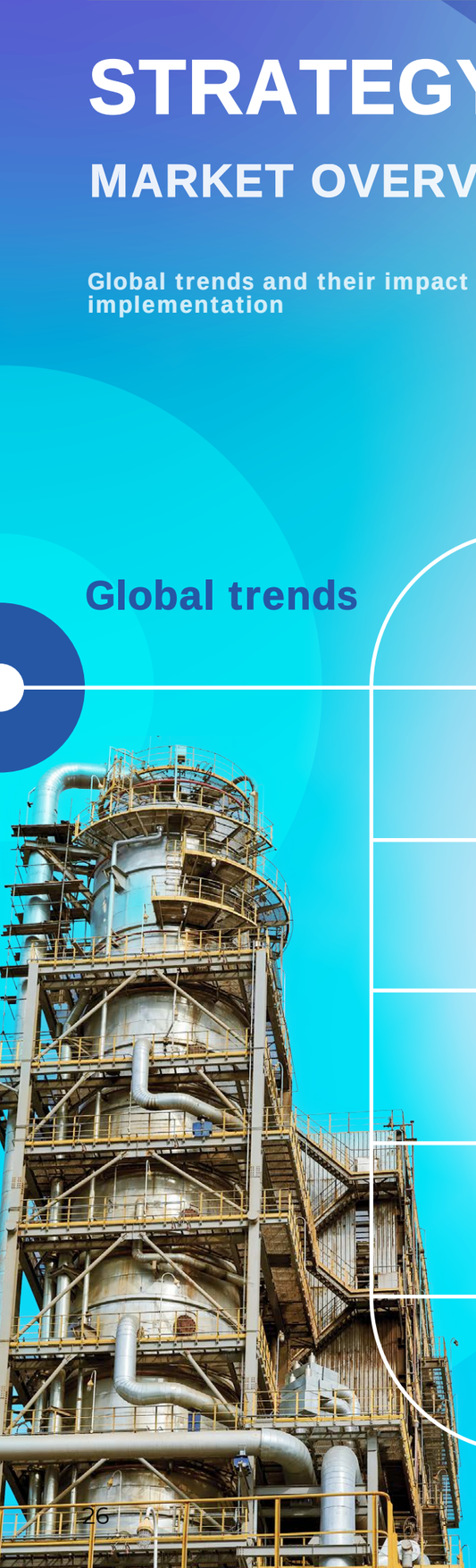
STRATEGY

MARKET OVERVIEW

Global trends and their impact on strategy implementation

Global trends



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

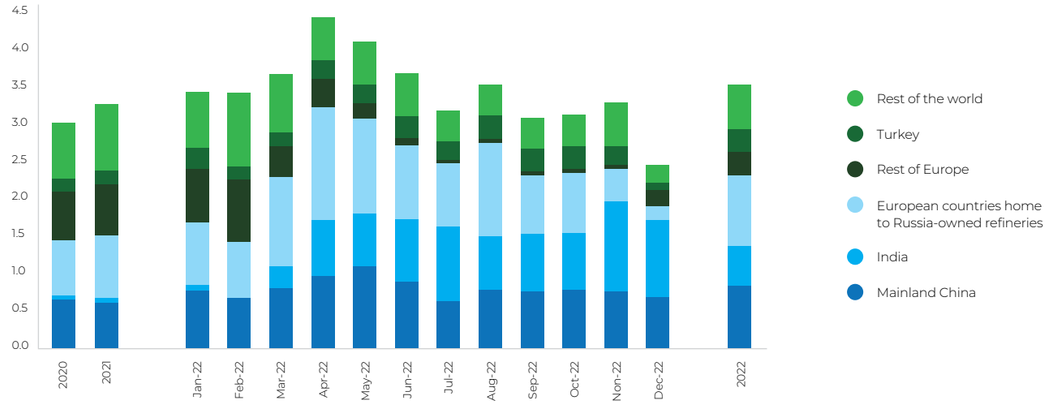
1 2 3 4 5 6 7

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.

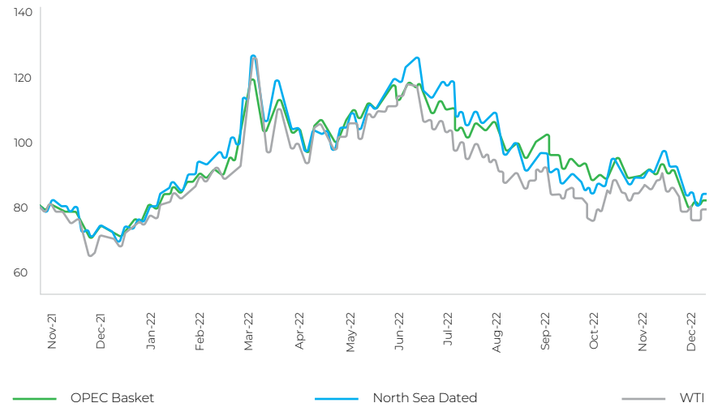
Russian seaborne crude exports by destination, thous. bbl per day



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.

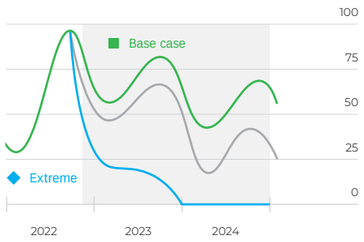
Crude oil price movement, US$/b



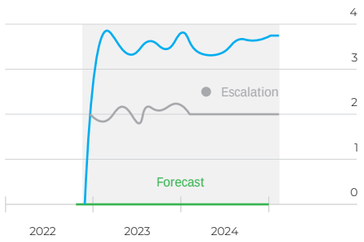
Source: OPEC Monthly Oil Market Report – January 2023

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

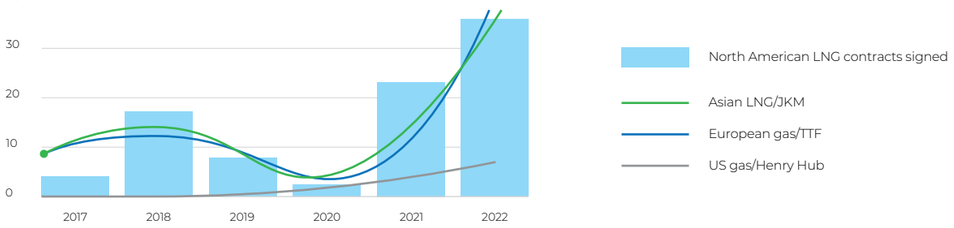


- Relations do not deteriorate further
- Russia halts some flows to Europe; the West tightens its price cap
- All-out energy war

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.

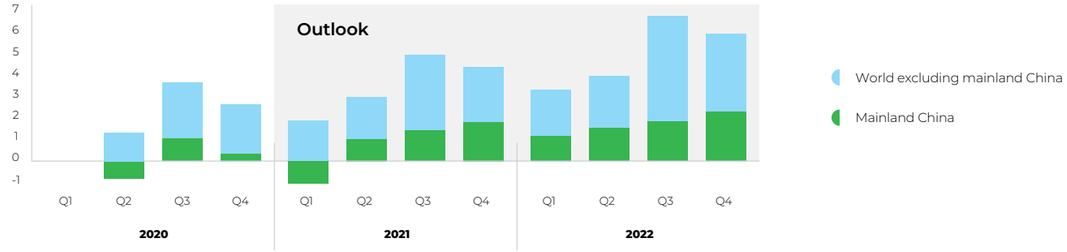
During the first eleven months of 2022, Chinese demand for gas and oil fell by 1.0% and 3.0% respectively.

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

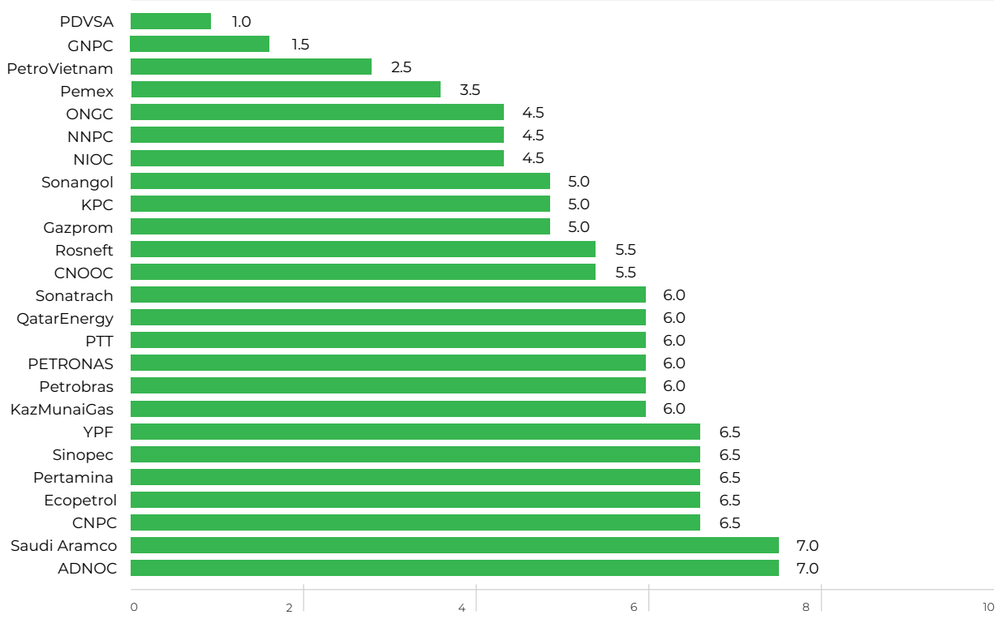
According to a report by the Intergovernmental Panel on Climate Change (IPCC), over the next two decades the world will approach a point of no return when the average temperature increase will reach 1.5 °C. The only way to curb climate change is to reduce emissions of carbon dioxide.

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 ºC.

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

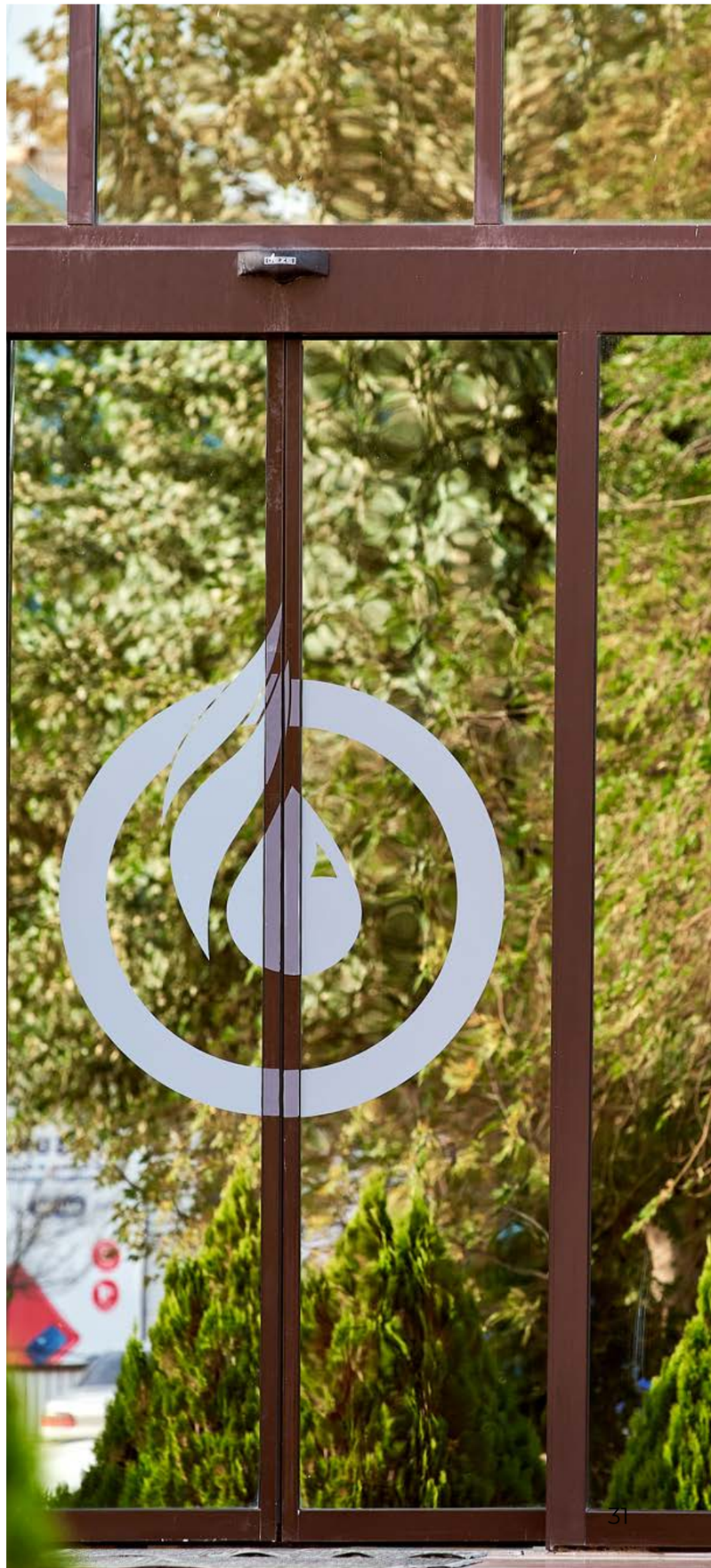
For additional information on the scoring system and methodology used to assess NOC decarbonisation, see the S&P Global Commodity Insights – NOC Insights: In the race to diversify and decarbonise, NOCs remain on the starting blocks

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.

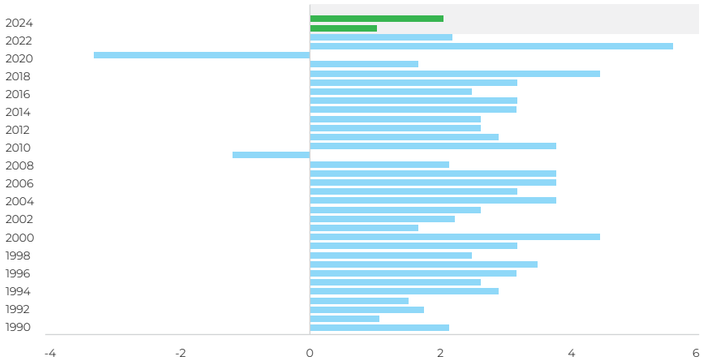


4 High global inflation and slower global economic growth

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.

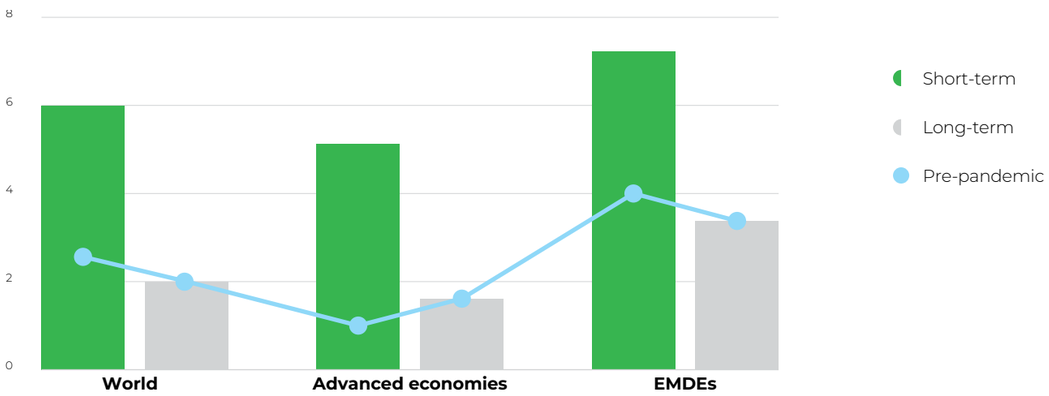
Global growth, %



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], %

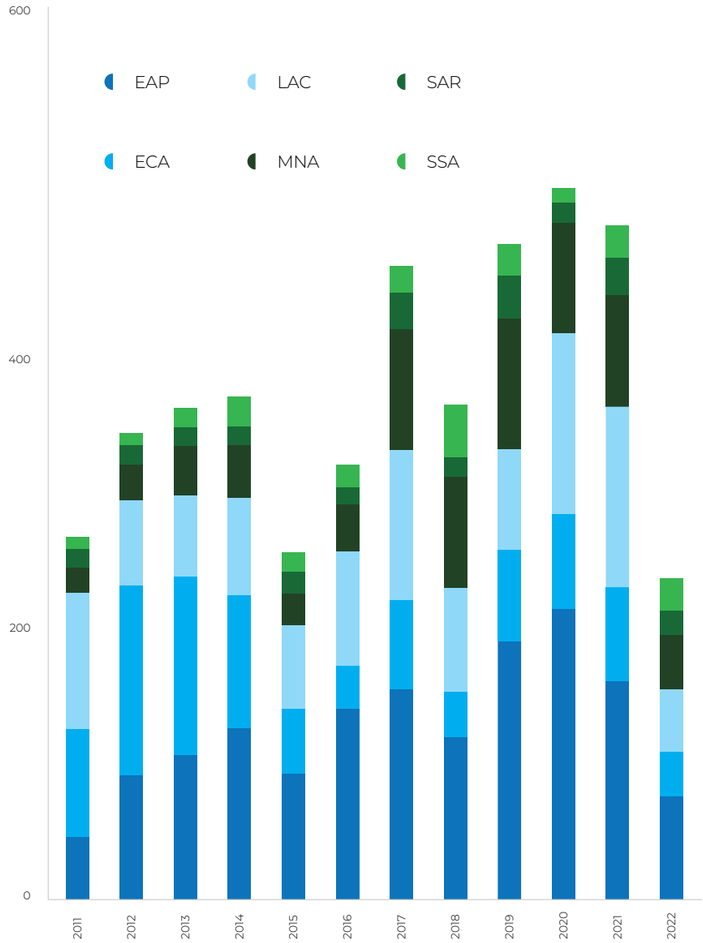


Source: World Bank.

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.

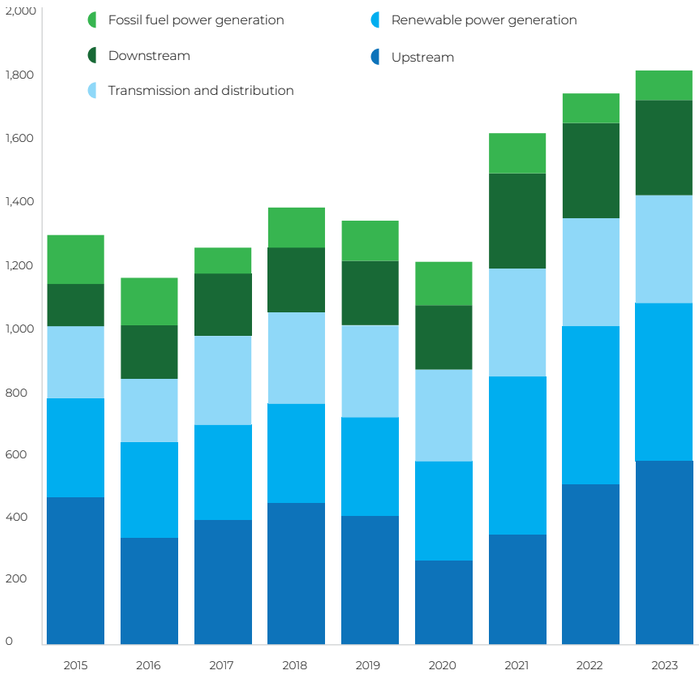
Taking a conservative approach to debt management is another important objective for KMG, given its past experience and a relatively high leverage compared to other oil and gas companies.

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.

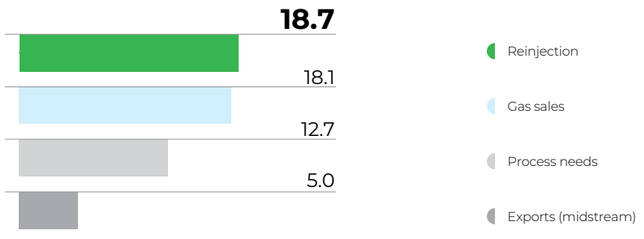
Oil refining and gas processing

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

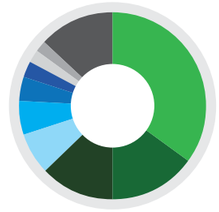
Source: Information and Analytical Centre of Oil and Gas of the Ministry of Energy of the Republic of Kazakhstan

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, %



- Tengizchevroil — 35 %
- North Caspian Operating Company — 15%
- Karachaganak Petroleum Operating — 13 %
- Mangistaumunaigaz — 7 %
- Ozenmunaigas — 6 %
- CNPC International Aktobe Petroleum — 4 %
- Embamunaigas — 3 %
- Karazhanbasmunai — 2 %
- Kazgermunai — 2 %
- Others — 13 %

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.

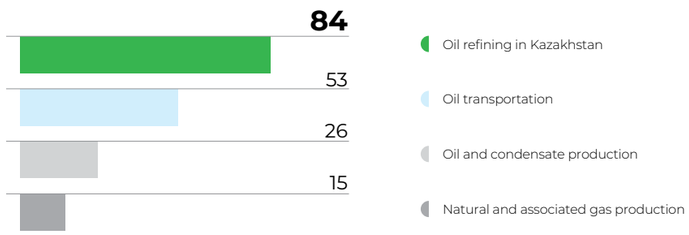
Proved (1P) oil and condensate reserves life was 16 years (based on the 2022 output), far exceeding the average of about 11 years for the global oil majors (based on the 2020 output). KMG's proved and probable (2P) oil and condensate reserves life (based on the 2022 output) was 26 years.

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.

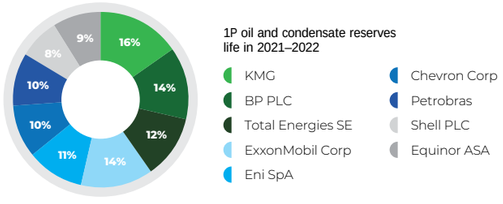
KMG's market share in Kazakhstan by segment in 2022, %



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

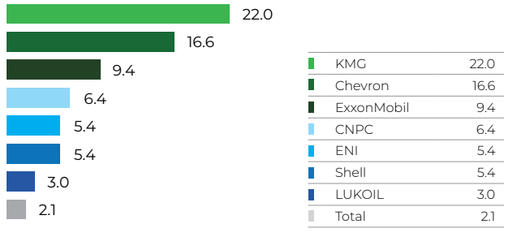
Competition analysis

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.