Welcome to your CDP Water Security Questionnaire 2023

W0. Introduction

W0.1

(W0.1) Give a general description of and introduction to your organization.

JSC National Company KazMunayGas (KMG, the Company) is Kazakhstan's leading vertically integrated oil and gas company, operating assets across the entire production cycle from the exploration and production of hydrocarbons to transportation, refining and services. Established in 2002, the Company represents the interests of the Republic of Kazakhstan in the national oil and gas industry.

Outside of Kazakhstan, KMG has more than a thousand fuel sales points in Romania, Moldova, Bulgaria, and Georgia. KMG International N.V. is a strategic enterprise for oil refining and marketing in Romania and the countries of the Black Sea and Mediterranean basins with the access to the end-user market with a population of more than 300 million people.

As a member of the UN Global Compact, KMG recognizes the importance of climate change mitigation actions and intends to contribute to the achievement of SDG 13 "Climate Action". Climate change response and adaptation measures are incorporated in our strategic documents and corporate policies.

In 2021, the KMG Development Strategy for a ten-year period was approved. Four strategic goals are built through the prism of sustainable development priorities. One of KMG's strategic goals "Sustainable development and gradual reduction of carbon intensity of production" provides for the improvement of the sustainable development system, which will ensure the integration of ESG principles into the Company's key business processes.

In 2021, the Low-Carbon Development Program of JSC NC "KazMunayGas" for the period 2022-2031 (hereinafter - the Program) was developed and approved by the Board of Directors. The Program was developed in accordance with the legislation of the Republic of Kazakhstan, the KMG Charter, the Development Strategy of JSC NC "KazMunayGas" for the period 2022-2031, the Environmental Policy, the Emissions Management Policy in the group of companies of JSC NC "KazMunayGas", as well as other internal documents of KMG. This Program defines a unified low-carbon development framework as an integrated component of corporate governance and systematizes the Company's activities in the field of carbon footprint reduction.

The integration of the low-carbon agenda into the company's development strategy will not only contribute to the reduction of greenhouse gas emissions, but will also increase the investment attractiveness and competitiveness of the company in the context of the energy transition.

The main objective of developing the Program is to identify KMG's climate ambitions, systematize main approaches and measures to reduce its carbon footprint, including, in particular:
(i) Analysis of the available capacity and definition of KMG's climate goals.
(ii) Identification of key areas of the company's development in the field of decarbonization and measures to achieve the established goals.
(iii) Improving the company's capacity and awareness.

Since 2020, the Company has been evaluated ESG-rating by the international rating agency "Sustainalytics" (Amsterdam, Netherlands). The international agency Sustainalytics rated KMG's ESG risk management at 28.4 points. In the comparative rating, KMG entered the top 20 among the 270 global oil and gas companies evaluated by Sustainalytics, while maintaining a stable rating level.
Since 2012, the Company has been preparing a Sustainability Report in accordance with international non-financial reporting standards developed by the Global Reporting Initiative (GRI).

JSC NC "KazMunayGas" in 2020 signed a Memorandum on the creation of a joint research platform Caspian Environmental Protection Initiative (CEPI) for international oil companies operating in the Caspian region, in order to protect the environment and combine efforts to prevent emissions of pollutants into environment by developing and implementing joint preventive measures to combat climate change, which threatens the environmental stability factors of the Caspian region. Several global oil and gas companies have joined the initiative, including BP Azerbaijan, Equinor Absheron and Total Absheron.

As part of the implementation of the company's development strategy, KMG began the development of a long-term water management program in 2023.

W-OG0.1a

(W-OG0.1a) Which business divisions in the oil & gas sector apply to your organization?

Upstream
Midstream/Downstream
Chemicals

W0.2

(W0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date
Reporting year	January 1, 2022	December 31, 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

Georgia
Kazakhstan
Romania

W0.4

(W0.4) Select the currency used for all financial information disclosed throughout your response.

USD

W0.5

(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.

Companies, entities or groups over which operational control is exercised

W0.6

(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?

No

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	KZ1C00001122
Yes, an ISIN code	ISIN XS1595713782 (RegS), US48667QAN51 (144A)
Yes, an ISIN code	ISIN XS1595714087 (RegS), US48667QAP00 (144A)
Yes, an ISIN code	ISIN XS1807299174 (RegS), US48667QAR65 (144A)
Yes, an ISIN code	ISIN XS1807300105 (RegS), US48667QAQ82 (144A)
Yes, an ISIN code	ISIN XS1807299331 (RegS), US48667QAS49 (144A)

Yes, an ISIN code	ISIN XS2242422397 (RegS), US48126PAA03 (144A)

W1. Current state

W1.1

(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Important	Have not evaluated	Due to the fact that the main activity of the Company is carried out in the Central Asian region, where water is a valuable and scarce natural resource, we are aware of our responsibility to the society and the environment and strive for the rational use of water resources. Water is an integral part of all production processes of the company. Direct use is Important for all sectors; for these reasons direct use importance is predicted to remain vital for industrial operation also in the future. In its activities, the Company strives to reduce water consumption volumes, increase the efficiency of water resources use, expand water reuse and recycling, improve the quality of effluents and minimize the impact on natural water bodies. KMG is aware of the importance of water related risks existing along its supply chain, as freshwater use is important for some item production and industrial process.
Sufficient amounts of recycled, brackish and/or produced water available for use	Important	Have not evaluated	Produced water is an important resource as it is used to maintain the reservoir pressures. In the process of oil production, large volumes of associated formation water are generated - a water-oil emulsion is recovered to the surface, which is subsequently separated into water and oil by the gravity method. The water settled in this way is sent back for injection into formation to maintain formation pressure. Recycled water is important to reduce the

			freshwater withdrawals and we intends to increase its use in the future. As well as, the process water for production needs, such as hydraulic fracturing, for replenishment of fire-fighting systems, dust suppression, well workover operations, for cooling systems and other production purposes. At the same time, a significant volume of treated sewage water is reused at oil refineries; this water is mainly used to feed the recycling water supply units.

W1.2

(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Continuously	Water withdrawals are regularly monitored with flow meters.	In accordance with the legislation of the Republic of Kazakhstan, for the withdrawal of water from natural water sources, the Company has permits regulating the amount of the total volume of withdrawn water in accordance with the goals, conditions and period of water extraction. Monitoring and control of consumed water volumes is carried out within the requirements of the legislation of the Republic of Kazakhstan. Measurement of water consumption is carried out at

				each intake structure on a continyuously base. The activities of the KMG Group of Companies in terms of the use of water resources are consolidated in the corporate center. Quantitative data of KMG subsidiaries and affiliates on water withdrawal is submitted to KMG for consolidation and analysis on a quarterly basis through the corporate information management system.
Water withdrawals – volumes by source	100%	Continuously	Water withdrawals-volumes by source are monitored by flow meters	The company keeps records of water intake from various sources. Sources of water abstraction are underground sources (wells, aquifers), surface sources (seas, rivers, lakes, reservoirs, canals), as well as urban water supply systems. At the same time, we note that the Company keeps records of water intake regardless of whether it is a primary or

				secondary consumer.
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	100%	Continuously	Produced water is monitored by flow meters.	The oil production process generates large volumes of so-called associated reservoir water – an oil-water emulsion is brought to the surface, which is subsequently separated into waterand oil by gravity. Water settled in this way is fed for reinjection into the reservoir.
Water withdrawals quality	100%	Continuously	Quality of water withdrawals is measured for certain parameters by standard analytical methods.	In accordance with the requirements of the legislation in the field of water resources protection and in order to prevent violation of the rights and interests of water users in the affected area of the withdrawn water, KMG maintains records, monitoring and reporting on the quality of water intake. For enterprises, there is a unified classification of water quality, established by the legislative acts of the Republic of Kazakhstan: • Ballast water, bilge water

				• Drinking water • Process water • Sewage water • Underground drinking water • Underground process water • Collector-drainage water • Sea water • Water from rice systems • Mine water • Transit water
Water discharges – total volumes	100%	Continuously	Water discharges are regularly monitored with flow meters.	In accordance with the legislation of the Republic of Kazakhstan, the KMG group of companies, which discharges water, keeps records and monitors the discharged water in accordance with the obtained permits: permission to influence (discharge of pollutants) and permission for special water use (discharge). All industrial and domestic wastewater passes through mechanical, biological and chemical treatment. The quality of domestic wastewater, the quality of water in observation and background wells of filtration fields is

				carried out with the involvement of an accredited laboratory on the basis of the approved Program of Industrial Environmental Control (PIEC) and a plan for monitoring emissions into water resources.
Water discharges – volumes by destination	100%	Continuously	Total volume of water discharges is continuously monitored with flow meters. Transfer to specialized companies continuously monitored with flow meters.	In accordance with the legal requirements, the design documentation of companies considers the entire list of facilities to which sewage water is discharged. The companies keep track of and monitor sewage water volumes. Information on water discharge is consolidated in the corporate center of KMG on a quarterly basis, analysis and accounting are carried out. All information on the volumes of water discharged is disclosed in the corporate reports of KMG. The main receiver (and end point) of sewage water from KMG enterprises are various specialized

				receivers: storage ponds, evaporation fields. These facilities are technical structures designed for natural water treatment and prevention of environmental pollution. Enterprises that do not have their own storage facilities transfer wastesewage water to specialized companies for treatment and disposal.
Water discharges – volumes by treatment method	100%	Continuously	Monitored with flow meters.	Careful attitude to water bodies and water facilities and prevention of harm to them is the fundamental principle in relation to water bodies for KMG enterprises. To bring the water parameters up to the safe standards established by law, three main methods of treatment are used: biological, physicochemical and mechanical, in accordance with which accounting and reporting on the parameters and volumes of discharged water is kept. At refineries,

				wastewater is treated separately in parallel mechanically and physicochemically in sand traps, oil traps, radial sedimentation tanks and flotators. The treated industrial effluents after the flotators are fed to biological treatment
Water discharge quality – by standard effluent parameters	100%	Quarterly	The quality of water discharges is carried out with the involvement of an accredited laboratory on the basis of the approved Program of Industrial Environmental Control (PIEC). All effluent parameters are analyzed with standard methods.	The quality of wastewater is analyzed in accordance with the established standards on a regular basis. Production control over compliance with the maximum permissible discharge (MPD) standards is carried out by an accredited laboratory. During production control, the following are subject to verification: compliance with the requirements of legislative, regulatory documents and other accepted requirements in the company; fulfilment of instructions, orders, directions and acts of inspections of production control

				for environmental protection; accounting of the volumes of water taken, used water and effluents and their compliance with the established limits; composition and the property of wastewater and its compliance with the established discharge standards (MPD): suspended solids, ammonium nitrogen, nitrates, nitrites, complete BOD, COD, sulfates, chlorides, oil products, phenols, phosphates ,surfactants, petroleum products, iron.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Quarterly	The quality of water discharges is carried out with the involvement of an accredited laboratory on the basis of the approved Program of Industrial Environmental Control (PIEC). Nitrates, phosphates are analyzed with standard methods.	In the KMG Group of companies, in wastewater nitrates and phosphates account for 1% of the total amount of pollutants discharged to evaporation fields and storage facilities. There are regularly analyzed in accordance with established standards. Production control over compliance with the norms of maximum permissible

				discharges is carried out by an accredited laboratory. The company does not use pesticides in its activities. There are no pesticides.
Water discharge quality – temperature	100%	Continuously	Temperature of water discharges is measured using a thermometer	The requirement to control the temperature of the discharged water is fixed at the legislative level. The environmental legislation of the Republic of Kazakhstan prohibits the discharge of water the temperature of which exceeds 30 degrees Celsius to ensure the safe functioning of aquatic flora and fauna within the affected area of wastewater discharge.
Water consumption – total volume	100%	Continuously	Water consumption is regularly monitored with flow meters.	The KMG Group of Companies keeps records of the volumes of water consumption at its production facilities used for process, auxiliary and household and drinking needs. Quantitative data of KMG subsidiaries and affiliates on water withdrawal is submitted to the corporate center for

				data consolidation and analysis on a quarterly basis through the corporate data management information system. The enterprises installed flow meters (industrial meters) for water metering.
Water recycled/reused	100%	Continuously	Water recycled is regularly monitored with flow meters.	In order to reduce the negative impact on water bodies, KMG is trying to increase the share of re-treated water in its technological and other operations. The re-treated water is reused for vehicle washing, dust suppression and replenishment of fire-fighting systems. At the same time, a significant volume of treated sewage water is re-used only at oil refineries to replenish the recycling water supply units. The percentage of water reuse at KMG plants comprised 27%. To improve the efficiency of water resources conservation and management and to identify measures and targets to

				reduce water withdrawal, increase recycling of water supply, a long-term Water Resources Management Program is planned to be developed in 2023 in KMG Group.
The provision of fully-functioning, safely managed WASH services to all workers	100%	Continuously	Laboratory tests are regularly carried out to determine the quality of drinking water. Periodic medical examinations of employees are carried out	KMG realizes the value of each employee and takes measures to improve working conditions, an important part of which is the availability of clean water for drinking needs, as well as ensuring the standards of sanitation and hygiene at the workplace.

W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	235,728.17	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decre	Lower	Investment in water-smart technology/process	The overall level of water intake by KMG enterprises remains at the 2021 level. The volume also

			ase in efficiency			includes produced (136,519.17) water. In order to decrease the volume of fresh water withdrawal in KMG Group downstream activity we plan to costruct the installation of additional waste water treatment; the seawater desalination plant was contructed in upstream which will release the volume of Volga water for the developmen t of the region in the amount of at least 6.2 million m3/year.
Total discharges	24,046.05	Lower	Other, please specify Facility expansion and Increase/decre ase in business activity and	Lower	Investment in water-smart technology/proc ess	Wastewater levels in 2022 decreased compared to 2021. Also, the

			Increase/decrease in efficiency			decrease is associated with an increase in circulating water at the plants of the KMG group of companies. In one of KMG Group downstream activity we plant to costruct the installation of additional waste water treatment in order to decrease the volume of fresh water withdrawal and respectively water discharge.
Total consumption	235,728.17	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	Lower	Investment in water-smart technology/process	In comparison with 2021, the amount of water consumed remains at the level. Re-treated water is used for vehicle washing, dust suppression

						and replenishment of fire-fighting systems. At the same time, a significant amount of treated waste sewage water is reused, mainly at refineries.. The volume includes are the produced water injected into the reservoir in order to enhance oil recovery. In order to decrease the volume of fresh water withdrawal in KMG Group downstream activity we plan to costruct the installation of additional waste water treatment; the seawater desalination

						plant was contructed in upstream which will release the volume of Volga water for the developmen t of the region in the amount of at least 6.2 million m3/year.

W-OG1.2c

(W-OG1.2c) In your oil & gas sector operations, what are the total volumes of water withdrawn, discharged, and consumed (by business division), how do they compare to the previous reporting year, and how are they forecasted to change?

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals - upstream	43,016.39	About the same	Other, please specify there is a decrease in the injection of associated formation water	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	At about the same level, insignificant decrease by 5%. The upstream water withdrawals volume to be the same in five year forecast but at the same time the fresh water

						withdrawal to be decreased a lot through construction of desalination plant.
Total discharges – upstream	472.92	Higher	Change in accounting methodology	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	Compared to 2021, there is an increase in water consumption by 11%. KMG Group Operators are responsible under the new Environmental Code for emissions from contractors which are technologically directly related to the operations of the facility Operator and which work on their premises. Emission data from contractors has been accounted

						for in the unified environmental permit and included in the Operators' reporting, therefore there is an 11 % increase in water discharge compared to 2021.
Total consumption – upstream	43,016.39	About the same	Other, please specify there is a decrease in the injection of associated formation water	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	At about the same level, insignificant decrease by 5%. The upstream water withdrawals volume to be the same in five year forecast but at the same time the fresh water withdrawal to be decreased a lot through construction of desalination plant.

Total withdrawals - midstream/downstream	56,192.6	Higher	Other, please specify a small increase in water is due to the use of water for ballast operations	Lower	Investment in water-smart technology/process	At about the same level, a slight increase of 6%. In order to decrease the volume of fresh water withdrawal and in KMG Group downstream activity we plan to costruct the installation of additional waste water treatment.
Total discharges – midstream/downstream	23,573.12	Lower	Other, please specify Also, the decrease is associated with an increase in circulating water at the plants of the KMG group of companies.	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	The wastewater level volume in 2022 is lower than in 2021 by 9%. In one of KMG Group downstream activity we plant to costruct the installation of additional waste water treatment in order to decrease the volume of fresh water withdrawal

						and respectively water discharge.
Total consumption – midstream/downstream	56,192.6	Higher	Other, please specify a small increase in water is due to the use of water for ballast operations	Lower	Investment in water-smart technology/process	At about the same level, a slight increase of 6%. In order to decrease the volume of fresh water withdrawal and in KMG Group downstream activity we plan to costruct the installation of additional waste water treatment.
Total withdrawals – chemicals						
Total discharges – chemicals						
Total consumption – chemicals						

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain

		water stress						
Row 1	Yes	26-50	About the same	Other, please specify Facility expansion and Increase/decrease in business activity and Increase/decrease in efficiency	Lower	Investment in water-smart technology/process	WRI Aqueduct	To determine the level of KMG water withdrawal in areas with increased water deficit, we used data from our seven subsidiaries located in the Republic of Kazakhstan and Romania with a water stress indicator according to WRI Aqueduct of more than 50%, that is, High category (overall water stress 40-80 %) Extremely high (overall water stress> 80%). At the same time, 4 out of 7 enterprises belong to the Caspian Sea river basin, 1 to the Syrdarya

								river basin, 1 to the Danube river basin and 1 oil transporting organization to the Syrdarya and Ural river basins and the Caspian Sea. The total volume of water intake by these organizations amounted to 29.81 million m3 (36% of the water intake for the KMG Group of Companies). In order to decrease the volume of fresh water withdrawal in KMG Group downstream activity we plan to costruct the installation of additional waste water treatment; the seawater desalination plant was contructed in

								upstream which will release the volume of Volga water for the development of the region in the amount of at least 6.2 million m3/year. Solving water supply issues in the water stress regions of KMG presence the following social projects are establishing: “Reconstruction of the water pipeline Astrakhan – Mangyshlak”, “Construction of a sea water desalination plant in Kenderly with a capacity of 50,000 m3/day”. Under the project “Reconstruction of the

								water pipeline Astrakhan – Mangyshlak”, construction and installation work began, and also, an agreement was concluded with a second-tier bank to finance the project. It is planned to complete the project by the end of 2023. The project feasibility study was adjusted for the project “Constructio n of a sea water desalination plant in Kenderli with a capacity of 50,000 m3/day” (according to the recommenda tions of the PMC consultant), work is currently

								performed to select an EPC contractor. It is planned to complete the project by the end of 2024.

W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	39,140.32	About the same	Other, please specify Facility expansion, Increase/decrease in business activity, and Increase/decrease in efficiency.	There is a stable level of water intake from surface fresh sources with a slight increase in the level of fresh surface water intake by 5%. Continues of upgrading and construction of desalination plants, which make it possible to release the volumes of

					fresh water used for process purposes at our enterprises.
Brackish surface water/Seawater	Relevant	18,247.45	Much higher	Change in accounting methodology	The increase is due to a change in the methodology approach to the calculation of water withdrawal volumes.
Groundwater – renewable	Relevant	4,569.33	Much lower	Change in accounting methodology	The increase is due to a change in the methodology approach to the calculation of water withdrawal volumes.
Groundwater – non-renewable	Relevant	19,141.68	About the same	Other, please specify Facility expansion, Increase/decrease in business activity, and Increase/decrease in efficiency.	There is a 4% decrease in the level of water withdrawal from underground non-renewable sources compared to 2021.

Produced/Entrained water	Relevant	136,519.17	About the same	Other, please specify Facility expansion, Increase/decrease in business activity, and Increase/decrease in efficiency.	The level of water withdrawal of associated formation waters slightly increased by 4%.
Third party sources	Relevant	17,889.5	Much lower	Change in accounting methodology	The increase is due to a change in the methodology approach to the calculation of water withdrawal volumes.

W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Not relevant				The company does not discharge wastewater to fresh surface water.
Brackish surface water/seawater	Relevant	9,731.01	About the same	Increase/decrease in business activity	The increase in the volume of discharges into sea waters is insignificant

					and amounts to 0,5%.
Groundwater	Not relevant				
Third-party destinations	Relevant	1,652.65	Lower	Increase/decrease in business activity	There is a slight decrease in the volume of water transferred to third parties.

W1.2j

(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

	Relevance of treatment level to discharge	Volume (megaliters/year)	Comparison of treated volume with previous reporting year	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Not relevant					
Secondary treatment	Relevant	12,662.38	Lower	Increase/decrease in business activity	100%	Wastewater treatment plants treat the following high-priority pollutants: suspended solids, COD, BOD, petroleum products, chlorides, sulphates, iron, nitrites,

						nitrates, ammonia nitrogen, synthetic surfactants, etc. Pollutant discharge standards are calculated according to the Methodology for Determining Environmental Emission Standards approved by Order No. 63 of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated 10 March 2021. After wastewater treatment in wastewater treatment plants, the effluent treated to standard quality is discharged

						to specialized receivers: storage ponds, evaporation fields and filtration fields. There is no discharge to surface water bodies or terrain.
Primary treatment only	Not relevant					
Discharge to the natural environment without treatment	Not relevant					
Discharge to a third party without treatment	Relevant	1,652.65	Lower	Increase/decrease in business activity	11-20	Enterprises that do not have their own storage facilities transfer wastewater for treatment and discharge to specialized companies, in accordance with concluded

						agreements
Other	Not relevant					

W1.2k

(W1.2k) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	Please explain
Row 1	104.4	Nitrates Phosphates	In the KMG Group of companies, in wastewater nitrates and phosphates account for 1% of the total amount of pollutants discharged to evaporation fields and storage facilities. There are regularly analyzed in accordance with established standards. Production control over compliance with the norms of maximum permissible discharges is carried out by an accredited laboratory. The company does not use pesticides in its activities. There are no pesticides.

W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	13,325,699	235,728.17	56.5299387002	The total withdrawal volume also includes produced water in amount 136,519.17m3. Total water withdrawal efficiency was increased due to the slight increase of total water withdrawal volume and increase of revenue.

W-OG1.3

(W-OG1.3) Do you calculate water intensity for your activities associated with the oil & gas sector?

Yes

W-OG1.3a

(W-OG1.3a) Provide water intensity information associated with your activities in the oil & gas sector.

Business division

Upstream

Water intensity value (m3/denominator)

363.53

Numerator: water aspect

Total water withdrawals

Denominator

Other, please specify

tons of hydrocarbon produced

Comparison with previous reporting year

Much lower

Please explain

There is a decrease in the specific consumption of fresh water in 2022 compared to 2021 by 34% due to the desalination plant costruction.

W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	No	

W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	No	Other, please specify	
Other value chain partners (e.g., customers)	No		

W2. Business impacts

W2.1

(W2.1) Has your organization experienced any detrimental water-related impacts?

No

W2.2

(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	Yes	Fines Enforcement orders or other penalties	In 2022, fines were imposed on 4 KMG companies, mainly for violation of the standards of the project of maximum allowable discharges.

W2.2a

(W2.2a) Provide the total number and financial value of all water-related fines.

Row 1

Total number of fines

7

Total value of fines

72,979

% of total facilities/operations associated

14

Number of fines compared to previous reporting year

Much lower

Comment

In 2022, fines were imposed on 4 KMG companies, mainly for violation of the standards of the project of maximum allowable discharges. It should be noted that wastewater treatment in wastewater treatment plants is carried out for the following top-priority pollutants, such as: suspended solids, COD, BOD, oil products, chlorides, sulfates, iron, nitrites, nitrates, ammonium nitrogen, surfactants, etc. The standards for the discharge of pollutants are calculated in accordance with the "Methodology for determining the standards for emissions into the environment", approved by the Order of the Minister of Ecology, Geology and Natural Resources of the Republic of Kazakhstan dated March 10, 2021 No. 63. After wastewater treatment in treatment facilities, the standard treated

water is discharged into specialized receivers: storage ponds, evaporation fields and filtration fields.

W2.2b

(W2.2b) Provide details for all significant fines, enforcement orders and/or other penalties for water-related regulatory violations in the reporting year, and your plans for resolving them.

Type of penalty
Fine

Financial impact
70,987

Country/Area & River basin
Kazakhstan
Ural

Type of incident
Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution
A fine was filed for exceeding the excess discharge to evaporation fields. It should be noted that there is no discharge into surface water bodies and terrain. Measures taken to prevent this violation.

Type of penalty
Fine

Financial impact
278

Country/Area & River basin
Kazakhstan
Other, please specify
coastal zone of the Caspian Sea

Type of incident
Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution

A fine was filed for exceeding the excess discharge to evaporation fields. It should be noted that there is no discharge into surface water bodies and terrain. Measures taken to prevent this violation.

Type of penalty

Fine

Financial impact

1,715

Country/Area & River basin

Kazakhstan

Other, please specify

There are no water bodies near the company

Type of incident

Effluent limit exceedances

Description of penalty, incident, regulatory violation, significance, and resolution

A fine was filed for exceeding the excess discharge to evaporation fields. It should be noted that there is no discharge into surface water bodies and terrain. Measures taken to prevent this violation

W3. Procedures

W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified
Row 1	Yes, we identify and classify our potential water pollutants	The identification and classification of pollutants during water discharges is carried out on the basis of the approved requirements of the legislation of the Republic of Kazakhstan. The standards for maximum permissible discharges of pollutants with wastewater into surface water bodies, terrain, filtration fields and wastewater storage are calculated for each wastewater outlet. The list of discharge outlets and their characteristics are determined on the basis of an inventory of outlets, which is accompanied by sampling and analytical studies.

		Along with the maximum permissible discharges, annual values of permissible discharges (limits) are set in tons per year for each discharge outlet and the enterprise as a whole. The list of pollutants is determined by the authorized state body. The KMG Group of Companies operates in accordance with the obtained permission for a certain period, in the absence of changes in technological processes that could affect the volume of wastewater discharged. According to the requirements established in the project and agreed with the state body, KMG enterprises conduct monitoring and, as per the form established by the legislation, the enterprises submit reports to the authorized body on a quarterly basis, which takes into account all sources of impact on water resources (control points), names of pollutants, established standards , the actual result of monitoring, and measures to eliminate violations (if any).

W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Water pollutant category

Other, please specify

Hydrocarbons

Description of water pollutant and potential impacts

Hydrocarbons are an integral part of the oil production, transportation and refining process.

Oil spills or wastewater discharges release hydrocarbons into the environment and can affect it.

The potential impact of hydrocarbons on the aquatic environment will depend on the scale of oil spills or emergencies.

Hydrocarbons can affect marine / river habitats (fish, birds, plankton), microflora, algae, etc.

Contamination of the coastline, bottom sediments, soil and groundwater is possible.

Potential impacts from oil spills or emergencies are described in the draft assessment of impact by enterprises on the environment.

Value chain stage

Direct operations

Supply chain

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Industrial and chemical accidents prevention, preparedness, and response
Upgrading of process equipment/methods

Please explain

Continuous oil spill response (OSR) readiness is an absolute priority for us.
We impose high requirements to the environmental safety during oil operations: prior to commencement of any type of work, we conduct environmental studies in contract areas and assess our potential social and environmental impact, as well as monitor the impact, monitor emissions and monitor emergency situations - during and after operations.
Representatives of the company were included in the Working Group to develop an environmental sensitivity map and make a decision to determine the sensitivity index for oil spill response at sea, inland waters and in the buffer zone of the Republic of Kazakhstan.
Also we have an initiative to develop volunteering in emergency oil spill response.
For example, KMG Systems & Services LLP a SDE of KMG, held training for volunteers for potential emergency oil spill response (EOSR) at the Bautino Offshore Operations Support Base (OOSB) in Mangystau Region as part of Kaspiige Qamqorlyq (Caring for the Caspian Sea) Volunteer Campaign initiated by the Company.
The training course was attended by 18 volunteers, as well as five staff members of the Mangystau Region Department of Emergency Situations (DES).

Water pollutant category

Other, please specify
Chemicals

Description of water pollutant and potential impacts

The content of various chemicals in wastewater, their volumes and the frequency of penetration into surface and ground water bodies depends on the initial composition of natural water components, on the use of acids for cleaning the bottomhole in oil and gas production, on the operating mode and on the quality of wastewater treatment.

Value chain stage

Direct operations
Supply chain

Actions and procedures to minimize adverse impacts

Water recycling
Upgrading of process equipment/methods

Please explain

At one of the refineries, the works were completed on upgrading of treatment facilities, as a result of which the efficiency of industrial wastewater treatment for oil products and suspended solids was improved from 76% to 98%, which reduces the environmental

load by reducing emissions into the environment.
Additional stages of wastewater treatment were introduced at ultrafiltration and reverse osmosis units. The purified waste water is used in the recycling water supply system of the enterprise and meets regulatory requirements. Deep purification of wastewater at ultrafiltration and reverse osmosis units allows to save fresh water up to 1.5 million m3 per year, previously taken from city water supply systems.
At another oil refinery, the works were started on the design and reconstruction of treatment facilities.
The project will help to reduce water intake from the river by applying a multi- stage wastewater treatment system that will remove up to 99% of pollutants from wastewater and, therefore, will greatly increase water reuse, allowing up to 50% of treated wastewater to be recycled. This project will allow to stop the operation of evaporation fields, to eliminate the impact on groundwater.
For all installations handling substances of concern to water, routine maintenance of seals, pumps, fittings, filling and transfer points, etc. is provisioned, and, where appropriate, leak detection devices are installed

W3.3

(W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

W3.3a

(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

Value chain stage

Direct operations

Coverage

Full

Risk assessment procedure

Water risks are assessed in an environmental risk assessment

Frequency of assessment

More than once a year

How far into the future are risks considered?

1 to 3 years

Type of tools and methods used

Enterprise risk management

Tools and methods used

Enterprise Risk Management

Other, please specify
Internal company methods

Contextual issues considered

Water quality at a basin/catchment level

Stakeholders considered

Local communities
NGOs
Regulators
Suppliers

Comment

Based on the regular risk assessment, a list of production, economic, reputational and social risks associated with the consumption of water resources by KMG is compiled and updated on an annual basis. The company's water risks are included in the environmental risk assessment and analyzed on a corporate-wide basis, which allows to track the trend against the background of the overall development pattern of our company.
A risk report, including water-related risks, is developed on a quarterly basis and submitted to the Board of Directors. Issues related to water resources management, including risks, are also considered by the Committee of the Board of Directors on Health, Safety, Environment and Sustainable Development.
KMG regularly analyses environmental performance and benchmarks against leading international oil and gas associations (IOGP, CDP).

Value chain stage

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

Frequency of assessment

More than once a year

How far into the future are risks considered?

1 to 3 years

Type of tools and methods used

Enterprise risk management

Tools and methods used

Enterprise Risk Management
Other, please specify
Internal company method

Contextual issues considered

Water quality at a basin/catchment level
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

Employees
Local communities
NGOs
Regulators
Suppliers

Comment

Being a vertically integrated oil and gas company operating in the segments of production, processing and transportation of oil and gas, KMG is an intra-corporate value chain, which provides for an extensive and detailed analysis of all its enterprises in terms of their interrelationships.

W3.3b

(W3.3b) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	The assessment of the identified risk factors and the subsequent assessment of the production/non-production risk to which the identified risk factors are relevant is performed to determine the extent of its impact on the achievement of the Company's production/non-production KPIs. Production/non-production risks and corresponding risk-factors are analyzed according to	Contextual issues include assessing the quality and quantity required for industrial activities, as well as access to fully functional, safely managed WASH services for all employees, as they all contribute to understanding the overall risks associated with water. We strive to invest in water resource efficiency programs and manage water resources efficiently and responsibly to	KMG considers key stakeholders to ensure sustainable use of water sources and continuous access to all of Water availability. To assess the effectiveness of our water management strategies, we conduct comparative assessments of tools and processes, benchmark against peers and share best practices. We also track actual water usage at each site as well as projects that were completed to	In accordance with the Corporate Water Standard, the company on an annual basis assesses the realized and new potential risks in terms of the use of water resources. Methods for identifying risk factors include analysis of production / non-production processes, industry and international comparisons, collection and analysis of statistical data, analysis of the existing database of realized risk events, analysis of reporting, individual

	probability of their occurrence (probability of realization) and degree of influence (potential damage). The assessment of parameters of risk can have quantitative or qualitative character. The company will aspire to develop and apply mainly quantitative methods of an assessment of risks/risk-factors, constantly to improve modern methods of a quantitative assessment of risks. The horizon for assessing risk parameters corresponds to the horizon for achieving the relevant goal (objective) of KMG and its subsidiaries and affiliates.	ensure sustainable and continuous use.	reduce consumption. Stakeholders are engaged at local level, as well as regulators, other users, local authorities, employees, suppliers and customers.	expert methods (interviewing) and group expert opinions. Monitoring is carried out by the responsible division of KMG through the quarterly collection of information on the dynamics of risks and the implementation of action plans and control procedures for their management.

W4. Risks and opportunities

W4.1

(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes, only within our direct operations

W4.1a

(W4.1a) How does your organization define substantive financial or strategic impact on your business?

The corporate risk management system is a key component of the corporate governance system and is aimed at timely identification, assessment, monitoring and mitigation of potential risk events that may negatively affect the achievement of strategic and operational goals. The

company considers the risks associated with water resources and strives to contribute to a sustainable future while minimizing the impact on the environment and water bodies at all stages of its activities. In accordance with the Policy on the corporate risk management system of JSC NC KazMunayGas and its subsidiaries and affiliates, when determining the impact of risk on business, the Company assesses the identified risk factors and then assesses the production/non-production risk, which is characterized by the identified risk factors in order to determine the degree of its influence on the achievement of production / non-production KPI of the Company. (KPI - indicators reflecting the effectiveness of the Company and allowing to measure the level of achievement of the set goals).

Production/non-production risks and the corresponding risk factors are analyzed according to the likelihood of their occurrence (probability of realisation) and the degree of influence (potential damage). The assessment of risk parameters can be quantitative or qualitative. The company will strive to develop and apply primarily quantitative methods for assessing risks/risk factors, constantly accumulate and improve modern methods of quantitative risk assessment. The choice of methods for responding to production/non-production risks, the development of an Action Plan for managing production/non-production risks in order to ensure an acceptable level of residual risk includes standard methods. For risks/risk factors, the implementation of which may suspend the activities and operations of the Company, the Business Continuity Plans are developed and approved, providing for consistent actions of employees to restore the operating activities of the Company.

The factors for the continuity of the Company's operations are: weather conditions, droughts, floods, water shortages in the region, accounting system at the enterprise, natural disasters, potential damage from industrial accidents, consumer expectations, reliability of information on the state of the environment, decision-making by shareholders, international standard requirements, litigation, information system security, fragile supply chains, regulatory bodies and legislation, etc. Risk management measures are applied in such a way that the aggregate level of risk throughout the Company does not exceed the acceptable level.
The Company's risk appetite characterizes its own level of risk retention, within which the Company can achieve its strategic and operational goals. The risk appetite determines the upper limit of the level of critical risks/risk factors at the consolidated level, which KMG is ready to accept. It also affects the allocation of resources, the organization of processes and the creation of the infrastructure within the organization necessary for effective monitoring and response to risk events.

The risk appetite (statement of risk appetite) of the Company for the planning period on a consolidated basis is approved by the Board of Directors of KMG and has the following characteristics:
1) reflects KMG's Development Strategy;
2) covers all key aspects of activity;
3) considers the desire and ability to take risks;
4) determines KMG's attitude to risk;
5) revised regularly subject to industry and market conditions;
6) requires effective monitoring of the risk itself;
7) includes both quantitative and qualitative indicators.

Environmental risk factors are identified and assessed within the corporate structure of KMG using the following methods (including, but not a complete list of methods):

- Process safety assessments;
- Collection and analysis of historical data on realized risks, review of previous reports;
- A method of interviewing experts.

The identified risks and risk factors are assessed based on three indicators: frequency/probability, time frame, and impact. We also differentiate approaches to impact assessment in terms of operational and non-operational risks. More specifically, the assessment of the impact of operational risks based on the definition of damage in absolute physical terms is carried out at the asset/facility level, while the impact assessment of non-operational risks is based on the definition of damage in monetary terms and is implemented at the corporate level.
Financial exposure to risk is rated on a scale from 1 (minor) to 5 (catastrophic) and is based on an assessment of the potential financial loss from risk. In addition, the degree of financial damage is assessed in terms of quantitative parameters of the company's acceptable risk. If it is not possible to assess the financial implications of risks, we use non-financial indicators.

W4.1b

(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	3	1-25	KMG carries out production activities in the entire territory of the Republic of Kazakhstan, as well as in Romania and Georgia. Facilities subject to water risks that could potentially have a significant financial or strategic impact on our business are located in western Kazakhstan, where there is a risk of water supply deficit.

W4.1c

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

Country/Area & River basin

Kazakhstan

Ural

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

% company's global oil & gas production volume that could be affected by these facilities

Less than 1%

% company's total global revenue that could be affected

Less than 1%

Comment

The risk of damage to the environment due to violations of legal and other environmental requirements was identified as highly probable, with an average impact during implementation. Among the planned current measures of preventive action, the following can be outlined:
1. Introduction of a corporate standard for water resources management in the KMG group of companies: submission of the Corporate Standard to subsidiaries, consultations on implementation, taking into account the specifics and scope of application;
2. Analysis of the availability of water use permits in subsidiaries and affiliates in accordance with the Environmental Code and the Water Code of the Republic of Kazakhstan;
3. Environmental expertise for the development of a desalination plant construction project;
4. Signing of a commitment to sustainable water management by the CEOs of subsidiaries within the framework of the HSE Forum;
5. Collection of Action Plans to improve water resources management from subsidiaries in accordance with the requirements of the Corporate Standard.
Analysis, preparation of a general plan for water resources management by KMG

Country/Area & River basin

Kazakhstan
Other, please specify
Caspian Sea Coast

Number of facilities exposed to water risk

2

% company-wide facilities this represents

26-50

% company's global oil & gas production volume that could be affected by these facilities

26-50

% company's total global revenue that could be affected

21-30

Comment

The risk of oil spills during offshore operations in the corporate system of identification and risk assessment is defined as low probability, but disastrous when implemented. KMG's readiness for oil spills is based on the application of internal procedures and policies developed in accordance with the legislation of the Republic of Kazakhstan and sound international practice for the exploitation of oil and gas fields. KMG possesses an extensive reserve of oil spill response equipment, modern technologies and a specialized division.

All equipment and specially trained personnel are in a state of constant readiness. To regularly practice planning, tactics and use of equipment in oil spill response, KMG annually develops a comprehensive training and incident command team exercises plan, approved by the Emergency Department of the Emergency Committee of the Ministry of Internal Affairs of the Republic of Kazakhstan. The plan includes conducting regular training and oil spill response exercises, as well as Republican exercises jointly with the Ministry of Emergency of the Republic of Kazakhstan, in order to test readiness at the regional level and increase the efficiency of resource mobilization. In the unlikely event of an oil spill, international resources will be mobilized, while OSR activities will be coordinated by the Republican authority in accordance with the National Prevention and OSR Plan.

W4.2

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

Country/Area & River basin

Kazakhstan
Ural

Type of risk & Primary risk driver

Acute physical
Pollution incident

Primary potential impact

Fines, penalties or enforcement orders

Company-specific description

The risk of oil spills during offshore operations was identified as a low probability risk, but disastrous when implemented

Timeframe

4-6 years

Magnitude of potential impact

High

Likelihood

Very unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

As an oil spill can occur due to sudden emergencies, the most acceptable response method is environmental insurance against possible environmental pollution.

Primary response to risk

Increase insurance coverage

Description of response

In 2021, there were no realized risks of pollution of the Caspian Sea basin. Risk identification is carried out on the basis of the experience of other companies - a comparative analysis of the processes and indicators typical for the KMG group of companies with other companies by industry specialization or functional activities. Data from the mass media, reports from specialized agencies can be used for the analysis. The North-Caspian Environmental Oil Spill Response Base (NCERB) was set up, which is KMG facility.

To date NCERB is the only strategic object of the service infrastructure to support oil operations in the northern part of the Caspian Sea and the one-of-a-kind special facility that ensures responding to oil spills (OSR)
The main assignment of NCERB is the following:

• an oil spill response center in the North Caspian (primarily the Kashagan field);

• an animal rehabilitation center, where in case of an emergency at sea, oil-contaminated animals will be delivered in special containers, and where they will be

cleaned and left for rehabilitation with subsequent return to nature;

• a training center where emergency personnel will be trained in the use of equipment in the event of a spill at sea;

• center for environmental and meteorological monitoring

Cost of response

Explanation of cost of response

Country/Area & River basin

Kazakhstan
Ural

Type of risk & Primary risk driver

Primary potential impact

Increased operating costs

Company-specific description

The risk of exceeding the consumption of water resources in regions with fresh water deficit

Timeframe

More than 6 years

Magnitude of potential impact

Medium-high

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Risk assessment and identification was not carried out

Primary response to risk

Increase investment in new technology

Description of response

At one of the refineries, as a result of the modernization of treatment facilities, the efficiency of industrial wastewater treatment for oil products and suspended solids was improved from 76% to 98%, which reduces the environmental load due reducing emissions into the environment.
Additional stages of wastewater treatment were introduced at ultrafiltration and reverse osmosis units. The treated waste water is used in the recycling water supply system of the enterprise and meets regulatory requirements.
Integrated wastewater treatment at ultrafiltration and reverse osmosis units allows saving fresh water up to 1.5 million m3 per year, previously taken from city water supply systems.
Overhaul of the cooling tower was carried out to increase the volume of fresh service water in the amount of 3 thousand m³; improving the efficiency of cleaning treatment facilities.

Cost of response

Explanation of cost of response

Country/Area & River basin

Kazakhstan
Not known

Type of risk & Primary risk driver

Regulatory
Regulatory uncertainty

Primary potential impact

Fines, penalties or enforcement orders

Company-specific description

The risk of damage to the environment due to violations of legal and other environmental requirements is identified as a high probability risk, with an average impact during implementation.

Timeframe

1-3 years

Magnitude of potential impact

Medium

Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

Initially, the risk was identified as large, but after taking preventive measures, the risk assessment decreased to noticeable level
In 2021, 1 cases of realized risks of damage to the environment were recorded in connection with violations of legal and other environmental requirements for exceeding the discharge of pollutants into water.

Primary response to risk

Improve pollution abatement and control measures

Description of response

-Introduction of a corporate standard for water resources management in the KMG group of companies: submission of the Corporate Standard to subsidiaries, consultations on implementation, taking into account the specifics and scope of application;
- Analysis of the availability of water use permits in subsidiaries and affiliates in accordance with the Environmental Code and the Water Code of the Republic of Kazakhstan;
- Environmental expertise for the development of a desalination plant construction project;
- Signing of a commitment to sustainable water management by the CEOs of subsidiaries within the framework of the HSE Forum;
- Collection of Action Plans to improve water resources management from subsidiaries in accordance with the requirements of the Corporate Standard

Cost of response

Explanation of cost of response

KMG started works on the construction of a desalination plant as a preventive measure in order to save water, as well as works on the design and reconstruction of treatment facilities.

W4.2c

(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	KMG, managing assets throughout the entire production cycle from exploration and production of hydrocarbons (upstream) to transportation (midstream), refining (downstream) and provision of services, is a full-fledged value-added chain within its direct operations. For example, the risk in the “use phase” of an upstream subsidiary is accounted for as the risk of a direct operation for a downstream. Thus, value chain risks are partly included in direct operations risks to avoid double counting.

W4.3

(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

W4.3a

(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

Type of opportunity

Markets

Primary water-related opportunity

Strengthened social license to operate

Company-specific description & strategy to realize opportunity

While carrying out production activities in the region of presence and being aware of its responsibility, KMG is interested in the progressive social and economic development of the Mangistau region. As it is known, the problem of water supply in Mangistau region is especially acute, as the region is located in a semi-desert zone, the water resources of which are limited. The Astrakhan-Mangyshlak water pipeline supplies the Volga water to oil and gas companies, the population, industrial facilities, public utilities and budgetary organizations, agricultural producers. However, the volume of water consumption is growing following the growth of the population and the emergence of new enterprises, as a result of which the water supply capacity is not enough, despite the improvement of

the drinking water supply system.
KMG plans to build a desalination plant in the Mangistau region. The estimated capacity will be 50 thousand cubic meters of water per day. At present, the city is supplied with drinking water at a distance of 2,000 km by transporting the Volga water from the Kigach River. It is planned to complete the project by the end of 2024.
In 2019-2020, one of the subsidiaries of KMG reconstructed the power supply system of the water pumping station, completed the reconstruction of the water pumping station. To replace the worn-out section of the main water pipeline from the main water pumping station Kigach up to 56 kilometers, a new pipeline was laid. Commissioning of the facilities will allow to increae the throughput of the main water pipeline from 95 to 125 thousand cubic meters of water per day. That is, the volume of water supply to residents of Atyrau and Mangistau regions, oil-producing, industrial enterprises and agricultural producers will increase, which will improve the situation with water supply in the region.

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Unknown

Are you able to provide a potential financial impact figure?

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

Type of opportunity

Efficiency

Primary water-related opportunity

Improved water efficiency in operations

Company-specific description & strategy to realize opportunity

The wastewater treatment plant modernization project, to be implemented from 2019 to 2023, will help to reduce water intake from the Ural River by applying a multi-stage wastewater treatment system that will remove up to 99% of pollutants from wastewater and, therefore, multiply the water reuse, allowing up to 50% of treated effluents to be recycled. This project will enable to stop the operation of evaporation fields, eliminate

the impact on groundwater, flora, fauna and atmospheric air of the city. The complete completion of works on the reconstruction of treatment facilities and the reclamation of evaporation fields is scheduled for the end of 2023

Estimated timeframe for realization

1 to 3 years

Magnitude of potential financial impact

Unknown

Are you able to provide a potential financial impact figure?

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

Potential financial impact figure – maximum (currency)

Explanation of financial impact

W5. Facility-level water accounting

W5.1

(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Facility reference number

Facility 1

Facility name (optional)

Country/Area & River basin

Kazakhstan

Other, please specify

Ural river basin

Latitude

47.077986

Longitude

51.921627

Located in area with water stress

No

Oil & gas sector business division

Midstream/Downstream

Total water withdrawals at this facility (megaliters/year)

7,099.41

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

6,933.4

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

166.01

Total water discharges at this facility (megaliters/year)

5,836.29

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

Discharges to brackish surface water/seawater

Discharges to groundwater

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

7,099.41

Comparison of total consumption with previous reporting year

Lower

Please explain

There is a slight decrease in the total water intake and water consumption and a slight increase in the volume of wastewater. Fresh river water is used to feed the recycling water supply systems, for industrial and fire-fighting needs of the plant. For the economical and rational use of water resources, a recycling water supply system is used at the plant's facilities. Industrial wastewater generated during oil refining is treated at mechanical treatment facilities, after which it enters biological wastewater

Facility reference number

Facility 2

Facility name (optional)

Country/Area & River basin

Kazakhstan

Other, please specify

Caspian Sea (east coast)

Latitude

43.639865

Longitude

51.165596

Located in area with water stress

Yes

Oil & gas sector business division

Upstream

Total water withdrawals at this facility (megaliters/year)

16,456.21

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

Withdrawals from brackish surface water/seawater

88.684

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

14,976.991

Withdrawals from produced/entrained water

48,850.3

Withdrawals from third party sources

1,390.544

Total water discharges at this facility (megaliters/year)

44.4

Comparison of total discharges with previous reporting year

Higher

Discharges to fresh surface water

Discharges to brackish surface water/seawater

Discharges to groundwater

Discharges to third party destinations

44.4

Total water consumption at this facility (megaliters/year)

16,459.21

Comparison of total consumption with previous reporting year

Lower

Please explain

There is a slight decrease in the level of consumption and intake of water and wastewater disposal. Effluents from industrial buildings and technological structures, formed as a result of production activities, as well as produced water, flushing, melt and rain surface runoff from the territory of the industrial site are discharged into the industrial sewerage network. Discharge and accumulation of industrial wastewater is carried out in special buffer tanks or inventory pallets, followed by removal of wastewater to the formation water treatment plant. All production sewage water is reused in the reservoir pressure maintenance system. According to the results of 2022, the total volume of associated formation water extracted was 48,850, of which 48,850 was injected into formation to maintain the associated formation pressure. Household waste water generated in the process of household activities, are cleaned at complete biological treatment facilities. The complex of treatment facilities is located at a distance

of about 10.0 km from the water edge of the Caspian Sea and was transferred for a long-term lease to a contracting company.

Facility reference number

Facility 3

Facility name (optional)

Country/Area & River basin

Kazakhstan

Other, please specify

Caspian Sea (east coast)

Latitude

43.340371

Longitude

52.857114

Located in area with water stress

Yes

Oil & gas sector business division

Upstream

Total water withdrawals at this facility (megaliters/year)

16,821.33

Comparison of total withdrawals with previous reporting year

Lower

Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

Withdrawals from brackish surface water/seawater

16,554

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

42,326

Withdrawals from third party sources

267.337

Total water discharges at this facility (megaliters/year)

14

Comparison of total discharges with previous reporting year

Lower

Discharges to fresh surface water

Discharges to brackish surface water/seawater

Discharges to groundwater

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

16,821.33

Comparison of total consumption with previous reporting year

Lower

Please explain

The entire volume of household sewage water is transferred to third-party organizations. At the same time, the volume of associated formation water extracted for 2022 is 42,326 megalitres, 100% of which is injected into formation to maintain the associated formation pressure.

W5.1a

(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water withdrawals – volume by source

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water withdrawals – quality by standard water quality parameters

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water discharges – total volumes

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water discharges – volume by destination

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water discharges – volume by final treatment level

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water discharges – quality by standard water quality parameters

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report. https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

Water consumption – total volume

% verified

76-100

Verification standard used

ESG non-financial reporting standards. GRI standards. KMG developed the Sustainability Report for 2022 using the standard of non-financial reporting GRI standard which was verified by trhird party. The information regarding water management was verified within the verifition of Sustanability report.

https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf, p.116-117

W6. Governance

W6.1

(W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

W6.1a

(W6.1a) Select the options that best describe the scope and content of your water policy.

	Scope	Content	Please explain
Row 1	Company-wide	Description of business dependency on water Description of business impact on water Commitment to align with international frameworks, standards, and widely-recognized water initiatives Commitment to prevent, minimize, and control pollution Commitment to reduce water withdrawal and/or consumption volumes in direct operations Commitment to reduce water withdrawal and/or consumption volumes in supply chain Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace Commitment to safely managed Water, Sanitation and Hygiene (WASH) in local communities	The corporate standard for water resources management in the KMG group of companies is part of the KMG Group HSE Management System. The standard defines corporate principles for water resources management, regulates the activities of KMG Group, employees and contractors of KMG, as well as design organizations whose activities are related to the withdrawal and / or consumption of water resources, relocation, changes in their quality, aimed at minimizing the negative impact on the environment and ensuring environmental sustainability. The main objectives of the Standard are: - determination of key principles of water resources management, intended for mandatory use throughout the KMG Group; - ensuring continuous improvement in water management; - ensuring a unified process of water resources management in the Companies, as opposed to the established practice of uncoordinated management of water use by different divisions for various needs of the company (drinking, industrial, household and other needs); - ensuring the involvement of stakeholders in the process of water resources management in the Company.

		Commitment to water stewardship and/or collective action Commitments beyond regulatory compliance Acknowledgement of the human right to water and sanitation Recognition of environmental linkages, for example, due to climate change	Water resources management in KMG is based on the following 8 “water” principles: 1) recognition of the highest value of water for human life and health, for society and industrial activities, as well as the importance of a careful and rational attitude to the country's water resources. 2) compliance with the requirements of the legislation of the Republic of Kazakhstan, as well as compliance with international standards and best practices. 3) taking into account the issues of fresh water conservation and the efficiency of its use in making managerial decisions and in operations control. 4) assessment and accounting of the initial sources of water intake, regardless of whether water is taken directly or purchased through intermediaries. 5) the maximum cancellation of using potable water for production purposes. 6) 100% instrument metering of water intake and water discharge; 7) the maximum reduction of fresh water intake due to the introduction of water circulation and water-saving technologies, reduction of discharge volumes, by improving the quality of water treatment for maximum possible reuse. 8) Building capacity for sustainable water management through participation in industry associations and international water resource initiatives. 1

[1]KMG Water Management Corporate Standard_Shortened.pdf

W6.2

(W6.2) Is there board level oversight of water-related issues within your organization?

Yes

W6.2a

(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.

Position of individual or committee	Responsibilities for water-related issues

Board Chair	Chief Executive Official of KMG, being the guarantor of adherence to the “8 water principles of KMG”, is responsible for assistance in their implementation. On July 1, 2019, within the framework of the HSE Forum for KMG General Directors, the Chairman of the Management Board signed a personal Statement of Commitment to the rational management of water resources (8 water principles of KMG). This initiative was supported by the chief executives of subsidiaries and affiliates of KMG, signing similar statements of commitment on behalf of their companies. The signed statements of commitment are posted on the official websites of the KMG group of companies. Also, with the adoption of the Corporate Water Standard on December 20, 2018, the Chairman of the KMG Management Board took responsibility for providing the necessary resources (financial, material and human) to fulfill the provisions of the Standard.
Board-level committee	Risk Committee. The aim of the Committee is to assist the KMG management Board in ensuring the effective functioning of the corporate risk management system of the KMG group of companies, prompt and in-depth consideration of issues in the field of risk management that affect the achievement of the strategic and operational goals of the KMG group of companies. The main tasks of the Committee are: 1) preparation of recommendations and proposals for the organization and maintenance of an effective corporate risk management system and internal control system 2) development of processes designed to identify, assess, track and control the risks of the KMG group of companies; 3) coordination of the risk management process for the KMG group of companies; 4) ensuring permanent exchange of information on the risks of the KMG group of companies between the members of the Committee in order to increase the risk culture, transparency and efficiency of the corporate risk management system.
Other, please specify Board of Director-level committee	Committee on Safety, Health, Environment and Sustainable Development The Committee was established to consider a set of issues related to labor protection, implementation of the principles of sustainable development and socio- economic development, social obligations and programs, ensuring business continuation and environmental efficiency. This committee is responsible for initiating, in-depth consideration and decision-making on the economic, environmental and social aspects of the organization's impact. On a regular basis, the implementation of the sustainable development system is reviewed by the Health, Safety, Environment and Sustainability Committee of the Board of Directors. In 2022, the Committee held five meetings, at which 40 issues were considered. The main focus of the Committee in 2022 was on health, safety and environment, strategic management of ESG (Environmental - Social - Governance) aspects, as well as implementation of the sustainable development system. In addition, the Reaffirming its commitment to the realization of the principles of sustainable development: – the Policy in the field of sustainable development has been endorsed;

	- The Policy on Human Rights and Public Relations has been endorsed; - the realization of the Action Plan to improve the ESG rating of KMG is underway; - The Department for Low-Carbon Development has been established in order to develop KMG's own approaches in the field of decarbonization; - The Action Plan of JSC NC "KazMunayGas" for the realization of the Low-Carbon Development Program for the period 2022–2031 has been developed and endorsed; - The Program on personnel health management in the KMG Group of Companies has been endorsed The Committee also pays special attention to the development and implementation of environmental projects, including a long-term Water Management Program
Other, please specify Board of Directors	In accordance with the Corporate Governance Code, the Board of Directors and the Management Board within their competence ensure the formation of an appropriate system in the field of sustainable development and its implementation, while managers and all employees at all levels contribute to low-carbon development. Corporate governance in KMG is improved systematically and consistently. To determine the level of corporate governance practices, the Company regularly conducts independent diagnostics of corporate governance on the performance of the BOD and the management board, risk management, internal control and audit, sustainable development, shareholders' rights and transparency. In order to improve the Company's performance on sustainable development indicators for 2021, the KMG Board of Directors approved the corporate KPI - ESG-rating for the first time. Targets of the approved KPI have been achieved. The international agency Sustainalytics rated KMG's ESG risk management at 28.4 points. In the comparative rating, KMG entered the top 20 among the 270 global oil and gas companies evaluated by Sustainalytics, while maintaining a stable rating level. According to the rating agency's conclusion, the key ESG challenges for the Company are: carbon intensity trend, accident and fatality rate, water intensity trend. In 2021 the KPIs of the Directors of KMG's Health, Safety and Environment, Refining and Petrochemicals, Transportation and Logistics Departments included the indicators related to the approval of the action plan and targets until 2030 on reduction of pollutant emissions, greenhouse gases, water saving and energy saving across KMG Group of Companies. For 2022, functional and corporate KPIs related to the development of KMG's Low Carbon Development Program Action Plans 2022–2031 have been developed and set for the company's top management (4 members of the KMG Management Board), as well as for companies in the Low Carbon Development Program scope

W6.2b

(W6.2b) Provide further details on the board's oversight of water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding corporate responsibility strategy Reviewing and guiding risk management policies Reviewing and guiding strategy	Board of Directors makes decisions on the allocation of responsibilities relating to SD, and on the establishment of the SD management system. BoD's functions are as follows: - annual approval of the SD report that discloses information on water resources management performance; - approval of risk reports (risk matrix) quarterly; - review of progress reports for the water management programs. The reports are provided quarterly and disclose information on projects realization; - monthly reviews of the company's HSE performance.

W6.2d

(W6.2d) Does your organization have at least one board member with competence on water-related issues?

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues
Row 1	Yes	Scientific works and research on environmental safety in the oil and gas sector. One of the members of the Board of Directors has a degree of Doctor of Engineering. Thesis research topic: "Theoretical bases of drilling works safety improvement and development of environmental protection technologies of offshore oil-and-gas fields exploration" (2010). Author of more than 40 publications, articles, books and 5 inventions. Additionally, we would like to inform you that in 2022, the Chairman of the Board and a member of KMG's Board of Directors became the

		former Minister of Ecology of the Republic of Kazakhstan (2019-2021).

W6.3

(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).

Name of the position(s) and/or committee(s)

Safety, Health, Environment and Quality committee

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The BoD health, safety, environment and sustainable development committee exercises general management over the activities of the above officials. The main focus of the BoD HSE&SD Committee in 2022 was on HSE, strategic management of ESG aspects, as well as implementation of the sustainable development system. The key issues on the agenda of the Committee include the following:
- Water Disclodure Project within Climate related issues,
- ESG ranking of KMG,
- Environmental ranking of KMG,
- Approval of the List of priority sustainable development goals of the United Nations for KMG,
- Implementation of the system of sustainable development in KMG and its business units and inclusion of the principles of sustainable development in the key business processes,
- Establishment of KPIs (key performance indicators) for individual managers of the Company related to the implementation of sustainable development.
- KMG reports on HSE and environmental protection.

Name of the position(s) and/or committee(s)

Other, please specify
Board Chair

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

Chief Executive Official of KMG, being the guarantor of adherence to the “8 water principles of KMG”, is responsible for assistance in their implementation. On July 1, 2019, within the framework of the HSE Forum for KMG General Directors, the Chairman of the Management Board signed a personal Statement of Commitment to the rational management of water resources (8 water principles of KMG). This initiative was supported by the chief executives of subsidiaries and affiliates of KMG, signing similar statements of commitment on behalf of their companies. The signed statements of commitment are posted on the official websites of the KMG group of companies. Also, with the adoption of the Corporate Water Standard on December 20, 2018, the Chairman of the KMG Management Board took responsibility for providing the necessary resources (financial, material and human) to fulfill the provisions of the Standard.

Name of the position(s) and/or committee(s)

Environmental, health, and safety manager

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

The HSE service is responsible for:
- the implementation and observance in the Company of the principles of rational management of water resources (8 "water principles"), for the collection of information on the use of water resources by the Company (except for information provided by other structural divisions), for the development of the Plan for the rational management of water resources, its implementation and analysis of the Company's activities in the field of water resources management.
- carrying out inspections of facilities for compliance with the requirements of the legislation of the Republic of Kazakhstan and the Corporate Standard for water resources management, KMG's internal regulatory documents;
- interaction with the authorized body, with other state regulatory bodies on water resources management, as well as with the responsible structural unit of KMG:
- development and approval of the Water Resources Management Program

Name of the position(s) and/or committee(s)

Facilities manager

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

Chief executive officer of subsidiaries and affiliates is responsible for:
- assistance in the implementation of all the principles specified in this Standard;
- provision of the necessary resources (financial, material and human) to fulfill the provisions of the Standard.
Heads of the production structural divisions of the Companies are responsible for:
- regular inventory of water intake and water disposal metering devices, as well as for the completeness, reliability and timeliness of information on production structural divisions, collected / updated in accordance with the requirements of the Corporate Water Management Standard. Also, the Heads of subsidiaries, whose total annual water intake is more than 1 million cubic meters of water and companies that have their own treatment facilities and / or wastewater receivers, are responsible for developing Plans for the rational management of water resources for a 5-year period.

Name of the position(s) and/or committee(s)

Process operation manager

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The structural production units of the Company are responsible for:
- for obtaining the necessary permits for special water use when withdrawing and / or using groundwater with withdrawal limits from fifty cubic meters per day and during intake and / or use of surface water applying stationary, mobile and / or floating structures for mechanical and gravity water intake from surface and sea waters;
- for interaction with the HSE Service in terms of providing information in accordance with the requirements of the Corporate Standard for Water Resources Management.

Name of the position(s) and/or committee(s)

Other C-Suite Officer, please specify
Board of Directors

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

The Board of Directors (BoD) and the Management Board, within their competencies, ensure the formation of an appropriate system in the field of sustainable development and its implementation, while officials and all employees at all levels contribute to sustainable development.

Name of the position(s) and/or committee(s)

Chief Sustainability Officer (CSO)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

More frequently than quarterly

Please explain

Deputy Chairman of the Management Board for Strategy, Investments and Business Development: Issues related to the creation and implementation of a sustainability management system to ensure compliance with sustainability principles, as well as integration of sustainability into the Company's key processes, development strategy and decision-making processes.

Name of the position(s) and/or committee(s)

Chief Financial Officer (CFO)

Water-related responsibilities of this position

Assessing water-related risks and opportunities
Managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

As important matters arise

Please explain

The Deputy Chairman of the Management Board for Economics and Finance is responsible for resolving a set of issues related to the economic component of KMG's sustainable development. The above persons are accountable to the Chairman of the Management Board of KMG. The accountability of those responsible for resolving economic, environmental and social issues is regulated in detail by internal regulations, internal control procedures and the continuity of the Company. So, on a regular basis, in

accordance with development plans, issues are submitted for consideration by the Management Board, which in turn is accountable to the BoD.

W6.4

(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?

	Provide incentives for management of water-related issues	Comment
Row 1	Yes	

W6.4a

(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?

	Role(s) entitled to incentive	Performance indicator	Contribution of incentives to the achievement of your organization's water commitments	Please explain
Monetary reward	Other, please specify BoD HSE & SD Committee Chairman	Reduction of water withdrawals – direct operations Reduction in water consumption volumes – direct operations Improvements in water efficiency – direct operations Implementation of employee awareness campaign or training program on water-related issues Implementation of water-related community project	The company strives to improve its performance in the field of water resources and integrated them into the system of strategic and medium-term efficiency of managers. KMG strives for standards of high social responsibility based on the principles of partnership with employees and trade unions	In order to stimulate the activity of the Committee on HSE and Sustainable Development of the Board of Directors, the Chairman is paid a remuneration. When setting the amount of remuneration, responsibilities, the scope of the company's activities, long-term goals and objectives are taken into account.
Non-monetary reward				

W6.5

(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

Yes, trade associations

W6.5a

(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

The main instrument for integrated water resources management is the Corporate Water Management Standard, which aims to fully understand its impact and to take into account the equitable sharing of water sources with other users in the region of presence.
One of the goals of the implementation of the Corporate Standard for Water Resources Management is to ensure the involvement of stakeholders in the water resources management process.
Direct interaction with the authorized government body on water resources management is carried out by the HSE Service.
Thus, it is through a single structural unit that the consolidation of the Company's data and interaction with government agencies is ensured, which leads to compliance with the internal policy in the field of water resources management and its compliance with legal requirements.
This approach also enables to identify possible ways to improve the water resources management system in the Republic of Kazakhstan and bring them up for discussion with representatives of government bodies.
To improve the efficiency of water resources conservation and management and to identify measures and targets to reduce water withdrawal, increase recycling of water supply, a long-term Water Resources Management Program is planned to be developed in 2023 in KMG Group

W6.6

(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?

No, but we plan to do so in the next two years

W7. Business strategy

W7.1

(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	5-10	Water resources management at KMG is an ongoing process that ensures sustainable development. The first and one of the main steps towards business continuity is accepring the value of water for business and society. By signing the Statement of KMG's Commitment to “8 water principles”, the Chairman of the Management Board showed his unconditional intention toward conservation and rational use of water resources. One of the performance criteria of the HSE Management System of the KMG Group of Companies is the implementation by subsidiaries of the 5-year Plans for the rational use of water resources. Plans are developed for our subsidiaries, whose total annual water withdrawal is more than 1 million cubic meters of water (from surface and underground sources, sea water and / or water from city water supply systems) and organizations that have their own treatment facilities and / or wastewater receivers. The plans contain: measures to reduce water intake from natural sources; measures to improve the quality of effluents and their re-use; measures to minimize risks etc. The Company is implementing projects aimed at reducing discharges and water withdrawals from natural sources. To improve the efficiency of water resources conservation and management and to identify measures and targets to reduce water withdrawal, increase recycling of water supply, a long-term Water Resources Management Program is planned to be developed in 2023 in KMG Group.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	In 2021 the Company's strategy until 2031 was renewed, where one of the 4 main strategic goals of the company was set as "Sustainable development and continuous reduction of carbon intensity of production". Among the strategic initiatives of KMG, environmental responsibility stands out, one of the priority areas of which is water resources management. Health, Safety and Environment (HSE) management objectives are directly linked to the KMG Group’s 2031 Development Strategy (hereinafter referred to as the Strategy). The Strategy includes strategic initiatives to

			increase environmental responsibility. Priority areas for KMG Group in terms of environmental protection include management of air emissions, reduction of flaring of crude gas, water management, production waste and land reclamation, and biodiversity conservation
Financial planning	Yes, water-related issues are integrated	5-10	An important criterion in determining our strategic direction in the field of water resources management through the implementation of the 5-year Plan for the rational use of water resources for each of our enterprises is the correct and reasonable allocation of the budget funds and defining the environmental efficiency of the planned activities. Thus, a mandatory component of the 5-year Plan is the budget for the implementation of its items with the calculation of the economic efficiency from the implementation of the entire Plan or the activities provided for in it, separately. Even if there is no economic efficiency or it is impossible to calculate it for the entire Plan or for individual measures, the criterion for the feasibility of measures to be carried out is the risks of the general corporate system of KMG, the prevention of which is facilitated by one or another measure or the entire Plan as a whole.

W7.2

(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

Row 1

Water-related CAPEX (+/- % change)

353

Anticipated forward trend for CAPEX (+/- % change)

653

Water-related OPEX (+/- % change)

216

Anticipated forward trend for OPEX (+/- % change)

-11

Please explain

The amount of capital expenditures in 2022 has been increased by the TAZALYQ project. Work continues on the project "Modernization of treatment facilities (MTF)": next year, oil separators, a sand trap, a flotation unit and ASP-3 (additional sludge pond) will be dismantled. At present, the construction of oil sludge dehydration and preliminary treatment units is 98% completed. After the reconstruction of the MTF, part of the treated water will be reused for the needs of the plant - to reduce the intake of fresh water for industrial purposes from the Ural River. The TAZALYQ project will have a significant environmental impact by bringing the quality of wastewater treatment up to standard levels and stopping the release of harmful fumes into the atmosphere from open tanks of the treatment plant and the environmental impact of evaporation fields. The negative impact of production on groundwater, flora, fauna and atmospheric air of the city of Atyrau will be excluded.

W7.3

(W7.3) Does your organization use scenario analysis to inform its business strategy?

	Use of scenario analysis	Comment
Row 1	No, but we anticipate doing so within the next two years	The KMG Group long-term water management program is under development.

W7.4

(W7.4) Does your company use an internal price on water?

Row 1

Does your company use an internal price on water?

Yes

Please explain

Due to that the KMG group of companies also includes companies which is responsible for fresh water transport within KMG subsidiaries and affiliates, there is an internal price on water.

W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	No, and we do not plan to address this within the next two years	Important but not an immediate business priority	In the short term the company plans to develop a water management program that will

			address the impact of our products on water.

W8. Targets

W8.1

(W8.1) Do you have any water-related targets?

No, but we plan to within the next two years

W8.1c

(W8.1c) Why do you not have water-related target(s) and what are your plans to develop these in the future?

	Primary reason	Please explain
Row 1	We are planning to introduce a target within the next two years	The KMG Group long term water management program is under developmant in 2023 where the water related target to be identified.

W9. Verification

W9.1

(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?

Yes

W9.1a

(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1 Current state	May 18, 2023	ISAE 3000	The data disclosed in this section was verified as part of the verification of KMG's 2022 Sustainability Report. The conclusion of the verifier on pages 168-169 of the report by the following link: https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf

W2 Business impacts	May 18, 2023	ISAE 3000	The data disclosed in this section was verified as part of the verification of KMG's 2022 Sustainability Report. The conclusion of the verifier on pages 168-169 of the report by the following link: https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf
W6 Governance	May 18, 2023	ISAE 3000	The data disclosed in this section was verified as part of the verification of KMG's 2022 Sustainability Report. The conclusion of the verifier on pages 168-169 of the report by the following link: https://www.kmg.kz/upload/iblock/69d/xf3nnrr9pbbjmmf3ckzlysknxq80hagx/KMG_EN_2022.pdf

W10. Plastics

W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Yes	Other, please specify Reducing the use of plastic in the daily work environment.	KMG adheres to the principles of the "Green Office", which are aimed at the economical use of all resources and care for the environment. We are actively working on the implementation of measures that will help us constantly improve working conditions, increase the comfort and efficiency of work, improve the design and architecture of our offices, increase green spaces and provide recreational opportunities for our employees. We strive to reduce resource consumption, create a favorable ecological environment and achieve economic efficiency of our activities, observing the principles of the "Green Office". Negotiations are underway to install a vending machine in the building of the KMG corporate center - a terminal for receiving plastic bottles and glass containers.

W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	

W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	

W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Please explain
Row 1	No – and we do not plan to within the next two years	

W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	No	
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W11. Sign off

W-FI

(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Environmental, health and safety Director	Other, please specify HSE Director, CEO-1

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Yes, CDP may share our Main User contact details with the Pacific Institute

Please confirm below

I have read and accept the applicable Terms