

# ANNEX 1 REPORTING BOUNDARIES, CHANGES, NOTES

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

## Reporting boundaries

The Report covers subsidiaries and affiliates of KMG, in which fifty or more percent of voting shares (participation shares) are directly or indirectly owned by KMG by right of ownership or trust management, as well as legal entities whose activities KMG is entitled to control.

The list of legal entities included in the consolidated financial statements is presented by the following organizations: “KMG Exploration Production” JSC, “KazTransGas” JSC, “KazTransOil” JSC, “Atyrau Refinery” LLP, “Pavlodar Refinery” LLP, “KMG Onimderi” LLP, “KazMunayTeniz” LLP, “KMG” LLP, “Cooperative KMG PKI U.A.”, “KMG International N.V.”, “KMG Karachaganak” LLP, “Kazmortransflot” LLP, “KMG Drilling & Services” LLP.

Boundaries of sections “Management System for Health, Safety and Environmental Protection” and “Safety at the Workplace”: subsidiaries and affiliates with 50% or more of KMG’s participation. Contractors and joint ventures with a KMG interest of <50% are not included in the reporting boundaries (with the exception of “TenizService” LLP with a 49% interest). Additionally, besides to full-time employees, the outsourced and outstaffed workers of the Company are included in the reporting boundaries.

Boundaries of sections “Use Of Energy Resources And Energy Performance”, “Utility Consumption”, “Reducing Energy Consumption” and “Energy Intensity” include 14 subsidiaries and affiliates that fully reflect the energy-intensive enterprises of the Group: Upstream – “Ozenmunaygas” JSC, “Embamunaygas” JSC, “Kazgermunai” LLP JV, “Karazhanbasmunay” JSC, “Mangistaumunaygas” JSC, “Kazakhturkmunay” LLP, “Kazakhoil Aktobe” LLP. Midstream – “NMSK “Kazmortransflot” LLP, “KazTransGas” JSC, “KazTransOil” JSC. Downstream – “Atyrau Refinery” LLP, “Pavlodar Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP.

Boundaries of the section “Water resources use”: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP,

“Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” LLP JV, “Karazhanbasmunay” JSC, “KazGPZ” LLP, “KazTransOil” JSC, “KazTransGas” JSC, “NMSK “Kazmortransflot” LLP, “Pavlodar Refinery” LLP, “Atyrau Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP, “Zhambyl Petroleum” LLP, “Ozenmunayservis” LLP, “Oil Construction Company” LLP, “Oil Services Company” LLP.

Boundaries of the section “Climate change and air quality” cover the following subsidiaries and affiliates of KMG: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP, “Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” LLP JV, “Karazhanbasmunay” JSC, “KazGPZ” LLP, “KazTransGas” JSC, “KazTransOil” JSC, “Pavlodar Refinery” LLP, “Atyrau Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP and oilfield service organizations. The Report does not cover subsidiaries and affiliates such as “KMG Security” LLP, “Cooperative KMG PKI U.A.”, “KMG Karachaganak LLP”, “KMG Onimderi” LLP and “KMG Drilling & Services” LLP, which were covered by the financial statements.

Boundaries of the section “Associated petroleum gas utilization” cover the following subsidiaries and affiliates of KMG, in which fifty or more percent of voting shares (participation shares) are directly or indirectly owned by KMG on the right of ownership or trust management, as well as legal entities whose activities KMG is entitled to control: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP, “Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” JV LLP, “Karazhanbasmunay” JSC.

Boundaries of the “Waste Management” section: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP, “Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” JV LLP, “Karazhanbasmunay” JSC, “KazGPZ” JSC, “Urikhtau Operating” LLP, “KazTransOil” JSC, “KazTransGas” JSC group of companies, “Pavlodar Refinery” LLP, “Atyrau Refinery” LLP, “PetroKazakhstan Oil Products” LLP,

“JV “CASPI BITUM” LLP, “Zhambyl Petroleum” LLP, “Ozenmunayservice” LLP, “Oil Construction Company” LLP, “Oil Services Company” LLP.

Boundaries of the section “Greenhouse gas emissions” cover the following subsidiaries and affiliates of KMG: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP, “Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” JV JSC, “Karazhanbasmunay” JSC, “KazGPZ” LLP, “KazTransGas” JSC, “KazTransOil” JSC, “Pavlodar Refinery” LLP, “Atyrau Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP, KMG-International (Rompetrol, Petroleum, Vega), “Batumi Oil Terminal” LLC and oilfield services organizations.

Boundaries of the section “Compliance with environmental requirements”: “Kazakhoil Aktobe” LLP, “Kazakhturkmunay” LLP, “Mangistaumunaygas” JSC, “Embamunaygas” JSC, “Ozenmunaygas” JSC, “Kazgermunai” JV LLP, “Karazhanbasmunay” JSC, “KazGPZ” LLP, “KazTransOil” JSC, “KazTransGas” JSC, “NMSC “Kazmortransflot” LLP, “Pavlodar Refinery” LLP, “Atyrau Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP, “Zhambyl Petroleum” LLP and oilfield services organizations.

Boundaries of the “Environmental Expenses” section include: “Ozenmunaygas” JSC, “Embamunaygas” JSC, “Karazhambasmunay” JSC, “Kazgermunai” JV LLP, “Kazakh GPZ” LLP, “Ozenmunayservice” LLP, “Ural Oil and Gas” LLP, “TulparMunayService” LLP, “Kazakhturkmunay” LLP, “Kazakhoil Aktobe” LLP, “Mangistaumunaygas” JSC, “KazTransOil” JSC, “KazTransGas” JSC, “KazMunayTeniz” JSC MNE, “NMSC “Kazmortransflot” LLP, “Oil Construction Company” LLP, “Oil Services Company” LLP, “Satpayev Operating” LLP, “Urikhtau Operating” LLP, “KMG Systems & Services” LLP, “Atyrau Refinery” LLP, “Pavlodar Refinery” LLP, “PetroKazakhstan Oil Products” LLP, “JV “CASPI BITUM” LLP.

The “Employment” section includes data on the actual number of employees for all subsidiaries and jointly controlled entities on the activities of which KMG has a significant influence regardless of percentage of voting shares (ownership interest).

Boundaries of the “Personnel Development” section: subsidiaries, affiliates, and jointly controlled entities with a 50% or more KMG interest, with the exception of “TenizService” LLP with a 49% interest and “PKOP” LLP with a 49.7% interest.

Boundaries of the “Equal Opportunities” section: subsidiaries, affiliates and jointly controlled entities with a 50% or more KMG interest, with the exception of “TenizService” LLP with a 49% interest, “PKOP” LLP with a 49.7% interest and Caspi Meruerty Operating Company BV with a 40% interest.

Boundaries of the “Our Communities” section: subsidiaries, affiliates and jointly controlled entities with a 50% or more KMG interest, with the exception of “TenizService” LLP with a 49% interest.

Boundaries of the section “Human Rights”: subsidiaries, affiliates and jointly controlled entities with a 50% or more KMG interest, with the exception of “PKOP” LLP with a 49.7% interest.

## Supplements, assumptions and description of methodology for data collection, consolidation and calculation

Data in the text of the Report may slightly differ from the data presented in consolidated financial statements (CFS) due to estimate indicators rounding. In such cases, data of the relevant CFD posted on the KMG website is correct and paramount. Given data may slightly differ from previously published due to different calculation methods and approaches to information disclosure in the Report.

The following business areas are included in the text of the Report: “Upstream” – KMG’s subsidiaries and affiliates engaged in oil and gas exploration and production; “Midstream” – KMG’s subsidiaries and affiliates engaged in oil and gas transportation; “Downstream” – KMG’s subsidiaries and affiliates engaged in oil refining.

### Methodology for collection, consolidation and indicators estimation in the “Environmental Responsibility and Safety in the Workplace” chapter

The IOGP (International Oil and Gas Producers Association) benchmarks are listed in the chapter on various parameters. KMG has been a member of this Association since 2018. The Association posts HSE report compiled on the basis of data provided by all the major players in the world oil and gas industry on a yearly basis. Thus, KMG obtains HSE industry average values to grasp the state of this or that aspect. IOGP Report 2017s – Safety performance indicators – 2018 data and

Environmental performance indicators – 2017 data benchmarks, which can be read on the Association official website: <https://www.iogp.org> were used in this report.

KMG currently does not record and calculate data on absentee rate & lost day rate in accordance with GRI 403: Occupational Health and Safety 2016.

### Methodology for collection, consolidation and indicators estimation in the “Key Performance Indicators for KMG Group” Section

Average barrelization ratio for each asset is determined for reserves data. Each field has its own ratio (through hydrocarbon densities), and for the asset and KMG in general we use the average ratio.

Oil and gas production data are presented considering operating assets in which KMG is directly involved in the management of production processes, as well as in megaprojects where KMG has a share of participation, but is not involved in the production process.

## Methodology for collection, consolidation and indicators estimation in the “Water footprint” Section

Analysis of water withdrawal, water consumption and water disposal is carried out in accordance with IOGP and IPIECA reporting requirements. Based on these requirements, forms for environmental information provision by subsidiaries and affiliates were developed. Besides numerical information, information on measurement methods, metering devices and technological features of water resources use in fields and oil refineries is also taken into account.

POCR purchases steam from the city CHP. Condensate return to the CHP is about 30% and is recorded using metering devices. The remaining condensate is recorded by the calculation method as part of the POCR water withdrawal since 2016. Consequently, direct water withdrawal from natural sources is calculated for the AOR and PKOP, and for the POCR the withdrawal from urban water

supply systems plus indirect water withdrawal from the Irtysh River through the city CHP in the form of non-return of condensate and chemically purified water.

KazTransOil supplies the Volga water through the Astrakhan – Mangyshlak water line to users of droughty Atyrau and Mangystau regions of Kazakhstan. KTO transfers more than 90% of the collected water to other water users without using it. Therefore, in order to calculate total water withdrawal value for the entire group of companies corresponding to the physical picture, it is necessary to not take the water transferred by KTO to other KMG companies into account. Also, the amount of actual water withdrawal for the group of companies will not be equal to the sum of water withdrawal volumes for business areas for the same reason.

### *Supplements to the “Water footprint” Section*

The Caspian Sea and the Irtysh River, the total length of which is 4,254 km, are included in the List of water bodies of special state significance approved by the Government of the Republic of Kazakhstan dated January 21, 2004. The Ural River, with a length of 2,428 km, is not included in this list, however, in October 2016, a Treaty between the Government of the Republic of Kazakhstan and the Government of the Russian Federation on preservation of the transboundary Ural basin ecosystem was signed in Astana city (now – Nur-Sultan city), which, in turn, is based on the Convention on wetlands of international importance, mainly as habitats for waterfowl, dated February 2, 1971 and the Convention on Protection and Use of Transboundary Watercourses and International lakes dated March 17, 1992. The Pyatimar reservoir, having a water line area of 5,000 ha and located on the territory of the Pyatimar rural district along the Kushum River, is included in the list of fishery reservoirs of local importance (Resolution No. 176 of the West Kazakhstan Region Akimat dated June 16, 2017).

KMG also conducts exploration and production of hydrocarbon raw materials at the “Urikhtau” field, an oil and gas condensate field located in the Mugalzhar district of the Aktobe oblast. Most of the field is located in the Kokzhide sands known for their fresh water reserves. Kokzhide sands are the largest underground water reserves in Western Kazakhstan and unique in drinking water quality. There are also rare, endemic plant species listed in the “Red Book” of Kazakhstan on the territory, for example: *Medicago komarovii* – a rare, endemic species with a declining range; *Centaurea talievii* – a rare species with a declining range; *Tulira Schrekii* Ragel – a species with a declining range. Underground waters of Kokzhide are included in the List of geological, geomorphological and hydrogeological bodies of the state nature reserve fund of national and international significance (Resolution No. 1212 of the Government of the Republic of Kazakhstan dated November 18, 2010) and represent a huge potential for providing the population with drinking water in the future.

### Supplements to the “Drill mud generation” Section

Drilling is carried out at KMG exclusively by contracting companies and on a turnkey basis – meaning that all generated drilling waste is initially owned by drilling contractors, which conclude agreements with specialized waste disposal/

recycling companies. Further treatment of drilling waste is carried out in accordance with requirements of the environmental legislation of the RoK.

### Supplements to the “Biodiversity Conservation and Environmental Monitoring” Section

KMG conducts the necessary research in the field of forecasting impacts and assessing the level of impacts on biodiversity as part of the EIA in accordance with the legislative requirements of the Republic of Kazakhstan in the field of environmental protection. These studies, as well as the implementation of environmental monitoring programs, allow the Company to identify risks and

make timely decisions on measures to preserve biodiversity or mitigate the negative impact on ecosystems. More detailed information on the impact of our company’s activities on biodiversity in the regions of presence is disclosed in the EIA projects at [http://kmg.kz/rus/ustoichivoe\\_razvitie/environment/](http://kmg.kz/rus/ustoichivoe_razvitie/environment/).

### Methodology for collection, consolidation and indicators estimation in the “Energy consumption” Section

Indicators for the generation and consumption of electric and thermal energy are presented on the basis of data obtained from energy metering (consumption) devices on a monthly basis, including data from commercial metering devices for calculating consumption of purchased electric and thermal energy. In the absence of metering devices, the indicators are determined by calculation method in accordance with regulatory and technical documentation. Reporting on other

types of fuel and energy resources is presented according to actual consumption data for the following types of fuel: natural gas, oil, associated gas, fuel gas, fuel oil, gasoline and diesel fuel. National ratios are used in order to convert data on energy resource consumption to tons of fuel equivalent in accordance with Appendix 2 to the Rules for the Formation and Maintenance of the State Energy Register.

### Methodology for collection, consolidation and indicators estimation in the “Employment” Section

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The employee turnover rate is calculated according to the formula  $E_t = A / B \times 100\%$ , where A is the number of employees who quit on their own initiative, by agreement of the parties and due to the employee’s fault at the end of the reporting period; B – average number for the period

forms, which are filled out by subsidiaries and affiliates on a quarterly basis.

The text of the Report reflects the actual number of employees of the Company; the number of staff was presented earlier in the Reports.

Information on subparagraph d) “Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender” (Disclosure 401-3) is partially collected; The information for subparagraph e) “Return to work and retention rates of employees that took parental leave, by gender” (Disclosure 401-3) is not calculated, since both subparagraphs are not material topics. ■

Data on the number of employees are consolidated on the basis of national statistical