



**INTERNATIONAL SCHOOL
OF ECONOMICS KAZGUU**

Higher School of Economics

**Bolturukova Dinara
Manapova Madina
Shadykhanova Ulzhan
Yermekbay Dana**

Stock Valuation on the example of KMG

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Abstract

This particular research is focused on stock valuation on JSC NAC “KazMunayGas”. The Initial Public Offering process started in recent years, and has gained a lot of public attention and support. The KMG is a leading company in the oil and gas center with a stable strategic development.

Incorporating data from financial statements, articles and graphs, this research paper demonstrates that KMG has a stable and promising example of integrating innovation into production processes and management decisions. This paper examines the process and results of stock offering by financial statements analysis and valuation model. The implemented Discounted Cash Flow model is a tool for evaluating the fair share price with the use of relevant sources like Bloomberg, Damodaran and financial reports of the Company. It contains different tables and graphs, which cover the valuation model, external analysis and management analysis for deeper research and reliability of results.

Main purpose of the research is to apply theoretical and practical skills on actual examples and provide the proper investment decision and business valuation analysis.

Keywords: oil and gas industry, JSC NAC “KazMunayGas”, valuation model, Initial Public Offering (IPO), management decision.

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Business description

The oil and gas sector of Kazakhstan is represented by a JSC NAC “KazMunayGas” (KMG), which is taking a leading position on the market since it was founded in 2002. The KMG has a vertically integrated structure – having an entire control throughout the production cycle: from exploration and extracting hydrocarbons to refining and transporting them by its own suppliers and distributors.

The material assets of KazMunayGas are presented by upstream, midstream, refining and oilfield services. The upstream projects are shared by 100% ownership in OzenMunaiGas, EmbaMuniaGas, KazMunayTeniz, the midstream – 100% ownership in Kazmortransflot. Other sectors like oil refining and marketing are mostly concentrated in Pavlodar and Atyrau regions, oilfield services are presented by 100% ownership in KMG Systems&Services and other subsidiaries. Thus, the revenue is disclosed by 53% in crude oil and gas sales, the other 36% are refined products, and other percentage is referred to mining sales of oil and gas and other revenue.

The consortium's pipeline to Novorossiysk is mainly used for Kazakhstani huge projects. Currently, work is underway to increase the capacity of the Kazakhstan section of the CPC from 59 to 72.5 million tons per year, while all the increased capacities are still intended for megaprojects, primarily Tengiz. CPC extensions are planned to be completed in 2023.

Kazmunaygas is a leader of the oil and gas sector taking almost 56% of all resources transported in Kazakhstan. The manufacturing potential is also high enough with the production of 25% of the country’s oil and condensate gas and 15% of natural gas. Kazakhstani oil refineries are providing Europe with oil and gas for 81%, which is a percent of exported resources. Regarding the potential on the market, the KMG’s proved (1P) oil and condensate reserves life was 16.5 years based on the 2021 results, which is far exceeding the average reserve life for the global major competitors. The other type of reserve is a 2P which stands for ‘proved and probable’ reserves showing a steady 2% increase year-on-year, with a total of 645 mln toe in 2021 (KMG Annual Report 2020, 2021).

Management & Board of Directors

The Board of Directors of KazMunayGaz (KMG) plays a significant role in the management and direction of the state-owned oil and gas company. The Board is accountable to the General Meeting of Shareholders and provides general management and control over the activities of the company. The Board is guided by various laws, regulations, and internal documents, including the Corporate Governance Code and the documents of JSC "Samruk-Kazyna".

Christopher J. Walton is the Chairman of the Board of Directors of KMG, having been elected in 2014 and renewed in 2020. With a background in political science and finance, as well as extensive experience in the financial and oil industries, he possesses the necessary skills to lead the board of directors. The Chairman is not a citizen of Kazakhstan, and neither are some of the other board members, providing diversity to the team and contributing to a more global and balanced approach. The board members have diverse work experience in areas such as finance, energy, law, international relations, and economics, which enhances the decision-making process in the company. The board emphasizes transparency and accountability, implementing effective management methods and regularly reporting financial results. Half of the board members (4/8) are independent, which promotes work efficiency, but, of course, it's better to have as more independent members as possible. In addition, taking into account the fact that all of the members have different ages, it can also have a positive impact on the effectiveness of their work. (Figure 1,2)

However, some weaknesses of the board include a lack of independence due to the Government of Kazakhstan's controlling stake in KMG. This may lead to conflicts of interest and limit the board's ability to make decisions that serve the company and its shareholders. Another weakness is the lack of diversity in terms of gender, which may limit the board's ability to understand and address the needs of all stakeholders. Furthermore, the board has been criticized for its focus on traditional oil and gas exploration and production, which may hinder KMG's long-term competitiveness in the face of increasing concerns about climate change and the need for renewable energy. Magzum Mirzagaliyev is both a member of the Board of Directors and chairman of the Management Board, so this may

somehow affect the effectiveness of the Board of Directors since Mr. Magzum cannot be 100% independent. Thus, the best practice is not to have the same members on both boards of the company. Moreover, members of the board of directors and members of the board of management change frequently, except for chairmen, which also has an impact on the effectiveness of the work of the boards. (Figure 1,2)

Overall, the Board of Directors of KMG has strengths in terms of diverse experience, strategic planning, and transparency, but needs to address its weaknesses to ensure the long-term success and sustainability of the company. The governance of KazMunayGaz appears to be structured and guided by various laws and regulations, as well as internal policies and procedures. So, considering all of the above information, we can conclude that the effectiveness of the board of directors and governance of KMG directly influence the IPO of the company, since every decision of the board can affect revenue and the company's processes as a whole, and therefore it can lead either to increase or decrease the stock price of KMG. That's why it is extremely important for the company to have the best board of directors and management board in order to fully use the potential of the company.

ESG – Environmental, social and governance

ESG strategy is an organizational wide approach that adjusts an organization's environmental, social and governance practices to make the business more attractive to the investors.

Environmental

The board of executives commence and incurs a widespread combination of ESG principles within KMG's key business processes so as to determine the sustainability of the Company. In 2020 , the indicator for ESG-rating in the corporate efficiency of Management Board members. In 2021, the target indicator of this indicator was increased, and among the corporate efficiencies, tasks for the implementation of specific projects in the field of sustainable development were identified. For 2022, an

additional indicator is set in the efficiency to reduce the coefficient of accidents related to labor activity (LTIR). According to Sustainalytics, the agency has improved the Company's risk rating in area of sustainability from 34.5 to 28.4 point, which demonstrates the company's strong position in regulating significant risks in the international oil&gas market. (Company ESG risk rating - sustainalytics)

In particular, by 2026-2027, KMG initiates to launch factories to produce polyethylene and butadiene. (KMG Annual report 2021)

In 2021, the Board of Directors confirmed the Program “Low-carbon development”. Program improves energy capability and conservation of resources, which reduces carbon consequences. Development programs include current opportunities for reducing carbon emissions through improvements in energy efficiency and resource conservation, as well as other decarbonisation actions based on renewable sources of energy such as CO2 capture, use and storage, forest carbon projects or hydrogen production. By 2031, KMG's preliminary targets for reducing greenhouse gas emissions by 15% compared with the level in 2019, corresponding to 1.6 million tonnes of CO2, have been set. A Low Carbon Development Project Office has been established, with the participation of a competent team of experts. KMG has entered into several agreements with large international companies, such as Eni, Shell, Total, Air Liquide and Linde, for the development of green technologies in 2021. (KMG Annual Report 2020, 2021)

Social

Factors positively impacting kmg’s social ratings include its dedication to Kazakhstani economy and affect the interests of a nation, equity, healthy and safe workforce, and information security, making the KMG group's employees more valuable by establishing the necessary conditions.

According to the Labor Code of the Republic of Kazakhstan, all employers, organizations, national companies, as KMG strictly observe the rules and regulations that no employee should be discriminated against by origin, gender, nationality, position by colleagues and organizations. During the reporting period, no instances of discrimination were documented.

Government

KMG improves the corporate governance of the company on a systematic, annual basis. In order to track the progress and improvement of KMG's corporate culture, in 2016 the Audit company (PWC) compiled a Methodology, which means that the Corporate Secretary of the the company creates a plan to enhance corporate governance, and the group of executives of the company is routinely updated on its progress. According to the results of independent diagnostics, which were carried out in 2021 by an independent audit company, the corporate culture of KPM was assigned an indicator at the level of "BBB ". This rating level is ideal for the company's IPO, claims an impartial consultant.

Industry analysis and competitive positioning

KMG is a strong representative of Kazakhstani oil and gas sector. Most of the assets are located in Kazakhstan as well as newly explored fields. Also, the KMG is supported and acquired by Joint-Stock Company "Sovereign Wealth Fund "Samruk Kazyna" (90.42%) and National Bank of the Republic of Kazakhstan (9.58%). Also, the market's competitors – Tengizchevroil and Karachaganak VC, which are known as world's oil and gas suppliers – both are owned by KMG by 20% and 10% respectively along with other big players like Shell PLC and Lukoil (KMG Annual Report 2021).

So, it is fair to assume that KMG, being a leading company on the market, establishes a strong position even through other operating companies, so there is no defined competitiveness in the industry. KMG is owned and supported by national companies, and having a full government support means that the company has an influence in most of the economic sectors of Kazakhstan. Moreover, KMG are always open to new ideas and innovations, which implementation results are discussed in annual reports(KMG Annual Report 2020, 2021).

- Global oil demand

According to the EIA (US Energy Information Agency), in August the oil demand in the world amounted to 99.4 million barrels/day. At the same time, the oil supply reached 101.3 million barrels per day. In general, in 2022, there is some discrepancy between the dynamics of supply and demand. If from the beginning of the year to August, oil production increased by 3%, then demand fell by 2.8%. But in 2021, on the contrary, demand growth outstripped supply growth (8% YoY versus 5.6% yoy). The EIA expects that by the end of 2022, demand will still slightly exceed supply. According to the agency's forecast, demand will reach 102.3 million, and supply -101.6 million barrels/day. In 2023, a slight excess of demand over supply is also expected.

The main consumers of oil are the USA, China and Europe, which account for about 50% of all oil consumption. In general, there is an increase in oil consumption in China. From 2017 to 2021, consumption growth in China amounted to 15.7%, or 13.2-15.3 million barrels/day. The EIA expects a further increase in consumption to almost 16 million barrels per day in 2023. Over the same period, there has been a decrease in consumption by the OECD countries by 5.5%. The leaders of the decline are Japan (-13.7%), Europe (-9%) and Canada (- 7.3%). Nevertheless, in 2022, the recovery of consumption by OECD countries is expected to continue, due to which global demand for oil will also grow. In the United States, consumption figures remained virtually unchanged over the same period.

- Oil prices' factor

In general, oil prices after the bullish period in 2007-2008, when quotations reached \$140 USD, and after the period of 2011-2014, when the price averaged around \$ 110 USD, did not show significant positive dynamics. By the beginning of 2015, prices had fallen from \$110 to \$45 USD, and by the beginning of 2016 - from \$70 to \$26 USD per barrel of oil. There were several reasons for this: the excess of supply over demand, the development of shale technologies and alternative energy sources, a long reaction from OPEC, etc. However, after this turbulent period, prices began to show a slow but steady increase in quotations. The growth was also driven by the creation of OPEC+ at the end of 2016, which, in addition to 13 OPEC countries, also included 10 countries, including Russia and Kazakhstan.

- External factors

However, since September 2018, the decline in stock markets and prices for many types of raw materials began against the background of the start of the cycle of tightening of the Fed's monetary policy. Then in 2019, the quotes recovered somewhat, but they were still in a downward trend. In January 2020, against the background of the aggravation of the US-Iranian conflict, prices rose above \$ 70 USD per barrel. Then there was a pandemic caused by the spread of COVID-19, which forced many countries to sharply reduce oil consumption due to quarantine measures. This caused the deepest shock to the oil market, the prices of American WTI oil fell to negative values due to the fullness of storage tanks. Also, OPEC+ could not agree on production cuts in early March 2020. However, then, from the end of April, prices began to recover along with stock markets, and OPEC+ eventually agreed to reduce production. As a result, against the background of the soft monetary policy of many countries of the world due to quarantine, the gradual lifting of quarantine measures and the slow recovery of production by OPEC+ countries, the market went up, and by March 2021, oil returned to the \$70 USD mark. Then almost the whole world was overwhelmed by rising inflation. It is believed that usually in the inflationary period, raw materials can become a good hedging tool, which also caused an increase in quotations. And yet by the end of the year, the price reached "only" \$78 USD. But the beginning of the Russian military invasion of Ukraine at the end of February eventually sent prices to \$138 USD per barrel due to the unwillingness of Ukraine's allies to buy energy resources from Russia. As a result, against this background, the discount of Urals brand oil has greatly increased, under which a significant share of Kazakh oil was sold. The discount reached about 30% at its peak and is now about 22%. Due to this situation, the volume of transportation of Kazakh oil in the direction of the Baltic Sea has sharply decreased. Oil producers began to explore alternative and more profitable routes for export. Kazakhstan has also created a new local brand of KEBCO oil (Kazakhstan export blend crude oil) for mutual settlements within the structure of KazMunayGas. In 2021, the Group adopted a new development strategy until 2031. The previous strategy was more focused on ensuring financial stability and gradual organic growth. The new strategy assumes a focus on core business, the desire to ensure organic growth

and improve operational performance in all key segments. In general, there are 4 strategic directions to achieve the goal.

- Development strategy implementation

This goal assumes a focus on maximizing the benefits from all activities of the Group. To do this, the Group intends to improve the oil recovery coefficient and the indicators of the inter-repair period, as well as to apply various measures to achieve maximum productivity of wells. The Group plans to produce a total of 240 million tons of oil from 2022 to 2031. In addition, it sets the task of ensuring the smooth operation of the refinery and achieving the level of processing depth up to 89%. The Group intends to use the oil transportation infrastructure as efficiently as possible and concentrate on cost optimization across the entire business. KMG also plans to implement a privatization and investment program to exit non-core assets.

- Resources' potential

The availability of cheap raw materials has become a key reason for ensuring the Group's growth through the creation of new petrochemical capacities, including thanks to the support of the Government of the Republic of Kazakhstan. It is planned to complete the construction and launch of the KPI plant for the production of polypropylene in 2022. Also, in the medium term, it is expected to implement projects for the production of butadiene and polyethylene together with international oil and gas partner companies.

- ESG

The Group plans to be in the top quartile for all ESG indicators in the medium term. In 2021, KMK received an ESG risk rating of 28.4 points from Sustainalytics. Such indicator corresponds to the range of the average risk level. The key challenge for the Group is emissions from operating activities and the use of the Group's products. The goal of KMG is to strengthen the indicators in the range of the average level of the ESG risk rating. In addition, it has developed a low-carbon Development Program for 2022-2031. It is planned to reduce CO₂ emissions by 15% by 2031 and implement renewable energy projects with a total capacity of at least 300 MW.

Porter's analysis

Competition in the Industry and Potential of new entrants into the Industry:

In Kazakhstan, the markets for petroleum products, natural gas, electricity, transport, and communications are dominated by a monopoly structure. Two vertically integrated companies, CNPC and KazMunayGas, account for 80% of oil supplied to the domestic market, owning three major refineries and gas station networks.

“There is no competition between them. In retail, both companies are guided by the current prices on the market or, in fact, by their own set prices”, – said Rustam Akhmetov, First Deputy Chairman of the Agency for the Protection and Development of Competition – “There is an unspoken regulation of prices for oil supplied to the domestic market. The volumes of hydrocarbon raw materials selected for these supplies are determined without applying any criteria.” (Когда конкурировать не с кем. (n.d.))

Thus, there are two intermediary links in the oil products market – oil suppliers ("givers" – Petrosun and KazMunaiGas) and wholesale suppliers, as a rule, affiliated with them and without infrastructure. The entrance of other companies into the oil and gas market of the Republic of Kazakhstan will mostly depend on huge financing and large-scale investments. In this regard, the Agency for the Protection and Development of Competition proposes to introduce state regulation of oil prices and supply volumes to support competition in the oil and petroleum products markets. This will ensure price stability at the first stages of reducing concentration and transparency of pricing, AZRK believes. (Когда конкурировать не с кем. (n.d.))

So, taking into account the above analysis, we can conclude that the threat level of these 2 forces is low.

The threat level of power of suppliers is not significant and here's why:

The pipeline infrastructure of Kazakhstan belongs to the national operator of the trunk oil pipeline — KazTransOil JSC, as well as the Caspian Pipeline Consortium. There is sufficient scope for increasing oil transport volumes of promising projects through the existing pipeline infrastructure in the country. With regard to access to the oil markets, petroleum transport is a strategic area of KMG. The system of oil transport has been developed to include a wide range of transit and export possibilities. (KMG Annual Report 2021)

The transportation of oil and petroleum products within the company is likely to be disturbed by a serious system failure or restrictions on access to CPC facilities. By contrast, vertical integration enables the company to combine its own controlled businesses that perform a whole production cycle from manufacturing to sales. KMG shall be provided with uninterrupted and reliable supplies of materials and equipment at the requested price for a specific period of time, thanks to ongoing and well-established relations among supplier enterprises which form part of an economic vertical integration structure. (KMG Annual Report 2018)

Power of customers and Threat of substitute product, the level of threat of these 2 forces is also not significant.

Oil and petroleum products continue to be the primary sources of energy for all sectors of the domestic economy, which are able to meet rising energy requirements under today's economics and technical conditions. In addition, the insufficiency of that energy source in many sectors of the economy is a major reason for continuing demand for petroleum products. For the transfer of traffic engines and equipment to other power sources, today's technological and technical solutions are not acceptable. Consequently, in the future demand is unlikely to be very volatile for KazMunayGas products. Analysts say that demand for oil and petroleum products is only going to increase in the future.

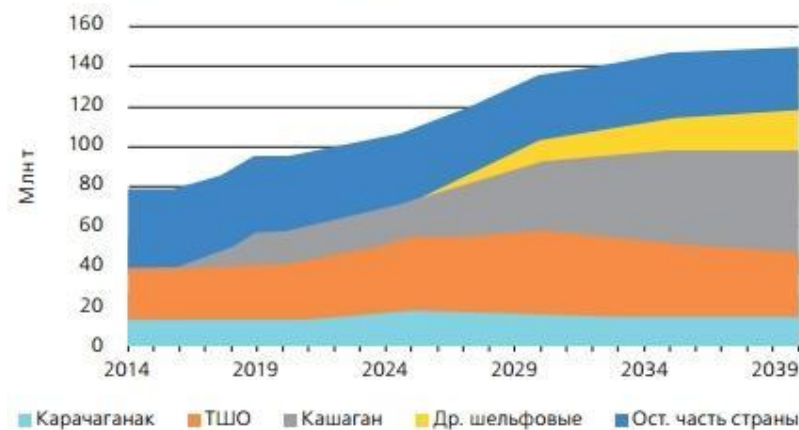
For the production of energy, there are major alternatives: nuclear energy, coal, hydrogen, renewable sources of energy such as biofuels, or alternative renewable energies like Solar and Wind. Depending on their performance, quality, and price, these alternate energy sources may make a

substantial contribution to replacing large volumes of hydrocarbons in the overall energy mix. It is extremely remote that substitutes will have a dominant position over the energy mix by 2040, as this strategy requires huge investment in research and development and production processes.

A document containing information on the status of Kazakhstan's economy and its prospects for developing oil, gas, coal, and other sectors has been drawn up by KAZENERGY Association in 2013. The most important challenge was to get a coherent package of data that clearly shows what is going on within the national fuel and energy complex. (Petroleum. аналитический журнал)

The major value of this Report lies in the forecasts on energy production and consumption obtained from a global IHS model, which differ greatly from those made by Kazakh government agencies and research institutes regarding the prospects for developing Kazakhstan's fuel and energy complex. As an example, the report projects that in 2030 Kazakhstan's crude oil production would be 137 million tons, and in 2040 it will reach 150.5 million tons. (Petroleum. аналитический журнал)

*Добыча нефти и газового конденсата в Казахстане:
прогноз IHS Energy (базовый сценарий)*



Источник: Национальный энергетический доклад 2015. PETROLEUM

(Petroleum. аналитический журнал)

The dynamics of oil and petroleum product consumption and exports in Kazakhstan are set to be favorable in the future. An increase in population and economic growth rate, as well as the development of the transport sector and industry, can be distinguished among the major factors that will affect future

demand for oil and petroleum products. A stable competitive position for KazMunaiGas, with a high market share, enables the company to secure sustained demand from all sectors of the economy and in particular increase its reliance on consumers' price sensitivity. It follows that it does not represent a major risk to the company from consumers' market power. (Petroleum. аналитический журнал)

With its leading position in industry competition, the knowledge of vertical integration's benefits, and a high potential for production, KazMunayGas does not appear to be significantly affected by five competing forces as an assessment of the competitive environment shows. In order to take a realistic assessment of the threat posed by these five competition forces, management staff may make appropriate executive decisions about the direction of strategy development on the basis of comparative environment analysis data. (Figure 3)

Competitive advantage

Referring to KMG key strategic perspective, the crucial points are a stable position on the global stage and an innovative production process, which are described below in more details.

Geographic landscape: In combination with geography and access to both Asia and Europe, Kazakhstan has a large amount of mineral resources. Kazakhstan has the potential to fully exploit its natural resources as part of a KMG industry. In addition, the country's main driver of its economy is a resource base. The potential for natural resources in Central and Northern Kazakhstan is estimated at around 18 billion tonnes of standard fuel, with a total of up to 75 billion tonnes, according to experts.

Full integration in the value chain: KMG has established itself as a vertically integrated pioneer of Kazakhstan's oil and gas sector. Despite having a large asset base, the company seeks to maximise production, refining and transport in order to expand all key segments of its business. KMG is in the process of successfully implementing expansion projects, as well as developing plateau production processes, while using Tengiz, Karachaganak and Kashagan areas. KMG projects that 240 million tonnes of oil will be produced in the next ten years.

Corporate governance system and commitment to sustainability policies: sustainability may be a

milestone for KMG strategic development. KMG was the first to introduce ESG (Natural, Social and Administration) concepts to the managing board among Kazakhstani companies. Following this new policy, the Company endorsed the Low-Carbon Advancement Program with the intention to diminish CO2 emissions by 15% by 2031. KMG has a “BBB” corporate governance rating assigned by its key shareholders during an annual review meeting. This again supports the idea that KMG is continuously focusing on proficient administration and economical advancement. KMG is taking the right way for the future and gives an example for competing companies in the industry (KMG Annual Report 2021).

Potential: As was mentioned before, KMG has a high potential in expanding and exploring some megaprojects with a stable reserve life. As an example, one of the famous megaprojects is Tengiz – the largest gem in Kazakhstan’s oil and gas industry. It was developed in partnership with Chevron Corporation in the late 90s, and still has a high potential in the industry due to its over 20 years of oil reserves life. Another megaproject is Kashagan field. Kashagan field is one of the most challenging project globally with harsh environmental conditions, but with a 120 years of reserves life (KMG Annual Report 2021). KazMunayGas has great plans on these megaprojects, but it is always finding new ways and approaches to optimize its business and making a stable path to a leading position on the global market. It is also shown in its financial results, which will be discussed below in more detailed. (Figure 6) Nevertheless, we have looked on fellow companies in the oil and gas industry. The China National Petroleum Corporation, CNPC is a major company in China, with a largest subsidiary located in Kazakhstan – AktobeMunayGas. The Return on Assets (ROA) for this company is 1.5, and Return on invested capital (ROIC) is 3.44. Another competitor company is Arabi group holding company (AGHC) located in Kuwait, which is a major oil supplier. For Kuwait oil and gas industry accounts for almost 90% of the country’s GDP. So, the company’s financials are: ROA - 1.87, ROIC – 1.33. (Bloomberg) Referring to the ratios, it is worth mentioning that KMG is taking a big step towards optimizing its expenses and increasing profits by a full usage of its oil and gas potential.

Investment description and analysis

In 2022, KMG decided to initiate the Initial Public Offering (IPO) process. The IPO was firstly discussed and planned in the Comprehensive Privatization Plan which was approved by the Government of the Republic of Kazakhstan.

Astana International Exchange (AIX) and the Kazakhstan Stock Exchange (KASE) is the main platform for the initial offering. The amount offered for a sale is 5%, which are provided by the “Samruk Kazyna” – which total ownership is 90.42%. The price was set on 8,406 KZT with a planned capitalization of 5.1 trillion KZT.

The public’s reaction was positive to the IPO and was received with interest, because the initial offering process was a long-discussed decision. Below are described some factors affecting the decision to buy, hold or sell the share.

The main factor affecting the management and development decisions is a situation on the oil and gas market.

Brent reached a peak in June 2022 and fell almost 30 dollars per barrel thereafter. The Brent oil price dropped to 88 US dollars a barrel in September 2022, which was as low as it has been since February. There are a lot of reasons for this sudden change, but inflation, the economic crisis in most countries as well as policy issues have to be addressed. The Covid 19 effect and gradual decreases in restrictions have led to a recovery of the global economy. As regards energy consumption, China was widely considered to be the largest oil and gas consuming country of the world but it had been affected most severely by the Covid 19 crisis through production cuts and manufacturing practices with a negative impact on demand. For a daily 0.4 million barrels, demand has been reduced. However, the impact is undeniable and poses a risk to the oil and gas sector, even though the US has compensated for this decrease by 0.5 million daily, which is a large consumer. The imposition of sanctions on Russia is another important risk. The countries of G7 (Group of Seven, consisting of the United States, United Kingdom, Germany, Italy, France, Canada and Japan) have introduced price sanctions against Russian oil. Thus, the export volume of Russian oil reached its minimum since September 2021.

Regarding the Kazakhstani market and possible factors, the forecast is positive. Kazakhstan has a great potential for the oil and gas industry's development with further new directions of production. These ideas are strongly supported by the government and fellow countries, for example, Kazakhstan as a member of OPEC+ (Organization of the Petroleum Exporting Countries) had stable production and sales volume during the Covid-19 crisis. However, there is always a risk of man-made disasters, decrease in manufacturing volume and financial stability.

All the presented factors are trying to be prevented by KMG introducing strategic decisions for next years. The company is focusing on the going concern concept and modernization of all operating assets and industry diversification.

As a strategic response for the market changes KMG is planning to expand the value chain within the existing business and develop the petrochemical segment. KMG is currently working on the petrochemical project to produce and fully meet demand needs with a further export plan. Also, industry diversification is achieved through KMG's sale of 100% shares of JSC KazTransGas to Samruk Kazyna. By this, KazTransGas became a national company and a new player on the Kazakhstani market along with KMG (KMG Annual Report 2021).

Financial Analysis

Increasing market oil prices and increasing profit of associates are main drivers of revenue growth

The Group significantly increased revenue in 2021 and 2022 amid rising oil prices. By the end of 2022, the revenue of NC KMG increased by 46% compared to 2021, mainly due to the increase in world oil prices and amounted to about 9.8 trillion tenge (Figure 4).

- 1) If we look at the segment information, the increase in revenue came from crude oil and gas, the income from the sale of which increased by 48%. Also, sales of refined products in 2022

increased by 60% compared to 2021. Mainly in the revenue structure, the main income of KMG falls on crude oil, gas (53%) and refined products (39%) as of December 31, 2022. It should be mentioned that most of this revenue comes from the resale of oil and petroleum products from third parties. Refining oil and oil products and oil transportation occupy a small share in the income structure of the Group (2% each), however they are relatively stable.

The EBITDA growth and Net profit growth shows a drastic positive trend. The EBITDA has growth for almost 25% and for Net profit – 2.4%. The interesting part of EBITDA in assessing growth of the company is that it shows the fair view on the business process, because of eliminating all financial decisions. As was mentioned before, the EBITDA growth was driven by growth in both Exploration of Oil and Gas and Refining and trading of crude oil, which both have a correlation to world's market oil prices. The net profit growth rate on the other hand shows the financial potential of the KMG. The decision on going for IPO is closely related to this ratio, because the higher net profit growth then the higher the capability of the company to pay out dividends from their profit (Figure 8).

- 2) The second largest component of income is the share in the income of joint companies (Figure 5). Joint ventures with a 50% or less ownership interest are not consolidated and their indicators are shown separately in the report as the Group's share of profit. In 2022, the portion in the returns of joint venture and associates increased by 29% compared to 2021 and amounted to 991,310 million tenge (in 2021, 768,733 million tenge). The main source of this income item is Tengizchevroil LLP (742,660 million tenge). In 2022, KMG exercised a call option to buy 50% of KMG Kashagan B.V. shares from Samruk-Kazyna JSC, which means that KMG has begun to consolidate the financial performance of KMG Kashagan B.V, which owns 16.88% in the “Kashagan”(Figure 11). This is also shown by ROE ratio with an increase in 2022 in comparison with previous years (2021 - 8.46% and 2022 - 8,69%). In July 2022, the company acquired 49%

of the shares of Petrosun LLP. The company sells liquefied petroleum gas and petroleum products. As of December 31, 2022, the profit attributable to KMG Group amounts to KZT 23,184 million KZT.

Management initiatives on expanding its impact through exploration of new material assets

It is worth to clarify the importance of growth ratios due to its projection on how the business is going to work and expand in the future. The net sales growth ratio has a stable increase with a more than 10% in comparison with previous years. This ratio shows not only an increase in revenue and production, but also indicates a good management strategy. By observing the net sales growth ratio the investors can easily understand whether the management of the company is oriented towards expanding its impact on market and sales. Even though the revenue was affected by crude oil prices and production prices, the net growth ratio's positive trend is proven by initiatives provided by the management boards and strategic innovations.

ROA ratio is relatively stable 8% in 2019,2021 and 2022, except 2020 1.2% because of COVID-19 consequences. In 2020 the net profit of the group decreased 7 times, while total assets remained steady. Extension in PP&E in 2022 was one of the reasons for ROA increase. The largest contribution to the addition in 2022 was through development drilling at Ozenmunaigas JSC, Embamunaigas JSC, and subsidiaries of KMG EP, KMG Karachaganak LLP, and Kashagan, with a total amount of 280,470 million tenge. Overhauls at Rompetrol Rafinare, a subsidiary of KMGI, also contributed to the addition, amounting to 75,792 million tenge. Additionally, the replacement of the section of the pipelines "Uzen-Atyrau-Samara" and "Astrakhan-Mangyshlak" in KazTransOil JSC added a total of 39,538 million tenge (Figure 6).

Increasing of Cost of sales in an effective way

Considerable amount of the expenses accounts for 1) cost of purchased oil, gas, petroleum products and other materials, 2) production expenses, 3) taxes other than income tax.

1) Cost of purchased oil, gas, petroleum products and other materials.

Cost of production takes 62% from the total amount of expenses. In 2022 it amounted to 4,954,384 mln. KZT, while in 2021 it was 3,596,491 mln. KZT (+18% increase). The main reason for such an increase is due to the growth of quotations for oil and petroleum products.

2) Production expenses.

As of 31 December, 2022 production expenses increased for 65% (in 2022 1,142,388 mln. KZT, in 2021 693,031 mln. KZT). Such increase mainly was due to the payroll to the employees whole by the Group.

3) Taxes other than income tax.

Expenses related to the taxes, except income tax increased In 2022 for 249,166 mln. KZT(+58%; in 2022 677,805 mln. KZT, in 2021 428,639 mln. KZT). As there was an increase for oil prices, thus rent tax on crude oil export increased approximately twice (in 2022 215,765 mln. KZT, in 2021 129,056 mln. KZT).

Gross profit margin is a measure of efficiency. Even though KMG has considerable expenses on exploration, refining and mining, and raw materials, it still manages to follow its profit-generating strategy, so its gross profit margin demonstrates relative stability.

Low debt levels and equity financing

Debt to equity has been stable in recent years, thus the company is financed more at its own expense than at the expense of loans. Because the company has a debt-to-equity ratio below 1, which is reflected in a good indicator for companies. In 2020, the highest indicator for the last 4 years of the Debt to EBITDA ratio is 3.54 , and in 2022 the lowest indicator is 1.63, the reason for such changes was oil prices rose (Figure 9).

Stable financial condition

From an operational perspective, the company is in good shape if the value is greater than 1. There were no significant changes in the quick ratio between 2019 and 2022, which measures the company's capacity to pay creditors on a short-term basis by selling the assets that are most liquid. The current ratio of liquidity reveals if the business has enough cash on hand to pay short-term obligations. In 2021, the highest current ratio will be 2.26, and last year it was 1.96. Due to the economic situation in the country, there was such a change (Figure 10).

Valuation

Historical data and related assumptions

As a basis for our Discounted Free Cash Flow (hereinafter DFCF) model we used historical data from financial statements (FS) of KazMunayGas (KMG) NC JSC from 2018 to 2022 to see some trends and make proper assumptions for forecast period. Since FS didn't have a separate subtotal line for earnings before interest and taxes (EBIT), we calculated it from earnings before taxes (EBT) and interest expenses. Taxes for the purposes of DCF model calculated as EBT multiplied by tax rate, which is currently 20%.

Depreciation, amortization and other non-cash items included 3 items:

- 1) depreciation, amortization and depletion;
- 2) foreign exchange gain (net); and
- 3) unwinding of discounts.

For the purposes of calculation of change in net working capital we used data from 2017 in order to have 5 changes between 6 consecutive years. Current assets were calculated as total current assets less cash and cash equivalents and less short-term bank deposits.

Capex was taken from the statement of cash flows in the investing activities section.

Forecast period assumptions

For forecast period from 2023 to 2027 we made the following assumptions:

- a) Revenue forecast - based on changes in Oil price forecast, the price for 2022 was taken from FS of KMG NC JSC, and for next years - we used data from Bloomberg and forecast of average USD/KZT exchange rate, based on CAGR calculated from historical data from 2018 to 2022;
- b) COGS forecast – calculated from average % of COGS out of Revenue for 2018-2022;
- c) EBIT – based on average % of EBIT out of Revenue for 2018-2022;
- d) Tax expenses – 20% of EBIT;
- e) Depreciation, amortization and other non-cash items – basis for calculation was average % of depreciation, amortization and other non-cash items out of COGS;
- f) NWC level - based on average % of NWC out of EBIT for 2018-2022;
- g) Capex – based on average % of Capex out of Revenue for 2018-2022

Forecast and DCF calculation

	<i>forecast</i> 2023	<i>forecast</i> 2024	<i>forecast</i> 2025	<i>forecast</i> 2026	<i>forecast</i> 2027
Revenue	6 620 245	6 919 741	7 282 223	7 697 877	8 159 482
Cost of Goods sold (COGS)	(5 355 604)	(5 597 888)	(5 891 126)	(6 227 380)	(6 600 806)
Earning before interest and taxes (EBIT)	1 341 024	1 401 692	1 475 117	1 559 314	1 652 819
Tax (20% of EBIT)	(268 205)	(280 338)	(295 023)	(311 863)	(330 564)
Depreciation, amortisation and other non-cash items	424 290	443 484	466 716	493 355	522 939
Change in Net working capital (NWC)	(104 780)	13 772	16 668	19 113	21 226
Capex	(444 308)	(464 408)	(488 736)	(516 632)	(547 612)
Free cash flow to the Firm (FCFF)	948 021	1 114 201	1 174 742	1 243 288	1 318 808

Weighted average cost of capital (WACC) calculation

General formula used for WACC calculation could be found below:

$$WACC = \frac{E}{D + E} (r_e) + \frac{D}{D + E} (r_d)(1 - t)$$

Where:

E = market value of equity

D = market value of debt

r_e = cost of equity

r_d = cost of debt

t = corporate tax rate

Market value of Equity was calculated as number of shares authorized and issued multiplied by price, which was taken from KASE as of 30.12.2022.

Market value of Debt included borrowings and lease liabilities from the balance sheet as of 31 December 2022.

Cost of equity was calculated this way:

$$ER_i = R_f + \beta_i (ER_m - R_f) + CRP$$

where:

ER_i = expected return of investment

R_f = risk-free rate

β_i = beta of the investment

$(ER_m - R_f)$ = market risk premium

CRP = country risk premium

Risk-free rate was taken as rate for 20-year US treasury securities.

Market risk premium, country risk premium for Kazakhstan and unlevered beta (β) for oil and gas industry (production and exploration) were found on Damodaran website.

Levered β was calculated from unlevered β and capital structure of the company using formula below:

$$\beta_l = \beta_u \left(1 + (1 - t) \left(\frac{D}{E} \right) \right)$$

β_l = levered beta

β_u = unlevered beta

t = tax rate

D = debt

E = equity

For cost of debt we used weighted average effective interest rate for loans for fixed and variable interest rate borrowings of KMG NC JSC from Note 27 of FS 2022.

Finally, WACC was assessed as 15.6%.

<i>Description</i>	<i>Rate/Amount</i>	<i>Methodology</i>
Market value of equity	5 753 bln KZT	Number of shares authorised and issued * Price
Market value of debt	3 842 bln KZT	Borrowings + Lease liabilities
Cost of equity	22%	CAPM formula
Risk-free rate	3,73%	20-year US treasury securities
Unlevered Beta	1,09	Damodaran (oil&gas industry averages)
Levered Beta	1,67	Levered beta formula
Equity Risk Premium	9,23%	Damodaran (country lookup)
Country Risk Premium	3,29%	Damodaran (country lookup)
Cost of debt	7%	Total weighted average interest rate on borrowings of KMG
Tax rate	20%	Corporate tax rate
WACC	16%	

Price calculation

Using FCFF and WACC we calculated the NPV for the forecast period from 2023 to 2027 as KZT 3.8 trillion.

Terminal value growth rate shows growth period of the company beyond forecast period, 5% was used for it. Terminal value equals 6.4 trillion.

Total value of equity, which is enterprise value (KZT 10.1 trillion) less total value of debt (KZT 3.8 trillion), is KZT 6.3 trillion.

Taking into account the number of shares authorised and issued (610 mln), we found the forecast price for the company as KZT 10,247 thousand.

Sensitivity analysis

As it could be seen from the sensitivity analysis table below, the lowest share price is KZT 7.7 thousand, if we assume 15% in oil prices in the forecast period. On the other hand if oil prices are 15% higher than in model, share price would be KZT 12.8 thousand.

Sensitivity analysis - Oil prices

Change in Oil prices for forecast period	+5 %	+10 %	+15 %	-5 %	-10 %	-15 %
Price per share	11 103	11 960	12 816	9 391	8 535	7 679

Factors, which may potentially increase the assessment value.

As it was mentioned KMG NC JSC has a new development strategy up to 2031. As part of it, factors such as alternative more profitable routes for export, cost optimization across the whole business, improvement in oil recovery coefficient, creation and supply of new petrochemical products, could have an additional positive effect on enterprise value.

Risks:

Kazakhstan's financial situation

- KMG is a national firm that is dependent on the government; as a result, national crises could occur and have a direct impact on the company's revenue and operating procedures. In addition, a detailed examination of the board of directors shows a tendency for members to rotate frequently, which can lead to conflicts of interest and lower productivity for the company.

Mandatory OPEC regulations.

- On April 2, 2023 OPEC announced further oil production cuts of around 1.16 mln barrels per day, which increased the price of the brent. This limitation will last till the end of 2023 year.

Limitations of OPEC have a considerable effect on oil & gas industry.

The political situation in the world

- Due to the global political climate, Europe and many other nations have put restrictions on Russia, specifically on oil with a Russian provenance. As a result, a discount is shown on oil prices for particular varieties, such as Brent. Transportation of CPC oil can also be influenced by this factor.

Conclusion

We issue BUY recommendation on KMG shares. Taking into consideration all of the analysis made above and valuation model, we assume that the share price has a positive trend over the years. As of 27 April 2023 the closing share price was 10,099 KZT, and referring to the forecasted 2023 prices the KMG share has a potential to grow during the year. The price can be influenced by mentioned 3 risks, such as governance, OPEC, and an unstable worldwide situation. Nevertheless, important indicators of the company's success are an effective increase in the cost of products sold, management initiatives to expand and develop the company, as well as a stable financial condition. Due to the current situation in the world, KMG is currently in great demand on the market and has begun to actively export its oil to China and Europe, which has a very positive effect on recognition and profit. The above factors are the key to success, which help to keep the bar high and remain monopolists in our country.

BOARD OF DIRECTORS

THE BOARD OF DIRECTORS IS THE MANAGEMENT BODY OF JSC NC "KAZMUNAYGAS", ACCOUNTABLE TO THE PERSON HOLDING ALL VOTING SHARES / THE GENERAL MEETING OF SHAREHOLDERS, PROVIDING GENERAL MANAGEMENT OF THE ACTIVITIES AND CONTROL OVER THE ACTIVITIES OF THE COLLEGIAL EXECUTIVE BODY.

















NAME	POSITION	AGE	DIRECTOR SINCE	INDEPENDENT	SHARES HELD	CITIZENSHIP	EDUCATION
	Chairman	65	2014	✓	✗		Bachelor of Arts in Political Science MBA: Finance
	Board member/ Chairman of Management Board	44	2022		✗		Bachelor: International Economics Degree in International Relations & Development of oil and gas fields
	Non-executive Board member	75	2016		✗		Technology and complex mechanization of oil and gas field development, mining engineer
	Board member	38	2022		✗		Bachelor: Accounting & Finance Master's Degree in Finance
	Board member	46	2023	✓	✗		Bachelor of Business Management Master of Science in Comparative Social Policy MBA degree
	Board member	65	2020	✓	✗		Bachelor of Science in Civil Engineering Master of Science in Engineering/Construction Management
	Board member	65	2020	✓	✗		Bachelor of Science in Mechanical Engineering
	Board member	35	2023		✗		Bachelor: International Relations Master of Business Administration

Figure 1 (Source: Company Data)

GOVERNANCE

THE MANAGEMENT BOARD IS A COLLEGIAL EXECUTIVE BODY OF KMG, WHICH MANAGES ITS CURRENT ACTIVITIES. THE ACTIVITIES OF THE MANAGEMENT BOARD ARE BASED ON THE PRINCIPLE OF MAXIMUM RESPECT FOR THE INTERESTS OF THE GENERAL MEETING OF SHAREHOLDERS AND ACCOUNTABILITY TO THE GENERAL MEETING OF SHAREHOLDERS AND THE BOARD OF DIRECTORS









NAME	POSITION	AGE	YEAR JOINED	CITIZENSHIP	EDUCATION
	Chairman of the Management Board	44	2022		Bachelor: International Economics Degree in International Relations & Development of oil and gas fields
	Deputy Chairman of the Management Board	44	N/A		Bachelor's degree: International Economic Relations Master of Science in Finance
	Deputy Chairman of the Management Board	48	N/A		Bachelor's degree in International Law Executive MBA: Finance and Investment
	Deputy Chairman of the Management Board	52	N/A		Degree in Chemical technology of carbon materials & Oil and gas business
	Deputy Chairman of the Management Board	46	N/A		Degree in International monetary and financial relations & The economics of oil and gas
	Deputy Chairman of the Management Board	43	N/A		International Law
	Deputy Chairman of the Management Board	50	N/A		Development of oil and gas fields, mining engineer
	Deputy Chairman of the Management Board	38	N/A		Development and operation of oil and gas fields & International Oil and Gas Business
	Deputy Chairman of the Management Board	51	N/A		Degree in economics

Figure 2 (Source: Company Data)

PORTER'S FIVE FORCES ANALYSIS

Based on the analysis of these 5 forces, we can conclude that KMG has a monopolistic power in the industry. Even though the threat level of all the forces is low or not significant, with the help of this analysis, the company should take into account certain conclusions for itself, identify the areas that need to be developed, improved for the further prosperity of the company.

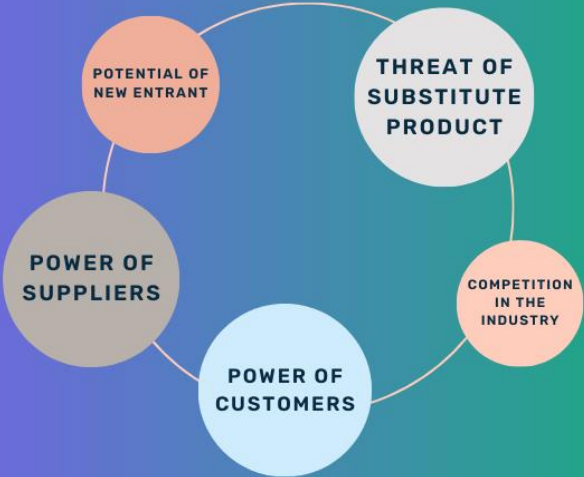


Figure 3 (Source: Team analysis)

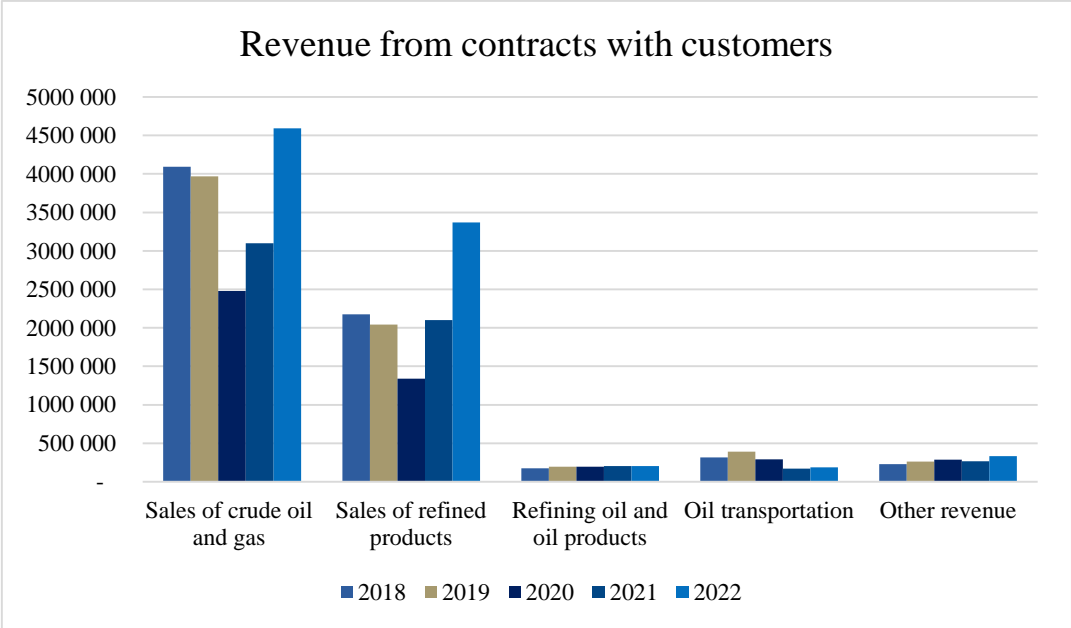


Figure 4 (Source: Company data)

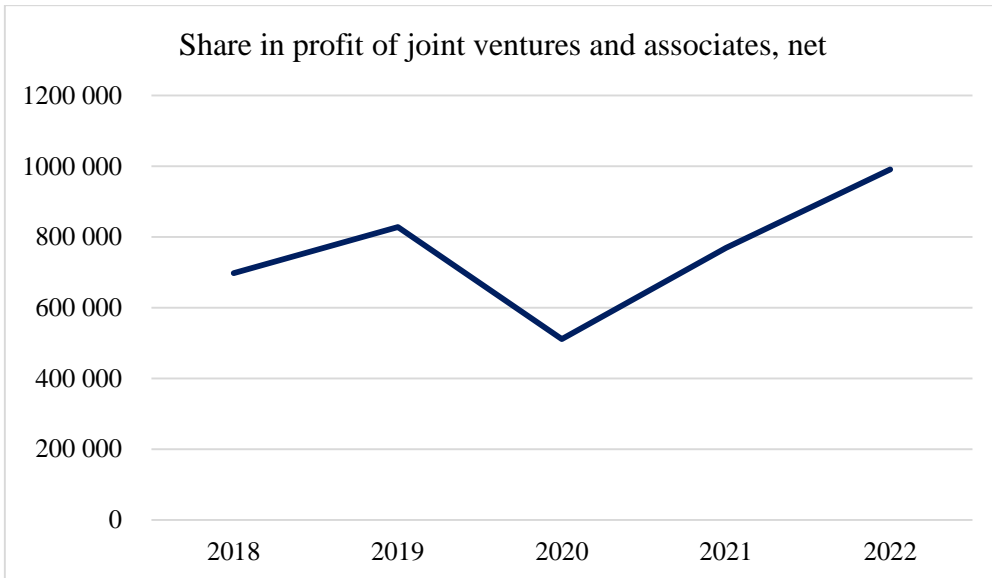


Figure 5 (Source: Company data)

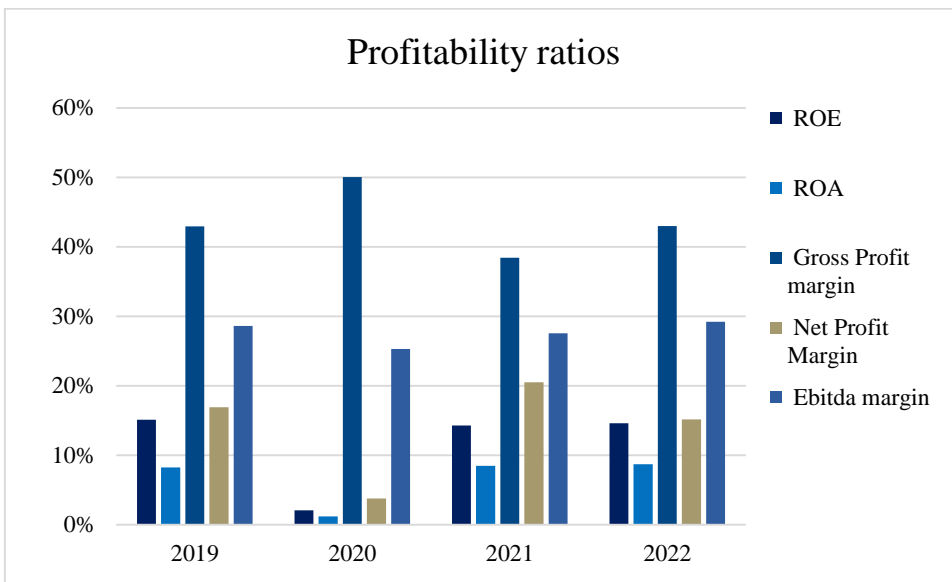


Figure 6 (Source: Company data, Team analysis)

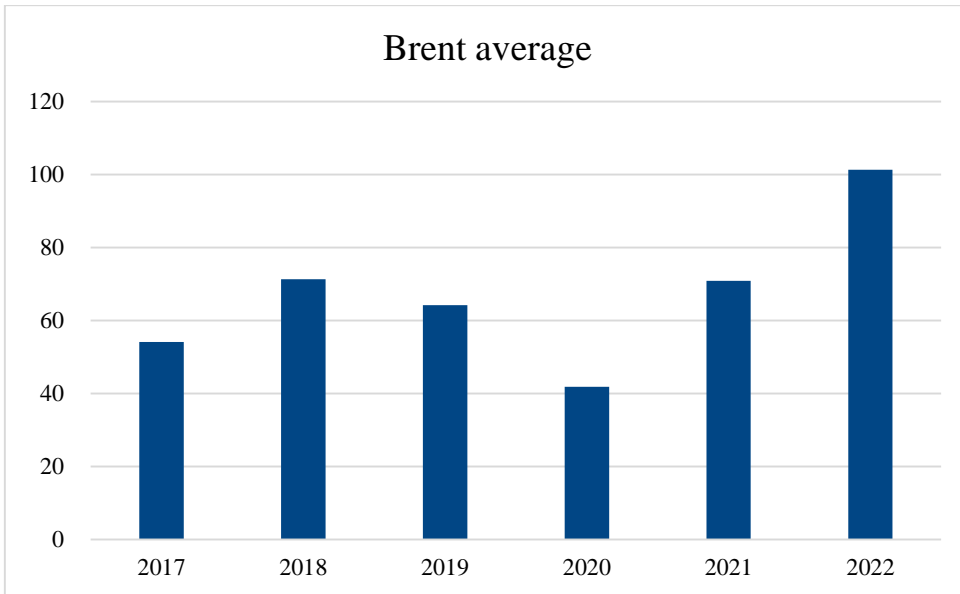


Figure 7 (Source: KMG Annual Report 2022)

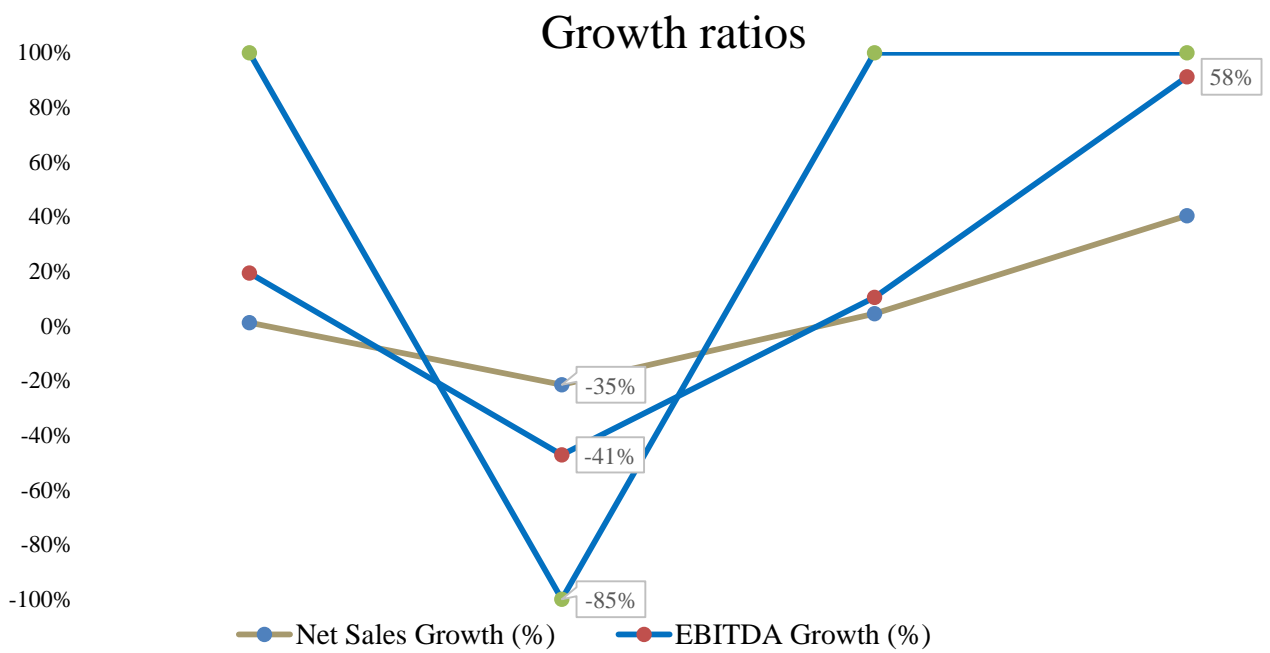


Figure 8 (Source: Company data, Team analysis)

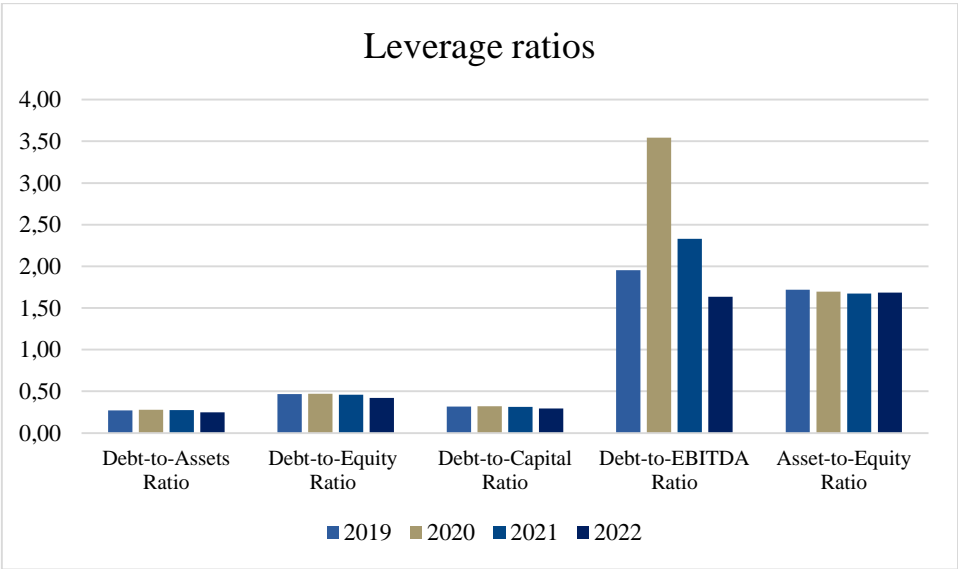


Figure 9 (Source: Company data, Team analysis)

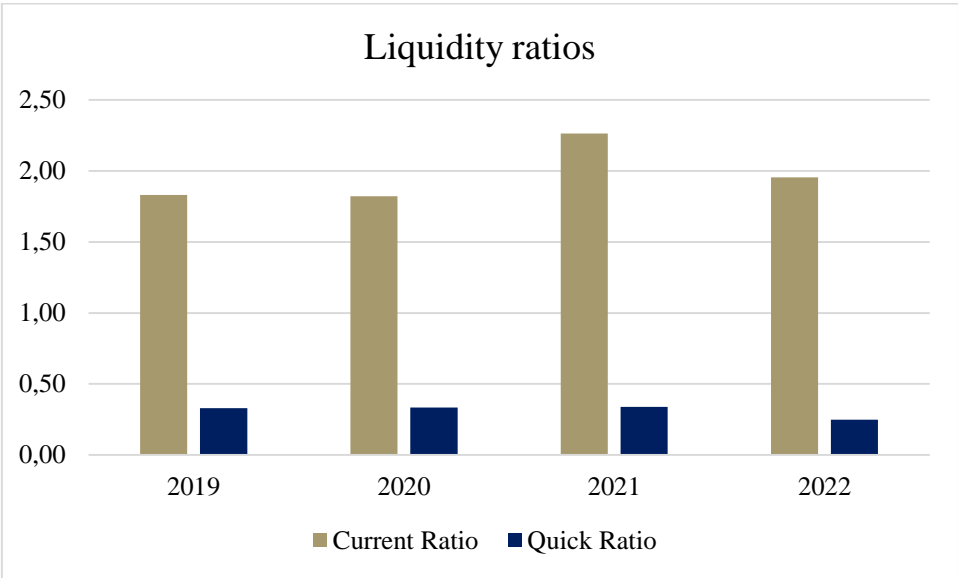
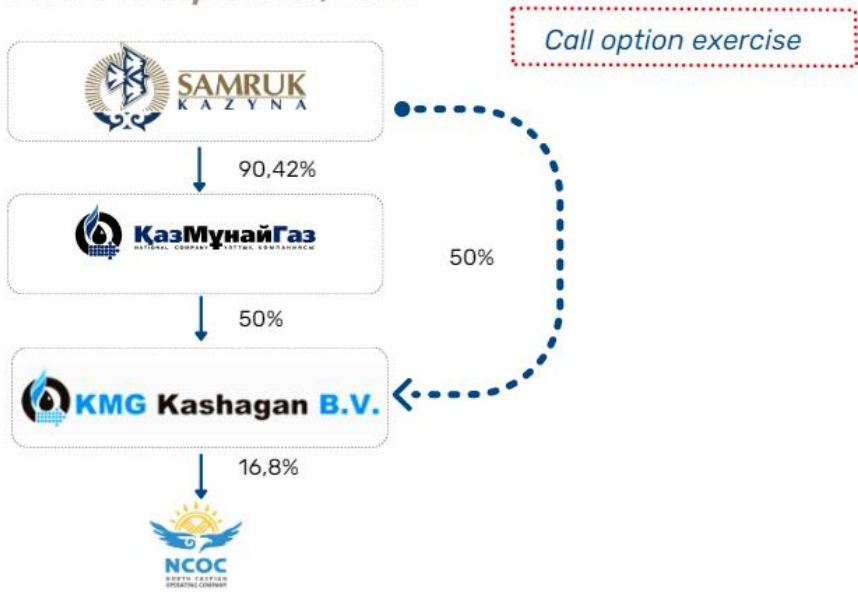


Figure 10 (Source: Company data, Team analysis)

Before 15 September, 2022



After 15 September, 2022



Figure 11

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