

APPENDICES



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Independent practitioner's assurance report

To the Shareholders, Management and Stakeholders of National Company "KazMunayGas" JSC

Subject matter

We have been engaged by National Company "KazMunayGas" JSC (hereinafter "the Company") to perform a limited assurance engagement, as defined by International Standards on Assurance Engagements, (herein "the Engagement"), to report on the Company's Sustainability Report 2020 (hereinafter "the Report") for 2020 (hereinafter "the reporting period"). Under this engagement, we did not perform any procedures with regard to the following:

- ▶ Forward-looking statements on performance, events or planned activities of the Company; and
- ▶ Information about Report compliance with the Sustainable Development Goals and with the principles of the UN Global Compact.

Applicable criteria

In preparing the Report the Company applied Global Reporting Initiative Sustainability Reporting Standards (hereinafter "GRI Standards") in Core option and the sustainability reporting principles of the Company as set forth in paragraphs "About Report", in Annex 1 of the Report, also in the notes to the indicators in the Report text (hereinafter "the Criteria").

The Company's responsibilities

The Company's management is responsible for selecting the Criteria, and for presenting the Report in accordance with the Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the Report, such that it is free from material misstatement, whether due to fraud or error.

Practitioner's responsibilities

Our responsibility is to express a conclusion on the presentation of the Report based on the evidence we have obtained.

We conducted our assurance engagement in accordance with International Standard for Assurance Engagements (revised) "International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" (hereinafter "ISAE 3000"). ISAE 3000 requires that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Report is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Our Independence and Quality Control

We apply International Standard on Quality Control 1 (ISQC 1), and accordingly, we maintain a robust system of quality control, including policies and procedures documenting compliance with relevant ethical and professional standards and requirements in law or regulation.

We comply with the independence and other ethical requirements of the IESBA Code of Ethics for Professional Accountants, which establishes the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Summary of work performed

The assurance engagement performed represents a limited assurance engagement. The nature, timing and extent of procedures performed in a limited assurance engagement is limited compared with that necessary in a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is lower.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within information technology systems.

A limited assurance engagement consists of making inquiries, primarily of persons responsible for preparing the Report and related information and applying analytical and other appropriate procedures.

Our procedures included:

- ▶ Inquiries of the representatives of the Company management and specialists responsible for its sustainability policies, activities, performance and relevant reporting,
- ▶ Analysis of key documents related to the Company sustainability policies, activities, performance and relevant reporting,
- ▶ Obtaining understanding of the process used to prepare the information on sustainability performance indicators of the Company,
- ▶ Benchmarking of the Report against sustainability reports of selected international and Kazakhstani peers of the Company and lists of sector-specific sustainability issues raised by stakeholders,
- ▶ Review of a selection of corporate and external media publications with respect to the Company sustainability policies, activities, events, and performance in reporting period,
- ▶ Analysis of material sustainability issues identified by the Company,
- ▶ Identification of sustainability issues material for the Company based on the procedures described above and analysis of their reflection in the Report,
- ▶ Review of data samples regarding key production, transportation and refining of oil and gas, economics and finance, personnel management, use of energy resources, environmental protection, industrial safety, labor safety and social and charitable activities indicators for the reporting period, to assess whether these data have been collected, prepared, collated and reported appropriately,
- ▶ Collection on a sample basis of evidence substantiating other qualitative and quantitative information included in the Report at the headquarters level,
- ▶ Assessment of compliance of the Report and its preparation process with Company's sustainability reporting principles,
- ▶ Assessment of compliance of information and data disclosures in the Report with the requirements of the Core option of reporting "in accordance" with the GRI Standards.

We also performed such other procedures as we considered necessary in the circumstances.

Conclusion

Based on the procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Report is not represented fairly, in all material respects, according to the Criteria.

Ernst & Young Advisory LLP

Almaty
July 15, 2021

APPENDIX 1. REPORTING LIMITS, AMENDMENTS AND NOTES

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

REPORTING LIMITS

The Report covers KMG subsidiaries and associated companies where fifty or more percent of voting shares (participation shares) are directly or indirectly owned or held in trust by KMG as well as legal entities whose operations KMG has the right to control.

The list of legal entities included in the consolidated financial statements comprises the following entities: JSC Kazmunaigas Exploration Production, JSC KazTransGas, JSC KazTransOil, AR LLP, POGR LLP, KazMunayGas Onimderi LLP, KazMunaiTeniz LLP, KazMunayGas-Service LLP, KMG International N.V., KMG-Karachaganak LLP, Kazmortransflot LLP, KMG Drilling & Services LLP, Cooperative KazMunayGas PKI U.A.

Use of Energy Resources and Energy Efficiency section covers 14 SACs, which fully represent the Group's energy-consuming enterprises.

- Oil and Gas Production – JSC Ozenmunaigas, JSC Embamunaygas, JSC JV Kazgermunai, JSC Karazhanbasmunai, LLP KazGPP, JSC Mangistaumunaigas, LLP Kazakhturkmunay, LLP KazakhOil Aktobe.
- Oil and gas transportation – JSC "NMSC" Kazmortransflot", JSC KazTransGas, JSC KazTransOil.
- Oil and gas refining – Atyrau Refinery LLP, Pavlodar Oil Chemistry Refinery LLP, PetroKazakhstan Oil Products LLP

Use of Water Resources section covers:

JSC Karazhanbasmunai, JSC Mangistaumunaigas, JV Kazgermunai LLP, Kazakhturkmunay LLP, JSC Ozenmunaigas, JSC Embamunaigas, Kazakhoil Aktobe LLP, KazGPP LLP, JV CASPI BITUM LLP, Pavlodar Oil Chemistry Refinery LLP, PetroKazakhstan Oil Products LLP, Atyrau Refinery LLP, JSC KazTransOil, "NMSC" Kazmortransflot" LLP, JSC Intergas Central Asia, Asia Gas Pipeline LLP, JSC KazTransGas-Aimak LLP, Amangedy Gas LLP, Beineu-Shymkent Gas Pipeline LLP, Magistralniy Vodovod LLP, DWPT LLP – these subsidiaries and affiliates of the Company are the major operating assets of KMG and have a significant impact on use of water resources in Kazakhstan.

Greenhouse gas emissions section covers:

Kazakhoil Aktobe LLP, Kazakhturkmunay LLP, JSC Mangistaumunaigas, JSC Embamunaigas, JSC Ozenmunaigas, JV Kazgermunai LLP, JSC Karazhanbasmunai, KazMunaiTeniz LLP, KazGPP LLP, JSC KazTransGas, JSC KazTransOil, Pavlodar Oil Chemistry Refinery LLP, Atyrau Refinery LLP, PetroKazakhstan Oil Products LLP, JV CASPI BITUM, Romanian Refinery, Batumi Oil Terminal and oil service companies

Air quality section covers: Kazakhoil Aktobe LLP, Kazakhturkmunay LLP, JSC Mangistaumunaigas, JSC Embamunaigas, JSC Ozenmunaigas, JV Kazgermunai LLP, JSC Karazhanbasmunai, KazGPP, LLP "Urikhtau Operating", Pavlodar Oil Chemistry Refinery LLP, Atyrau Refinery LLP, PetroKazakhstan Oil Products LLP, JV CASPI BITUM, JSC KazTransGas, JSC KazTransOil, Beineu-Shymkent Gas Pipeline LLP, JSC Intergas Central Asia, LLP "Amangedy Gas", LLP "Asian Gas Pipeline", LLP "NMSC" Kazmortransflot "and oil service organizations.

Beneficial Use of Raw Gas section covers the following subsidiaries and associated companies of KMG: LLP Kazakhoil Aktobe, LLP Kazakhturkmunay, JSC Mangistaumunaigas, JSC Embamunaygas, JSC Ozenmunaigas, JSC JV Kazgermunai, JSC Karazhanbasmunai.

Waste Management section covers:

JSC Ozenmunaigas, JSC Embamunaigas, JSC Karazhanbasmunai, JV Kazgermunai LLP, Kazakh Gas Refinery LLP, Ural Oil and Gas LLP, Kazakhturkmunay LLP, Kazakhoil Aktobe LLP, JSC Mangistaumunaigas, Zhambyl Petroleum LLP, Urikhtau Operating LLP, JSC KazTransOil, Magistralniy Vodovod LLP, JSC "NMSC" Kazmortransflot", JSC Intergas Central Asia, JSC KazTransGas-Aimak, Asia Gas Pipeline LLP, Amangedy Gas LLP, Beineu-Shymkent Gas Pipeline LLP, Atyrau Refinery LLP, Pavlodar Refinery LLP, PetroKazakhstan Oil Products LLP, JV Caspi Bitum LLP, Oil Services Company LLP, OzenMunaiServis LLP, Oil Construction Company LLP, Ken-Kurylys-Service LLP, KMG EP-Catering LLP, DWPT LLP, UTTIOS LLP, Mangistauenergomunai LLP, Oil Transport Corporation LLP, Tulpar Munay Service LLP, Argymak TransSevice LLP.

Environmental Costs section covers: JSC Ozenmunaigas, JSC Embamunaigas, JSC Karazhanbasmunai, JV Kazgermunai LLP, Kazakh Gas Refinery LLP, OzenMunaiServis LLP, Argymak Trans Service LLP, Tulpar Munay Service LLP, Kazakhturkmunay LLP, Kazakhoil Aktobe LLP, JSC Mangistaumunaigas, JSC KazTransOil, JSC KazTransGas, "NMSC" Kazmortransflot" LLP, Oil Construction Company LLP, Oil Services Company LLP, Zhambyl Petroleum LLP, Urikhtau Operating LLP, KMG Systems & Services LLP, Atyrau Refinery LLP, Pavlodar Oil Chemistry Refinery LLP, PetroKazakhstan Oil Products LLP, JV Caspi BITUM LLP.

HSE Training section covers:

JSC Ozenmunaigas, JSC Embamunaigas, JSC Karazhanbasmunai, JV Kazgermunai LLP, Zhambyl Petroleum LLP, "Upravleniye Tekhnologicheskogo Transporta i Obsluzhivaniya Skvazhin" LLP, DWPT LLP, Argymak TransService LLP, Ken-Kurylys-Service LLP, KMG EP-Catering LLP, KazGPP LLP, OzenMunaiServis LLP, Ural Oil and Gas LLP, Tulpar Munay Service LLP, Kazakhturkmunay LLP, JSC Mangistaumunaigas, Kazakhoil Aktobe LLP, Urikhtau Operating LLP, JSC KazTransOil, JSC Intergas Central Asia, JSC KazTransGas-Aimak, Beineu-Shymkent Gas Pipeline LLP, Amangedy Gas LLP, Asia Gas Pipeline LLP, "NMSC" Kazmortransflot" LLP, KMG Systems & Services LLP, JV CASPI BITUM LLP, Pavlodar Refinery LLP, PetroKazakhstan Oil Products LLP, Atyrau Refinery LLP, KMG Drilling & Services LLP, KMG-Security LLP, Oil Construction Company LLP, Oil Services Company LLP, Mangistauenergomunai LLP, Munaitelcom LLP, Oil Transport Corporation LLP, JSC NC "KazMunayGas".

Employment section covers KMG subsidiaries and associated companies where more than fifty percent of voting shares (participation shares) are directly or indirectly owned or held in trust by KMG as well as legal entities whose operations KMG has the right to control. Earlier in 2018 and 2019, the calculation of the number was carried out for subsidiaries and affiliates of KMG, in which fifty or more percent of voting shares are directly or indirectly owned by KMG on the basis of ownership or trust.

The actual number of employees is understood as the number taken to calculate the average wage on average for 2020.

Calculation of the employment turnover factor included:

- Employees who quit on their own initiative – employees who wrote a letter of resignation on their own initiative, that is, at their own request, notifying the employer about it at least one month in advance;
- Employees who quit by agreement of the parties – this is when one of the parties (employee or employer) expressed a desire to terminate the employment contract, that is: 1) employees who also wrote a letter of resignation at their discretion and indicated this basis for termination; 2) employees who agreed to dismissal upon notifying the employer;
- Through the fault of the employee, this is the termination of the employment contract on the initiative of the employer, that is, all the cases described in Article 52 of the Labor Code of the Republic of Kazakhstan.

Updates, assumptions and description of the data collection, consolidation and calculation methodology

The data in the Report may slightly differ from the data presented in the consolidated financial statements (CFS) since the estimates are rounded. In such cases, the data presented in the relevant CFS posted on KMG's website are true and final. Due to different calculation methodologies and approaches to information disclosure in the Report, the data given may slightly differ from the data published earlier.

APPENDIX 2. ENVIRONMENTAL INDICATORS

	Production			Transportation			Refining		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Greenhouse gas (GHG) emissions									
Direct GHG emissions (CO ₂ , mln tonnes)	2.5	2.3	2.0	2.4	2.7	2.1	4.4	4.8	4.6
GHG emission intensity (CO ₂ tonnes per 1,000 tonnes of HCs)	101	93	87	-	-	-	-	-	-
APG flaring									
Flaring (CO ₂ , mln tonnes)	0.3	0.2	0.13	-	-	-	-	-	-
Flared gas per unit of produced RWC (tonnes per 1,000 tonnes of produced RWC)	6.0	2.95	2.2	-	-	-	-	-	-
Flaring (mln m ³)	0.15	0.08	0.06	-	-	-	-	-	-
Energy intensity									
Energy consumption (mln GJ)	55.2	55.5	48.2	55.6	66.0	44.6	56.8	61.3	63.8
Pollutant emissions									
Sulfur oxides (SO _x) (thousand tonnes of SO ₂)	6.7	4.8	5.6	0.2	0.2	0.3	6.5	7.2	6.9
Nitrogen oxides (NO _x) (thous. tonnes of NO ₂)	4.8	5.3	5.4	5.5	6.2	5.6	5.9	6.9	6.7
Spills									
Unauthorized incuts – volume (thous. tonnes)	-	-	-	-	-	-	-	-	-
Unauthorized incuts – quantity	-	-	-	1	2	-	-	-	-
Oil spills – volume (onshore) (thous. tonnes)	0.78	0.65	0.29	0.005	-	-	0.063	-	-
Water									
Total water intake (mln m ³)	52.2	52.4	47.7	25.3	24.9	22.7	16.2	16.2	15.4
Water discharge (mln m ³)	1.1	0.9	0.7	1.0	1.0	0.8	8.8	9.2	9.2
Waste									
Hazardous (thous. tonnes)	220.6	846.4	824.9	2.9	46.6	40.3	39.1	62.2	128.5
Non-hazardous (thous. tonnes)	5.9	12.6	28.8	5.2	4.9	6.8	8.0	7.3	1.9
Total waste (thous. tonnes)	226.5	859	853.7	8.1	51.5	47.1	47.1	69.5	130.4*
* of them drill cuttings, onshore (thous. tonnes)	174.2	193.2	178.7	-	-	-	-	-	-
* of them drill cuttings, offshore (thous. tonnes)	2.2	0	0	-	-	-	-	-	-

* The main reason for the growth of waste in the oil refining business is the start of the implementation of the Tazalyk project at the Atyrau refinery due to an increase in the utilization of oil sludge from cleaning tanks and an increase in waste from dismantling mechanical treatment facilities.

ENVIRONMENTAL PROTECTION COSTS

GRI 103-3

Costs	2018		2019		2020	
	mln KZT	mln USD	mln KZT	mln USD	mln KZT	mln USD
1 Costs associated with waste, emissions and pollutant discharge handling, total	11,844.6	34.3	14,847.3	38.79	18,312.1	43.0
1.1 Waste treatment and disposal	5,833.9	16.9	9,733.2	25.43	13,190.3	30.9
1.2 Purification of emissions and pollutant discharges	4,531.5	13.1	3,177.6	8.3	4,787.9	11.2
1.3 Costs of development and approval of GHG emission document packages	104.4	0.3	101.9	0.27	149.3	0.4
1.4 Environmental liability insurance	58.6	0.2	118.2	0.31	125.1	0.3
1.5 Costs of elimination of environmental damage, including spill response costs	1,278.8	3.7	1,460.7	3.8	0.3	0.001
1.6 Costs of environmental compensatory measures	34.3	0.1	255.7	0.7	59.2	0.1
2 Investments in prevention of environmental impact and environmental management, total	1,035.8	3	1,198.1	3.1	21,535.3	50.5
2.1 Employee training and education personnel	58.6	0.17	18.8	0.5	9.3	0.02
2.2 External certification and environmental management system development	47.8	0.14	43.4	0.1	24.1	0.06
2.3 Personnel for general environmental management activities	2.6	0.008	196.7	0.5	2.0	0.005
2.4 Research and development	548.5	1.6	366.0	1.0	820.5	1.93
2.5 Additional expenses on introduction of cleaner technologies	158.4	0.5	123.5	0.3	20,665.4	48.49
2.6 Additional expenses on "green purchasing"	2.3	0.007	360.3	0.9	7.2	0.02
2.7 Other environmental management costs	217.6	0.6	89.4	0.2	6.8	0.02

ENVIRONMENTAL PAYMENTS (REGULATORY)

	2018		2019		2020	
	KZT million	mIn USD	KZT million	mIn USD	KZT million	mIn USD
Air emissions from APG flaring	1,998	5.8	1,054	2.7	1,170	2.7
Air emissions (other than APG flaring)	1,258	3.6	1,584	4.1	1,843	4.3
Water pollution	30	0.1	63	0.2	102	0.2
Waste disposal	258	0.7	131	0.3	109	0.3

LOCATION AND SCALE OF PRODUCTION OPERATIONS IN RELATION TO KEY BIODIVERSITY AREAS

304-3

Site	Location	Key biodiversity areas (KBA)	Location in relation to KBA	Contract territory (sq. km)	Impact mitigation plan
Kansu	Karakiya District Mangistau region	Kenderli-Kayasan Nature Conservation Area and Ustyurt Nature Reserve	Located in the nature conservation area and near the reserve	4,374.6	Decision is made to exit the Project
Samtyr	South-east of Mangistau region	Kenderli-Kayasan Nature Conservation Area and Ustyurt Nature Reserve	Located next to a reserve	10,396.9	Exploratory design stage
Urikhtau	Mugalzhar District of Aktobe Region	Kokzhide-Kumzhargan Local State Nature Reserve	Covers part of the territory	239.9	Hydrogeological monitoring
Alibekmola and Kozhasay	Mugalzhar District of Aktobe Region	Kokzhide Sands Kokzhide underground water	Located in close proximity	156.5	Hydrogeological monitoring
Zhambyl	Kazakhstan Sector of the Caspian Sea, Atyrau District	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea, Novinsky nature reserve	Located in the nature conservation area and covers part of the territory	1,935.2	Regular environmental monitoring, restrictions on offshore oil operations
Isatay	Central area of the KSCS, north Mangistau region	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea	Located in the nature conservation area	1,060.0	Seasonal baseline environmental studies, regular environmental monitoring
Satpayev	North-west of Kazakhstan Sector of the Caspian Sea, Atyrau District	Special environmentally sensitive zone of Kazakhstan Sector of the Caspian Sea	Located in the nature conservation area	1,481.0	Procedures to return the territory and surrender the Contract have started

APPENDIX 3. GRI CONTENT INDEX

102-55

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the English version of the report.



GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 101: Foundation 2016					
General disclosures					
GRI 102: General Disclosures 2016	102-1 Name of the organisation	3, 5, 7, 9, 11, 13, 21			
	102-2 Activities, brands, products, and services	3, 5, 7, 9, 11, 13, 21			
	102-3 Location of headquarters	153			
	102-4 Location of operations	21			
	102-5 Ownership and legal form	21			
	102-6 Markets served	21			9
	102-7 Scale of the organisation	3, 5, 7, 9, 11, 13, 119			9
	102-8 Information on employees and other workers	3, 5, 7, 9, 11, 13, 119			8
	102-9 Supply chain	21, 78			12
	102-10 Significant changes to the organisation and its supply chain	43, 78			9, 12
	102-11 Precautionary Principle or approach	57		7	14, 15
	102-12 External initiatives	64			17
	102-13 Membership in associations	64			17
	102-14 Statement from senior decision-maker	16, 18			
	102-15 Key impacts, risks, and opportunities	40, 49, AR*			9
	102-16 Values, principles, standards, and norms of behaviour	28, 56		1, 2, 4	5, 10, 16
	102-17 Mechanisms for advice and concerns about ethics	57		2, 6, 10	5, 10, 16
	102-18 Governance structure	31			16
	102-20 Executive-level responsibility for economic, environmental, and social topics	32			
	102-21 Consulting stakeholders on economic, environmental, and social topics	32			
	102-22 Composition of the highest governance body and its committees	34			
	102-23 Chair of the highest governance body	34			
	102-24 Nominating and selecting the highest governance body	35			
	102-25 Conflicts of interests	35, 80			

*AR- Annual Report 2020 https://www.kmg.kz/uploads/reports/KMG_AR2020_ENG.pdf

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
	102-26 Role of highest governance body in setting purpose, values, and strategy	36			
	102-27 Collective knowledge of highest governance body	36			
	102-28 Evaluating the highest governance body's performance	36		7	
	102-29 Identifying and managing economic, environmental, and social impacts	37			
	102-30 Effectiveness of risk management processes	40, AR			
	102-31 Review of economic, environmental, and social topics	32, 40			
	102-32 Highest governance body's role in sustainability reporting	14, 32, 40			
	102-33 Communicating critical concerns	32, 40			
	102-34 Nature and total number of critical concerns	32, 41			
	102-35 Remuneration policies	41, AR			
	102-36 Process for determining remuneration	41, AR			
	102-37 Stakeholders' involvement in remuneration	42, AR			
	102-38 Annual total compensation ratio	AR			
	102-39 Percentage increase in annual total compensation ratio	AR			
	102-40 List of stakeholder groups	59			17
	102-41 Collective bargaining agreements	123, 126		3	17
	102-42 Identifying and selecting stakeholders	59			17
	102-43 Approach to stakeholder engagement	59			17
	102-44 Key topics and concerns raised	16, 18, 26			
	102-45 Entities included in the consolidated financial statements	136			
	102-46 Defining report content and topic Boundaries	14, 136			
	102-47 List of material topics	61			
	102-48 Restatements of information	136			
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	102-51 Date of most recent report	153			
	102-52 Reporting cycle	14			
	102-53 Contact point for questions regarding the report	153			
	102-54 Claims of reporting in accordance with the GRI Standards	14			
	102-55 GRI content index	141			
	102-56 External assurance	14			

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
Specific topics					
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	71			
	103-2 The management approach and its components	71			
	103-3 Evaluation of the management approach	71			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	72			8
	201-2 Financial implications and other risks and opportunities due to climate change	49			7, 13
	201-3 Defined benefit plan obligations	72			8
	201-4 Financial assistance received from government	72			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	123			8
	202-2 Proportion of senior management hired from the local community	123			10
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	71			
	103-2 The management approach and its components	71			
	103-3 Evaluation of the management approach	71			
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	75, 129			8
	203-2 Significant indirect economic impacts	75			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	78			
	103-2 The management approach and its components	78			
	103-3 Evaluation of the management approach	78			
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	78			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	80			
	103-2 The management approach and its components	80			
	103-3 Evaluation of the management approach	80			

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 205: Anti-Corruption 2016	205-1 Operations assessed for risks related to corruption	80, 82		10	16
	205-2 Communication and training about anti-corruption policies and procedures	80, 82		10	16
	205-3 Confirmed incidents of corruption and actions taken	80, 82			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	80			
	103-2 The management approach and its components	80			
	103-3 Evaluation of the management approach	80			
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	83			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	71			
	103-2 The management approach and its components	71			
	103-3 Evaluation of the management approach	71			
GRI 207: Tax 2019	207-1 Taxation approach	73			8
	207-2 Tax administration and control, risk management	40, 74, 75			8
	207-3 Stakeholder engagement and taxation regulation	75			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	71			
	103-2 The management approach and its components	71			
	103-3 Evaluation of the management approach	71			
GRI 301: Materials 2016	301-1 Materials used by weight or volume (partial disclosure)	24			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	100			
	103-2 The management approach and its components	100			
	103-3 Evaluation of the management approach	100			
GRI 302: Energy 2016	302-1 Energy consumption within the organisation	101			
	302-2 Energy consumption outside the organisation	101			
	302-3 Energy intensity	102			
	302-4 Reduction of energy consumption	102		8	7
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	102			
	103-2 The management approach and its components	102			
	103-3 Evaluation of the management approach	102			

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 303: Water and Effluents 2018	303-1 Interaction with shared water resources	103		8	6
	303-2 Management of water discharge-related impacts	103		8	6
	303-3 Water intake	103		8	6
	303-4 Water discharge (partial disclosure)	103		8	6
	303-5 Water consumption (partial disclosure)	103		8	6
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	107			
	103-2 The management approach and its components	107			
	103-3 Evaluation of the management approach	107, 139			
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	107			14, 15
	304-2 Significant impacts of activities, products, and services on biodiversity	110			14, 15
	304-3 Preserved or rehabilitated habitats	140		8	14, 15
	304-4 Total number of IUCN Red List species and National Conservation List species with habitats in areas affected by operations (partial disclosure)	107		8	14, 15
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	113			
	103-2 The management approach and its components	113			
	103-3 Evaluation of the management approach	113			
GRI 305: Emissions 2016	305-1 Direct GHG emissions	114			
	305-2 Energy indirect GHG emissions	114			
	305-3 Other indirect GHG emissions	114			
	305-4 GHG emissions intensity	114			
	305-5 Reduction of GHG emissions	115, 116		8	13
	305-6 Emissions of ozone-depleting substances (ODS)	114			
	305-7 Emissions of Nox, Sox, and other major pollutants	115			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	102, 105			
	103-2 The management approach and its components	102, 105			
	103-3 Evaluation of the management approach	102, 105			
GRI 306: Effluents and Waste 2016	306-1 Water discharge by quality and destination	103			
	306-2 Waste by type and methods Appeals	105			12
	306-3 Significant spills	90			
	306-4 Transport of hazardous waste	105			
	306-5 Water bodies affected by water discharges and/or runoff	103			

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	116			
	103-2 The management approach and its components	116			
	103-3 Evaluation of the management approach	116			
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	116			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	89			
	103-2 The management approach and its components	89			
	103-3 Evaluation of the management approach	89			
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria (partial disclosure)	89			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	119			
	103-2 The management approach and its components	119			
	103-3 Evaluation of the management approach	119			
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	119			8
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	119			8
	401-3 Parental leave	119			8
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	85, 93			
	103-2 The management approach and its components	85, 93			
	103-3 Evaluation of the management approach	85, 93			
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	85, 93			3
	403-2 Hazard identification, risk assessment, and accident investigation	89			3
	403-3 Occupational health services	93			3
	403-4 Worker participation, consultation, and communication on occupational health and safety	93			3
	403-5 Worker training on occupational health and safety	93			3
	403-6 Promotion of worker health	93			3
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	93			3
	403-9 Work-related injuries (partial disclosure)	89			3

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	127			
	103-2 The management approach and its components	127			
	103-3 Evaluation of the management approach	127			
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	127			4
	404-2 Programs for upgrading employee skills and transition assistance programmes	117, 127			4
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees (partial disclosure)	123			10
	405-2 Ratio of basic salary and remuneration of women to men	123			10
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 406: Non-Discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	123		10	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	123		3	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 408: Child Labor 2016	408-1 Operations and suppliers with significant risk of child labour usage	123		5	16

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	123			
	103-2 The management approach and its components	123			
	103-3 Evaluation of the management approach	123			
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour	123		4	16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	49, 53			
	103-2 The management approach and its components	49, 53			
	103-3 Evaluation of the management approach	49			
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	58			16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	49			
	103-2 The management approach and its components	49			
	103-3 Evaluation of the management approach	49			
GRI 412: Human Rights Assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	58			16
	412-2 Employee training on human rights policies or procedures	58			16
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	129			
	103-2 The management approach and its components	129			
	103-3 Evaluation of the management approach	129			
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs (partial disclosure)	129			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	80			
	103-2 The management approach and its components	80			
	103-3 Evaluation of the management approach	80			
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria (partial disclosure)	80			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	71			
	103-2 The management approach and its components	71			
	103-3 Evaluation of the management approach	71			

GRI Standard	Disclosure	Page number	Omission/ reason for omission	Association with the UN Global Compact Principles	Association with 17 Sustainable Development Goals
GRI 415: Public Policy 2016	415-1 Political contributions	72			
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories		No reported impact of products and service categories of services on health and safety.		
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services		No reported impact of non-compliance concerning on health and safety.		
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data		No reported substantiated complaints concerning on privacy and losses of customer data.		
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	80			
	103-2 The management approach and its components	80			
	103-3 Evaluation of the management approach	80			
GRI 419: Socioeconomic Compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	83			
GRI Sector Disclosures: Oil and Gas	OG3 Total amount of renewable energy generated by source	49, 101		9	7
	OG4 Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored	107, 110		8	14, 15
	OG5 Volume and disposal of formation or produced water	103			
	OG6 Volume of flared and vented hydrocarbons	116			
	OG7 Amount of drilling waste and strategies for treatment and disposal	107			
	OG8 Benzene, lead and sulphur content in fuels	24			
	OG12 Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process		No reported substantiated involuntary resettlement took place		

APPENDIX 4. ABBREVIATIONS AND ACRONYMS

AG	Amangedy Gas Limited Liability Partnership
AGDS	Automated gas distribution station
AGIS	Analytical geographic information system
AGP	Asia Gas Pipeline Limited Liability Partnership
AMP	Administrative and managerial personnel
APCS	Advance process control system
APG	Associated petroleum gas
AR	Annual report
AR	Atyrau Refinery Limited Liability Partnership
BASF	Badische Anilin- & Soda-Fabrik, the largest chemical group in the world
BC	Business centre
bln	Billion(s)
BoD	Board of Directors
BP	British Petroleum
BPD	Bird protection devices
BSGP	Beineu-Shymkent Gas Pipeline Limited Liability Partnership
CAPEX	Capital expenditure
CB	Joint venture CASPI BITUM Limited Liability Partnership
CC	Corporate Centre
CC	Crisis centre
CD&ES	Civild defence and emergency situations
CDP	Carbon Disclosure Project
CFS	Consolidated financial statements
CMT	Crisis management teams of JSC NC "KazMunayGas"
CNG	Compressed natural gas
COVID-19	Coronavirus Disease 2019
CPC	Caspian Pipeline Consortium Limited Liability Partnership
CRMS	Corporate risk management system
CS	Compressor station
CSC	Computer simulator complex
CVI	Coronavirus infection
DAPICG	Detailed Action Plan to Improve Corporate Governance at KMG for 2019–2020
DBK	Joint Stock Company Development Bank of Kazakhstan
DCS	Distributed control system
DED	Design-and-estimate documentation
DWPT	"Department of the water production and transportation" Limited Liability Partnership
EI	Electronic invoice
EIA	Environmental impact assessment
EITI	Extractive Industries Transparency Initiative
EMG	Embamunaygas Joint Stock Company
EOSR	Emergency oil spill response
EP	JSC KazMunaiGas Exploration Production

ERP	Enterprise Resource Planning
ES	Emergency situation
ESG	Environmental, Social, and Governance
ETE	Engineering and technical employees
FAR	Fatal Accident Rate (per 100 million man-hours)
FERs	Fuel and energy resources
FS	Feasibility study
GMI	Global Methane Initiative
GMS	Gas-measuring station
GRI	Global Reporting Initiative
GWS	Goods, works, and services
H&S	Health and safety
HCs	Hydrocarbons
HF	Hydraulic fracturing
HSE	Health, Safety and Environment
HSE	Health, safety, and environmental protection
HSE	Health, safety, industrial and fire safety, environmental protection, emergency prevention
HSE	Occupational health, safety, and environmental protection
HSESDC	Health, Safety, Environment and Sustainable Development Committee of the Board of Directors of JSC NC "KazMunayGas"
IAOT	International Association of Oil Transporters
ICA	Intergas Central Asia Joint Stock Company
IFRS	International Financial Reporting Standards
IGCC	Integrated gas chemical complex
IOGP	International Association of Oil & Gas Producers
IPIECA	International Petroleum Industry Environmental Conservation Association
ITS	Information trust system
IUCN	International Union for Conservation of Nature
IUCN	International Union for Conservation of Nature
JSC	Joint Stock Company
KazGPP	Kazakh Gas Processing Plant Limited Liability Partnership
KBM	JSC Karazhanbasmunay
KCP	Kazakhstan-China Pipeline Limited Liability Partnership
KGM	Joint venture Kazgermunai Limited Liability Partnership
KMG	Joint-Stock Company "National Company "KazMunayGas"
KMGE	KazMunayGas Engineering Limited Liability Partnership
KMGI	KMG International N.V.
KMTF	National Maritime Shipping Company "Kazmortransflot" Limited Liability Partnership
KOA	KazakhOil Aktobe Joint Stock Company
KPI	Kazakhstan Petrochemical Industries Inc.
KPI	Key performance indicator
KSCS	Kazakhstan sector of the Caspian Sea
KTG	KazTransGas Joint Stock Company
KTGA	KazTransGas Aimak Joint Stock Company

KTGO	KazTransGas Onimderi Limited Liability Partnership
KTM	Kazakhstan Limited Liability Partnership
KTO	KazTransOil Joint Stock Company
LLP	Limited Liability Partnership
LTIR	Lost Time Injury Rate (per million man-hours)
MBA	Master of Business Administration
MCV	Modular Capture Vessel
MGDS	Main gas distribution station
mln	Million(s)
MMG	Mangistaumunaigas Joint Stock Company
MS	Management system
MT	MunaiTas North-West Pipeline Company Limited Liability Partnership
NC	National company
NMSC	National Maritime Shipping Company
NR	Nature reserve
NRC	Nomination and Remuneration Committee of the Board of Directors of JSC NC "KazMunayGas"
OCC	Oil Construction Company Limited Liability Partnership
OCIMF	Oil Companies International Marine Forum
OCR	Oil chemistry refinery
OMG	Ozenmunaigaz Joint Stock Company
OPEC	Organization of the Petroleum Exporting Countries
OPL	Overhead power lines
OR	Oil refinery
OSC	Oil Service Company Limited Liability Partnership
OSHA	Occupational Safety and Health Administration
OSRL	Oil Spill Response Limited
OTC	Oil Transport Corporation Limited Liability Partnership
PC	Personal computer
PCS	Procurement Category Strategy
PJSC	Public joint stock company
PKI	PetroKazakhstan Inc.
PKOP	PetroKazakhstan Oil Products Limited Liability Partnership (Shymkent Oil Refinery)
POCR	Pavlodar Oil Chemistry Refinery Limited Liability Partnership
PPE	Personal protective equipment
PRC	People's Republic of China
PS	Pump station
PwC	PricewaterhouseCoopers
RES	Renewable energy sources
RoC MA	Republic of Kazakhstan Ministry of Agriculture
RoK	Republic of Kazakhstan
RPM	Reservoir pressure maintenance
RTA	Road traffic accident

S&P	Standard and Poor's
SACs	Subsidiaries and affiliates
SDG	United Nations Sustainable Development Goals
SDM	Meeting of the KMG Board of Directors and Management Board on Sustainable Development Issues
SIEC	Specialized Interdistrict Economic Court
SNR	State nature reserve
SoE	State of emergency
SR	Sustainability report
SSDR	Semi-submersible drilling rig
TAP	Tax accounting policy
TCO FGP	Tengiz field future growth project
TS	Training centre
UN	United Nations
UNGC	United Nations Global Compact
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTTIOS	"Upravleniye Tekhnologicheskogo Transporta i Obsluzhivaniya Skvazhin" LLP
WDP	Water Disclosure Project
WWF	World Wildlife Fund
WVO	Well workover

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