustainable

Development Committee

ICA – Intergas Central Asia

IPO – Initial public offering

IMF – International Monetary Fund

IT – Information Technology

IOGP – International Association of Oil & Gas Producers

ISO – International Organization for Standardization

IPIECA – International Petroleum Industry Environmental Conservation Association

IFRS – International Financial Reporting Standards

ICS – internal control system

IAS – Internal Audit Service

INED – Independent Non-Executive Director

JSC – Joint stock company

JV – Joint venture

JM – Jerónimo Martins

KMG – Joint stock company National company KazMunaiGas

KTO – KazTransOil

KCP – Kazakhstan-China Pipeline

KMG EP – KazMunaiGas Exploration Production

KMGI – Kazmunaigas International

KPI – Key performance indicator

KMTF – Kazmortransflot

KZT – Kazakhstan tenge

KTG – KazTransGas

KTGA – KazTransGas Aimak

kWh – Kilowatt-hour

KPI – Key Performance Indicators

KTL – Complex Technology Lines

KRI – key risk indicator

KASE- Kazakhstan Stock Exchange JSC

KGDBN – KPC Gas Debottlenecking Project

LNG – liquefied natural gas

LDPE – low-density polyethylene

LPG – Liquefied petroleum gas

LLP – limited liability Partnership

LTIR – Lost Time Incident Rate

LLB – Bachelor of laws

MMboe – million barrels of oil equivalent

mln – million

MBA – Master in Business Administration MMtoe= million tonnes of oil equivalent

MIT – Massachusetts Institute of Technology

thous. – thousand

MS – Management system

MRM – Maintenance and repair management

MVP – The Minimum Viable Product

MT – MunaiTas

MNC – Offshore Oil Company

M&A – Mergers and Acquisitions

mln tonnes – million tonnes

NBK – the National Bank of Kazakhstan

NC – National company

NCOT – National oil transportation company

NED – Non-Executive Director

NCS PSA – The North Caspian Sea Production Sharing Agreement

NMC – National Mining Company

NOGC – National Oil and Gas Company

NMSC – National Maritime Shipping Company

NYSE – New York Stock Exchange

NRC – Nomination and Remuneration Committee

NCOC – North Caspian Operating Company

OHSAS – Occupational Health and Safety Assessment Series

OECD – Organisation for Economic Co-operation and Development

OPEC – The Organization of the Petroleum

OGPP – Orenburg Gas Processing Plant

OJSC – Open joint stock company

plc- Public limited company

PRMS – Petroleum Resources Management System

PJSC – Public joint-stock company

PKOP – PetroKazakhstan Oil Products LLP

PSA – Production Sharing Agreement

ROACE – Return on Avarage Capital Employed

R&D – Research and Development

SJSC – State joint stock company

SPE – Society of Petroleum Engineers

SSI – Social Stability Index

SACP – stand-alone credit profile

Samruk-Kazyna JSC, the Fund – Sovereign Wealth, Fund Samruk-Kazyna Joint-Stock Company

SDG – Sustainable Development Goals

SEP – Stanford Executive Program

S&P – Standard & Poor's

SACP – Stand-alone credit profile

SPMC – Strategy and Portfolio Management Committee

TCO – Tengizchevroil

UN – United Nations

UNGC – UN Global Compact

UGS – underground gas storage

USD – United States dollar

UK – United Kingdom

WWF – World Wide Fund for Nature

WPMP – the Wellhead Pressure Management Project

WEC – World Energy Council

CONTACTS

JSC NC KazMunayGas

- Address: 010000, Astana, Republic of Kazakhstan D. Kunayev street, 8
- Tel: + 7 (7172) 78 61 01
- Web site: www.kmg.kz

Office

- Tel:
  +7 (7172) 78 64 24
  +7 (7172) 78 92 76
  +7 (7172) 95 98 09
- e-mail: Astana@kmg.kz

On HR issues

- http://work.kmg.kz/
- Tel: +7 (7172) 78 95 18
- E-mail: HRteam@kmg.kz

On corporate security issues

- Tel: +7 (7172) 78 65 65
- E-mail: 979110@kmg.kz

Ombudsman

- Tel: +7 (7172) 78 65 61
- E-mail:
- Regular hours: Wednesday, Thursday, Friday 03.00 p.m. to 05.00 p.m.
- Address: Astana, D. Kunayev street, 8

On issues of interaction with shareholders and investors

- Tel: +7 7172 78 64 34
- E-mail: ir@kmg.kz

Public relations

- Tel: +7 (7172) 78 91 49
- E-mail: press@kmg.kz

Sponsorship and Charity

- Tel: +7 (7172) 57-68-98
- E-mail: info@sk-trust.kz

Environment, health and safety

- Tel: +7 (7172) 78 61 92
- E-mail: hse@kmg.kz

Sustainable development

- E-mail: sustainability@kmg.kz

Procurements

- Tel: +7 (7172) 78 61 80
- All procurement of goods, works and services of the company are held under the Procurement Procedure of JSC «National welfare Fund «Samruk-Kazyna» in an electronic format on the website.
- JSC NC «KazMunayGas» does not sell petroleum products.
- We also remind you that since April 1, 2019, the operation of gas stations is carried out by a new owner – "Petro-retail" LLP