



# GROWING SUSTAINABLY

JSC NC "KAZMUNAYGAS"  
2016 SUSTAINABILITY REPORT

>200 subsidiaries

2 subsidiaries have held an IPO

## GROUP'S INDICATORS

### EMPLOYEES

**91,121** people

**33.6** hours of education per person

**65.9%** employees are members of Labor

**79%**

**21%**

### NUMBER OF FATAL INCIDENTS

**Our target – 0 fatal incidents**

2016 7 people

2015 4 people

### ENVIRONMENTAL INDICATORS

**77.8** mln m<sup>3</sup> total water withdrawal

**6.5** mln tons CO<sub>2</sub> emissions

**203.3** thousand tons prevented CO<sub>2</sub> emissions

**108** mln Gj total energy consumption = 3% of energy resources of Kazakhstan

**1.5** 1.5 mln Gj energy resources saving

**86%** level of gas utilization

### PROFIT

**305.8** billion KZT \$894.9 mln

### PROCUREMENT

**1 871** billion KZT \$5,475.3 mln

**76%** local content proportion

### RESERVES

**785.8** mln tons of A, B and C<sub>1</sub> oil and gas condensate

**480.1** billion m<sup>3</sup> of natural gas

# KazMunayGas Group

NATIONAL OIL AND GAS COMPANY

IN KAZAKHSTAN

KEY ENERGY PRODUCER

### OIL AND GAS EXPLORATION AND PRODUCTION

**29%** of oil and gas condensate in Kazakhstan

**16%** of natural and associated gas in Kazakhstan

**448** thousand barrels of oil per day

**20,2** million m<sup>3</sup> of gas per day

CO<sub>2</sub> emissions intensity **115** tons per 1000 tons of hydrocarbons

### REFINING AND MARKETING

**82%** of the Kazakhstan market

Refining of **236** thousand barrels of oil per day

**16%** share of oil products retail market

**55** thousand vehicles a day

CO<sub>2</sub> emissions intensity **219** tons per 1000 tons of refined oil

"Choice of the Year" **Nº1** in Kazakhstan "KazMunayGas" brand

### OIL AND GAS TRANSPORTATION

Group's main oil pipelines transport **65%** of oil and **95%** of gas in Kazakhstan

**1,156** thousand barrels of oil per day

**240** billion m<sup>3</sup> of gas per day

Oil transportation by sea **7,082** thousand tons in 2016 or **77%**

### SERVICE

more than **10.5** thousand vehicles are used daily at our production facilities

drilling services

land and air transport

support of offshore operations

production of drilling fluids

mechanical engineering

construction of facilities

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Introduction



Our approach to Sustainability



Our people



Our environmental impact



Our communities



Marketing and labeling



Our economic impact



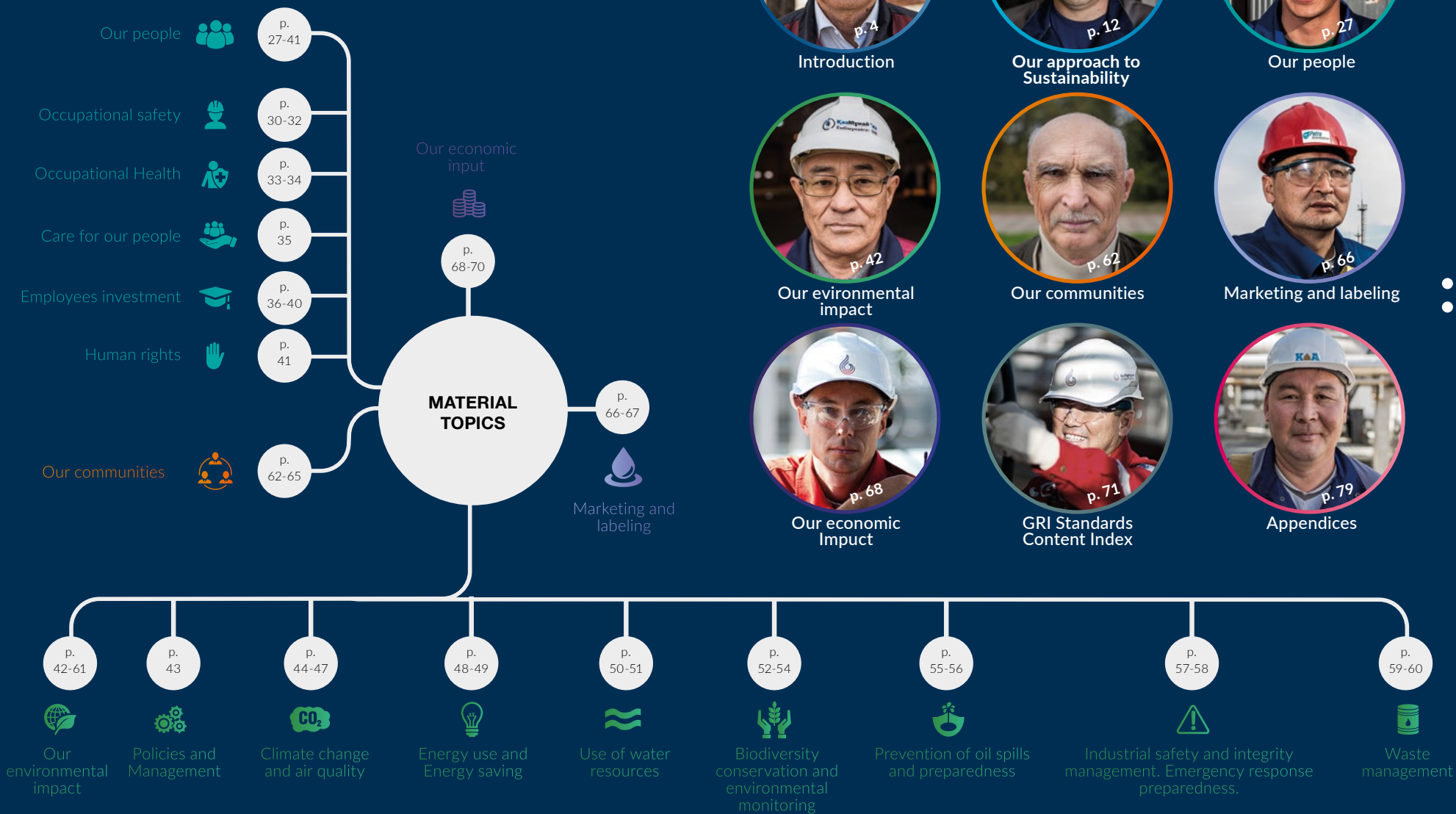
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INTRODUCTION

## ABOUT OUR REPORT

The “National Company “KazMunayGas” (hereafter – KMG, Group) Sustainability Report presents the performance data of 2016 Company's non-financial impacts and demonstrates our commitment to transparent information disclosure.

This report has been prepared in accordance with the GRI Standards: Comprehensive option and the Oil and Gas Sector Disclosures.

We regard our sustainability report to be our Communication of Progress report to the United Nations Global Compact. In our opinion, we meet the requirements for the Global Compact Active reporting level.

KMG is one of the largest state companies that provides jobs for approximately 90,000

employees across the country, being one of the largest employer of the country. We understand our role as a key player in the economic and social development of Kazakhstan. Therefore, we report our performance covering all dimensions of sustainable development for greater transparency and accountability. In this report, we have also presented our challenges that we face on a daily basis and our future plans.

The structure of the report follows the sustainability strategic areas of KMG:

- our people and the workplace, with a high focus on safety culture;
- environmental performance, including information on our success for the case studies and projects we conduct with our strategic partners.

The Sustainability Report of KMG is approved by the Board of Directors and brought to the attention of Stakeholders through different channels of communication, such as publishing on a company web-site and distribution of printed editions. This report has not undergone external verification but the report was submitted for the GRI Materiality Disclosures Service, and GRI confirmed the correctness of the locations of the materiality disclosures GRI 102-40 to 102-49.



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# MESSAGE FROM JSC NC "KAZMUNAYGAS"

## CHAIRMAN & CEO



Chairman of the Board  
JSC NC "KazMunayGas"  
Sauat Mynbayev

### DEAR PARTNERS AND STAKEHOLDERS!

I am pleased to bring to your attention the 2016 Sustainability Report of the Group of Companies of JSC NC "KazMunayGas". Sustainable development in our Company is one of the strategic goals along with the growth of long-term value.

"KazMunayGaz" is a vertically integrated oil and gas company and the national operator for the exploration, production, refining and transportation of hydrocarbons and one of the country's largest employers.

Despite the fact that last year was not easy for us, as for many other companies in the oil and gas industry, we were able to achieve all the 2016 goals and become stronger and more effective during the crisis. The volume of hydrocarbon production in 2016 amounted to 23 million tons.

Also, 2016 was a year of safety culture strengthening. The commitment of the Group's leadership to safety culture has never been more robust. Over the past 2 years, the overall efforts of all employees of the Group have achieved excellent results in reporting on accidents and incidents, in determining system causes and taking corrective actions. For the first time in the history of the Company, all General Directors of the Group signed personal HSE plans.

At the same time, the Group's work on improving the production efficiency and products quality is continuing. For example, as part of the modernization program for oil refineries, the Atyrau Refinery in 2016 commissioned facilities for benzene and paraxylene production, the basic products for petrochemicals. In July, the first industrial benzene batch was exported.

The Pavlodar petrochemical refinery modernization is aimed primarily at improving the environmental indicators of the fuel by producing European quality standards petroleum products. Started in 2016, the reconstruction of the existing hydrocleaning plant of diesel fuel will allow the plant to obtain diesel fuel of ecological class K-5 in the nearest future.

Significant work was done by KazMunayGaz in the sphere of social and labor relations. The Council for the Development of Social Partnership and the Settlement of Labor Disputes and Conflicts is working, a unified labor remuneration system has been introduced in the "Exploration and Production" business unit and the project of "Monitoring Social Climate" has been launched.

We also strive to improve our sustainability reporting, we try to make our report more transparent, intelligible, complete and thorough for readers among our stakeholders and partners around the world. Thus, the report published in

2016 for the previous period took 3<sup>rd</sup> place in "Best Sustainability Report" category by RAEX agency among 137 other Kazakhstani companies. This report has been prepared in accordance with the latest GRI Standards.

In 2017, we will continue to develop in accordance with our strategic priorities, in order to ensure Kazakhstan's energy security while posing new, increasingly ambitious goals.

Faithfully,

Chairman of the Board  
JSC NC "KazMunayGas"  
Sauat Mynbayev

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# INTERVIEW WITH UZAKBAY KARABALIN, A MEMBER KMG NC BOARD OF DIRECTORS



Member of the Board of Directors  
JSC NC "KazMunayGas"  
Uzakbay Karabalin

## COULD YOU PLEASE DESCRIBE WHAT SUSTAINABLE DEVELOPMENT MEANS FOR KMG?

Sustainable development is what guides us in forming our company's policies and long-term goals. Even under crisis conditions, as we faced in the past few years, we have not changed our commitment to the principles of sustainability in business. After all, the environmental care, the value of human life and the pursuit of economic benefits are more important than ever before for maintaining the company's competitiveness in the world market.

The main principles of sustainable development implemented at all levels in KMG are openness, transparency, ethical behavior, respect for the interests of all stakeholders, compliance, respect for human rights, intolerance to corruption and conflict of interests, maintenance of social stability and ecological balance.

## HOW HAS SUSTAINABILITY CHANGED THE CORPORATE STRATEGY OF KMG?

In 2016, under the leadership of the Samruk-Kazyna Fund, the formation of a sustainable development management system at the national level was initiated, and we were among the first of Samruk-Kazyna's portfolio companies to enter the transformation program. The introduction of a new model of corporate governance, which allows simplification of the management of production assets, was a great achievement for

us in 2016. This model envisages the joining of the National Company's subholdings to reduce the administrative burden, the number of management levels, accelerate decision-making, to concentrate resources on the core business and increase the manageability of the Group.

The issues of sustainable development were also included in the competence list of the Management Board, the Board of Directors, the Strategy and Investments Committee of the Board of Directors in 2016, hence, sustainability issues are considered at the highest level in the company. It is obvious for us that the integration of sustainable development into all processes is an important step to improving the corporate management system of KMG. And that is why next year we will focus on integrating sustainability into our operations in order to reduce our risks and increase the level of productivity. The results of our efforts are being recognised. For example, in 2016 KazMunayGas Exploration Production JSC became one of the three leaders in terms of oil production in Kazakhstan, and by 2018 it is planned to provide Kazakhstan's market with 100% of oil products of KMG refineries' own production.

## WHAT WAS THE BIGGEST ACHIEVEMENT IN SUSTAINABLE INVESTMENT IN 2016?

In 2016, we renewed our membership in the UN Global Compact and thus showing our voluntary corporate commitments and our devotion to

the ten principles of the Treaty in the fields of environment, human rights, anti-corruption and labor relations.

Throughout the year, we have been very active in the global initiative of the World Bank "Zero Routine Flaring by 2030", and this is our way of showing a sustainable approach to conducting production operations. Associated petroleum gas can be either a pollutant or a valuable raw material; KMG's gas processing plants tackle several problems simultaneously: minimizing the negative impact on the environment, using gas for technological needs while providing the local population with gas.

In 2016 KazTransGas built at its expense "Akyrtobe" a booster compressor station which opened the way for domestic gas exports to China. Also, the construction of "300 Aktyubinsk" automated gas distribution station was completed and put into operation, this being a unique project in Central Asia and one of the most modern compressor stations of the main Kazakhstan – China gas pipeline. In various regions of Kazakhstan intensive work was executed to increase gasification of cities and the transition of urban transportation to more environmentally friendly solutions.

However, it is worth emphasizing that our people are always our top priority. The main principle of KMG in carrying out any production operations is the "continuous pursuit of "Zero": zero

## INTERVIEW WITH UZAKBAY KARABALIN, A MEMBER KMG NC BOARD OF DIRECTORS

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fatalities, zero production injuries and zero oil spills". We are bound to acknowledge that we are not yet satisfied with the results of our work. In 2016, 7 of our employees lost their lives. These fatal accidents occurred despite our ongoing prevention efforts implemented through the work of our corporate center and the HSE services of our subsidiaries. Every person's life is valuable and we want to assure the families of all our workers that we continue every day to tirelessly strive for the main goal: to have our people return home safely at the end of each working day. Each member of the Board of Directors, as well as every director of all subsidiaries, is personally responsible for the safety of work and the protection of life and health of the company's workers. This is our current and future most important task in the field of sustainable development.

# ABOUT KMG

## SAFETY

The Company strives to ensure a safe environment, having as a key priority the health and safety of our employees according to international standards.



## RESPONSIBILITY

The Company is acting with responsibility in fulfilling all the obligations undertaken in front of shareholders, partners, staff and the community at large.



**Frank Kuijlaars.**  
Independent Director, the Chairman  
of the Board of Directors



**Yerlan U. Baimuratov**  
Independent Director



**Sauat M. Mynbayev**  
The Chairman  
of the Management Board



## CORPORATE VALUES

In our daily work, we are guided by the following corporate values:



**Christopher Walton**  
Independent Director



## THE BOARD OF DIRECTORS MEMBERS

**Peter Lane**  
Independent Director



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**Uzakbay S. Karabalin**  
The representative of our Shareholders



**Berik T. Beisengaliyev**  
The representative  
of our Shareholders



## EFFICIENCY

The company is committed to continuous improvement of financial and operational performance, improvement of management practices and technological solutions.



**Baljeet Kaur Grewal**

The representative of our Shareholders, Managing Director  
for Strategy and Portfolio Investment of "Samruk-Kazyna"  
JSC – member of the Management Board



## PROFESSIONALISM

The company is committed to proficiency enhancement of employees; provide proper working conditions and opportunities for the personal and professional development.



## ABOUT KMG

***Our goal is to become one of the top 30 oil and gas companies in terms of operational, financial and HSE performance.***

### THE CORPORATE GOVERNANCE

KMG consists of 213 organizations that shape the KMG Group, which was founded in 2002. The founder of KMG is the Government of the Republic of Kazakhstan (RoK) represented by the Committee for State Property and Privatization of the Ministry of Finance. KMG shareholders are JSC Sovereign Wealth Fund "Samruk-Kazyna" (hereafter – Fund) (90%) and the National Bank of the RoK (10%).

The corporate governance structure of the Group is under constant improvement. KMG Board of Directors (BoD) determines the priority directions of the KMG's development and governs the organization by setting the strategic objectives taking into account recommendations of the BoD Committees. The BoD entrust with a task the Management Board, the executive body of the company. The Management Board, that overviews overall performance of the company. Leaders of KMG, responsible for economic and social issues, are members of the Management Board.

Education and significant experience of the BoD in various structures, in companies with a developed system of corporate governance and implemented principles of sustainable development make it possible to ensure that the KMG BoD has the necessary competences in the field of sustainability.

The BoD's members are elected by the General Shareholder on the basis of clear and transparent procedures, taking into account the competencies, skills, achievements, business reputation and professional experience of candidates, gender (there is one woman on the Board of Directors), independence (4 of 8 members are independent directors).

The BoD Committees, where the Chairmen's are exclusively independent directors, assist the BoD with the recommendations on the most complex and significant economic, environmental and social matters. The information on the activities of the KMG BoD Committees is published annually on the corporate website.

To eliminate any conflict of interests, the information on the cross-membership of the members of the BoD in other Boards, on its affiliated bodies and related-party transactions is publicly available.

The assessment of the corporate governance structure is carried out on annual basis by external independent companies and KMG Internal Audit department.

Accordingly, the KMG BoD and its Committees manage a proper balance of skills, experience and knowledge, ensuring the adoption of independent, objective and effective decisions in the interests of KMG considering the principles of SD and the interests of all shareholders.

### MISSION, VISION, VALUES

The mission of KMG is ensuring maximum benefits for the RoK from participation in

development of the national oil and gas industry. We also aim to increase the financial value and investment efficiency as well as to ensure high quality products and services through incorporation of sustainable practices in KMG.

We aim to become an effective oil and natural gas company with increased financial stability, respecting the highest safety standards in our production facilities and corporate governance principles

### THE APPROACH TO RISK MANAGEMENT

The corporate risk management system is a key component of the corporate governance system and is aimed at the timely identification, assessment, monitoring and reduction of potential risks that could adversely affect the achievement of strategic and operational objectives.

The Board of Directors approves strategic, medium-term and short-term goals, the Company's risk appetite, levels of tolerance for KMG's risks, performance indicators of the system and provides an annual assessment of its effectiveness.

The Board of Directors reviews quarterly reports on the range of risks including financial, social and HSE risks. KMG has a Risk Management Committee under the Management Board, an Audit Committee under the Board of Directors and a separate structural division (department) of risk management.

The effectiveness of the risk management system is verified by independent evaluations of internal and external auditors. Collective estimate of the

risk management system effectiveness in 2016 amounted to 75%.

In 2016, Policy on corporate risk management system, risk map and register were approved by KMG BoD. The Group also has policies and procedures for various risks management.

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# ABOUT KMG

## ***Nomination and Remuneration Committee***

Covers issues on succession planning of the Management Board and BoD, providing with a constant assessment of the employees, ensuring effective integration of HR policies on remuneration, social support, professional development and training of employees.

## ***Finance Committee***

Provides recommendations on financial matters, oversees financial policies, assesses the financial stability and monitors the implementation of KMG financial strategy.

## ***Audit Committee***

Overviews the issues of both internal and external audits, makes recommendations related to financial reporting and risk management.

## **COMMITTEES**

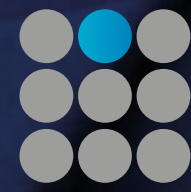
## ***Strategy and Innovation Committee***

Reviews and gives recommendations on strategic development plans and investment policies to increase business attractiveness, on improvement of corporate governance systems, and on planning of financial and economic activities of KMG.

Since 2016, the Strategy and Innovation committee has been also responsible for making recommendations for sustainable development, including strategic planning, the socio-economic and HSE development of the company.

The list of duties of the Committee has been complemented with the matters on the approval of sustainable development policies, the KMG Sustainability Report and other corporate documents in the field of sustainable development. All recommendations are made in accordance with the best international practices and risk assessment reports. The Committee defines as well the main areas of the KMG Policy in the field of safety, environmental protection and considers initiatives aimed at improving the management system in these areas.

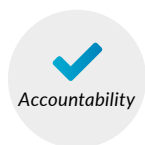
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OUR  
APPROACH TO  
SUSTAINABILITY

## OUR APPROACH TO SUSTAINABILITY

### WE RESPECT THE FOLLOWING PRINCIPLES IN THE AREA OF SUSTAINABLE DEVELOPMENT:



*As the largest state oil & gas company, we recognize the importance of our impact on the economy, environment and society. We incorporate sustainable development principles and engage in thoughtful and rational interactions with stakeholders to balance our common interests.*

The principles of sustainable development are enshrined in the Corporate Social Responsibility Code and the KMG Sustainable Development Concept. After the approval of the Code of Corporate Governance of Samruk-Kazyna, sustainable development has been brought to the level of one of the strategic goals, equally with the growth of the Group's investment value. In 2016, under the leadership of the Fund, the formation of sustainable development management system has been established. The BoD, Strategy and Innovation Committee, Management Board's competencies were extended with sustainable development responsibilities.

Also, a Working Group for managing the integration of sustainable development at the top management level of the Company was created. We interact with stakeholders on sustainable development issues, hold regular meetings, as well as training courses on sustainable development on a quarterly basis for enhancing the culture of sustainable development. In addition, the Reference Model for Sustainable Development for the Fund's portfolio companies is under development.

We develop an annual Sustainable Development Plan of work, taking into account international declarations and standards (the OECD Principles for Multinational Enterprises, the UN Guidelines for Business and Human Rights, the ISO 26000 Social Responsibility Guide, the United Nations Environment and development Declaration), as well as agreements and conventions adopted at international conferences on sustainable development issues.

### THE VALUES AND PRINCIPLES OF BUSINESS ETHICS:



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# THE CODE OF BUSINESS ETHICS

The Code of Business Ethics sets ethical standards for the Company's activity and employees, regardless of their position, and reflects our core values and ethical principles of work. In addition, the Code establishes norms of behavior in interaction with colleagues, government bodies, our shareholders, affiliates, business partners, communities and the media. This code was approved by KMG Board in 2016.

Taking into account current changes and perspectives of the Group's policy, we included the new business ethics principles in the Code. Compliance with all employees of ethical norms and principles spelled out in the Code will be reflected in the employee's job descriptions, and will become part of the new HR methodologies and policies.

Familiarization with the Code of Business Ethics is mandatory for all employees. The KMG Board of Directors reviews the provisions of this Code every 2 years, examines the extent of its application and, if necessary, introduces relevant changes.

The Code of Ethics is available to stakeholders on the official website of the company in three languages – Kazakh, English, and Russian.

## THE GRIEVANCES PROCEDURE

Every year the KMG BoD selects an Ombudsman responsible for compliance with the Code of Ethics, providing advice to employees, preventing potential violations of the Group's internal regulations, for fair representation of employees' interests and proper understanding and application of our corporate values and principles.

In accordance with the best international practice, including the standards and principles of the Ombudsmen International Association, the KMG Ombudsman regularly reports to the Board of Directors of KMG and represents an independent high-level manager. The Ombudsman's works ensure compliance with international standards for dealing with conflict resolution (ISO 10003), and work with complaints (ISO 10002).

We intend to prevent any kind of conflicts in the Group of companies. The rights of appeal of any person shall not be infringed. We have developed various mechanisms by which employees, business partners and stakeholders can report any non-compliance with corporate ethics, human rights, labor practices, negative environmental or social impacts:

- Employees – by contacting direct line manager, or next level manager; or by contacting Ombudsman;
- Both from inside and outside the company – via phone 786,565, through KMG trust line email: [doverie@kmg.kz](mailto:doverie@kmg.kz) (information may be submitted anonymously).

In addition, within the framework of the Internal Communications Unified System, there are in place mechanisms such as:

- meetings of managers with labor collectives and the labor unions;
- reception of employees by the First Head on personal issues;
- blog of the first leader;
- boxes for the collection of offers.

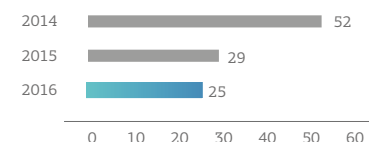
More detailed information is provided in KMG annual report 2016.

Appeals on non-compliance with the Code of Business Ethics are considered with mandatory participation of the Ombudsman and treated with confidentiality.

Whenever any requests are received, the Group's management is informed. All received complaints and proposals are registered, the management decision on the results of consideration of the appeal is brought to the applicant.

In 2016, 3 cases of worker references to the judiciary for the resolution of individual labor disputes were recorded because of the discrepancy between the labor process and the production environment with the requirements of safety and labor protection, disagreement with the amount of compensation for harm caused to health during working process. (identical number of references to the court were registered in 2015).

## Number of grievances against the practice of labor relations



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## ANTI-CORRUPTION

We follow the Economic Security Policy of KMG, approved by the Board of Directors in 2014. The document includes the core topics of KMG's activity in anti-corruption, fraud and other unlawful phenomena. The main approach of the – "Mission of top-management" (Tone at the Top). This Policy has been placed on the KMG corporate website (KMG.kz) in Kazakh, English and Russian languages to ensure 100% access and awareness of all the employees and other co-interested parties.

Informative amendments on anti-corruption topics have been introduced to the employment agreements and internal documents, related to recruitment, placement and onboarding of employees, also to procurement standard-form contract, works and services of the Group, and other documents establishing legal relations between the parties.

Any employee of KMG or any other person is entitled to inform the management of KMG, the direct manager or the authorized unit in case of any doubt regarding the validity of actions of any employee, contractor or other persons cooperating with KMG. These reports can be communicated through email and trust lines, and treated with confidentiality. The trust line number and the email address are placed on the corporate website. Analogous information is available on the sites of subsidiaries.

We evaluate the risks concerning corruption in all subsidiaries and affiliated companies. In the past three years, we communicated our anti-corruption policies to 110 Group subsidiaries.

Also, we have organized trainings and seminars on anti-corruption with the participation of our employees, representatives of the state and political

parties, representatives of the largest oil and gas companies. For example, in June 2016 an extended meeting was held on actual issues of providing comprehensive protection of the oil and gas industry against illegal encroachments. The dialogue of the expert community of law enforcement and special bodies on the status and prospects of cooperation was held.

In 2016 the corporate security department workers involvement percentage in training policies and specific procedures for organizing anticorruption work, respect for human rights, and the requirements of Code of Ethics reached 100%. Similar work has been organized with partners and stakeholders of the Group, as well as business partners and investors, about the existence of appropriate anti-corruption policies in the group of companies.



# 21,500

business partners, including suppliers of goods and services, as well as business partners, investors were acquainted with our anti-corruption policies.



# 700

employees and candidates for KMG and subsidiaries vacancies filling were checked for the corruption involvement and other offenses.



# 100%

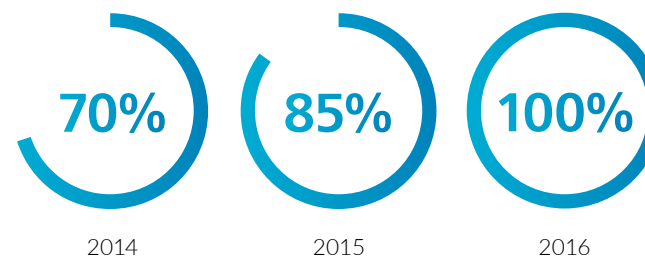
of KMG and subsidiaries' top-management were acquainted with the anti-corruption policies.



# > 100

internal documents have also undergone the analysis.

Stakeholders which were informed about Group anti-corruption policies



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## ANTI-CORRUPTION

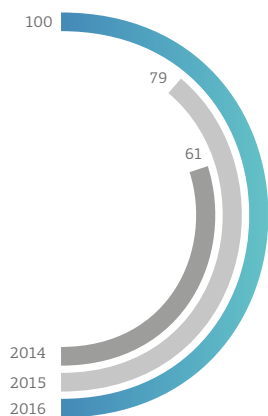
In the future, we will continue to conduct training of employees on our anti-corruption policy.

In 2016, more than 65 reports on violations of legislation and KMG internal regulations have been received and recorded through the information system of 'trust'. All complaints have been reviewed and checked. Mitigations plans were communicated with affected bodies.

In 2016, no criminal cases on corruption against the employees were registered.

In order to create a system of values and ethical guidelines and an environment of intolerance to any corruption among employees, in 2017 we plan to introduce anti-corruption standards, as well as a number of other internal norms and rules.

**Proportion of employees of the Department of Corporate Security trained in human rights and anti-corruption, %**



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## OUR OPERATIONS AND ASSETS

### **KMG doesn't sell litigious or banned products.**

The Group is one of the largest oil companies in the world and represents state interests in the strategically important oil and gas sector and has a share in almost every important Kazakhstani oil and gas field.

We are a vertically integrated oil and gas company, carrying out the full production cycle – from hydrocarbons exploration and production, to transportation and refining, to provision of specialized services.

The Group's business lines are divided into the following areas: exploration and production of oil and gas, transportation of oil and gas, oil refining and marketing, and services.

### **OUR STRATEGY**

Our strategy is aimed at strengthening the company's financial position, its role as a key player of Kazakhstan oil and gas industry and the formation of an optimal business model.

This strategy is supported by a massive amount of potential resources in RoK and the need to adapt to significant changes in the world around us.

Historically, high growth rates of oil products consumed in Kazakhstan and neighboring country markets have stimulated oil and gas demand for decades while the world is shifting towards low-carbon energy making oil prices highly volatile.

### **MEMBERSHIP AND PARTICIPATION**

As a key player in the Kazakhstan oil and gas market, we are an active association member in forums, national and international conferences.

#### ***The National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken":***



As a member of national chamber of entrepreneurs "Atameken" KMG actively participates in legislation changes activity.

Chamber was established to provide more favorable conditions for local and international companies, to protect their rights and interests, and also to create healthy investment conditions.

#### **KAZENERGY:**



The oil and gas and energy association in RoK KAZENERGY is a nonprofit organization, established in 2006 to support the oil and gas industry and to regulate relationships between government and industry. Since the foundation of the Association, KMG has played a significant role in the development and implementation of the programs and initiatives of the Association.

KMG management participates in the Association's many committees and working groups.

Chairmanship in KAZENERGY Coordination Council for ecology social responsibility and transparency allows KMG to push sustainability development issues in the RoK oil and gas industry.



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## OUR OPERATIONS AND ASSETS

### International Association of Oil Transporters (IAOT)



Since 2015, KTO has been a member of IAOT for improving international oil transportation systems. The association revises issues of tariffs formation, pipeline diagnostics and operation, oil transportation and storage. As a member of IAOT, KTO also participates in energy efficiency working groups for information and experience sharing, and also for the purposes of benchmarking with other members (Transneft (Russia), Transpetrol (Slovakia), MEPO (Czech Republic) and MOL Hungarian Oil & Gas (Hungary)).

### Oil Spill Response Limited (OSRL)



"KMG Systems and Services" is a member of the largest international association for oil spill response. Membership in OSRL guarantees best practices in the liquidation of oil spills anywhere in the world and for any level of spill. Also, it allows minimizing environmental and occupational safety risks during offshore operations in the Kazakhstan sector of the Caspian Sea.

### UN Global Agreement



Membership in UN Global Agreement demonstrates our commitment towards principles of sustainable development.

### World Bank Initiative - "Zero Routine Flaring by 2030"



KMG joined this initiative in 2015. It unites governments, oil companies and development organizations, agreeing to stop the practice of routine flaring before 2030.

### International Organization for Standardization ISO



Since 2006, the management system in the field of quality, environmental protection, health and safety at work has been maintained in accordance with the requirements of ISO 9001, ISO 14001 and OHSAS 18001. The subsidiaries with a significant level of energy consumption were certified by ISO 50001. The information on other ISO standards is provided in Sections 4, 4.2, 4.3 and 6 of this Report.

### Extractive Industries Transparency Initiative (EITI)



It is a world standard that promotes transparency of revenues (profits) from oil, gas and mining industries. We comply with the terms of the Memorandum of Understanding and provide reporting on taxes and other payments to the country's budget.

### The Project Network of The Global Methane Initiative (GMI)



is a growing community of private-sector entities, financial institutions, and other governmental and non-governmental organizations with an interest in methane abatement, recovery, and methane use projects. Working with the countries who are GMI Partners, Project Network members can galvanize action, setting the stage for concrete methane projects. KMG intends to join the GMI Project Network in 2017 to continue our activities on methane emissions reduction.

- 102-12
- 102-13
- 103-2



325

Gas Stations across Kazakhstan

8 combined Gas Stations - Automatic Gas Refueling Stations

12 Automatic Gas Refueling Stations

1 CNG filling station



80

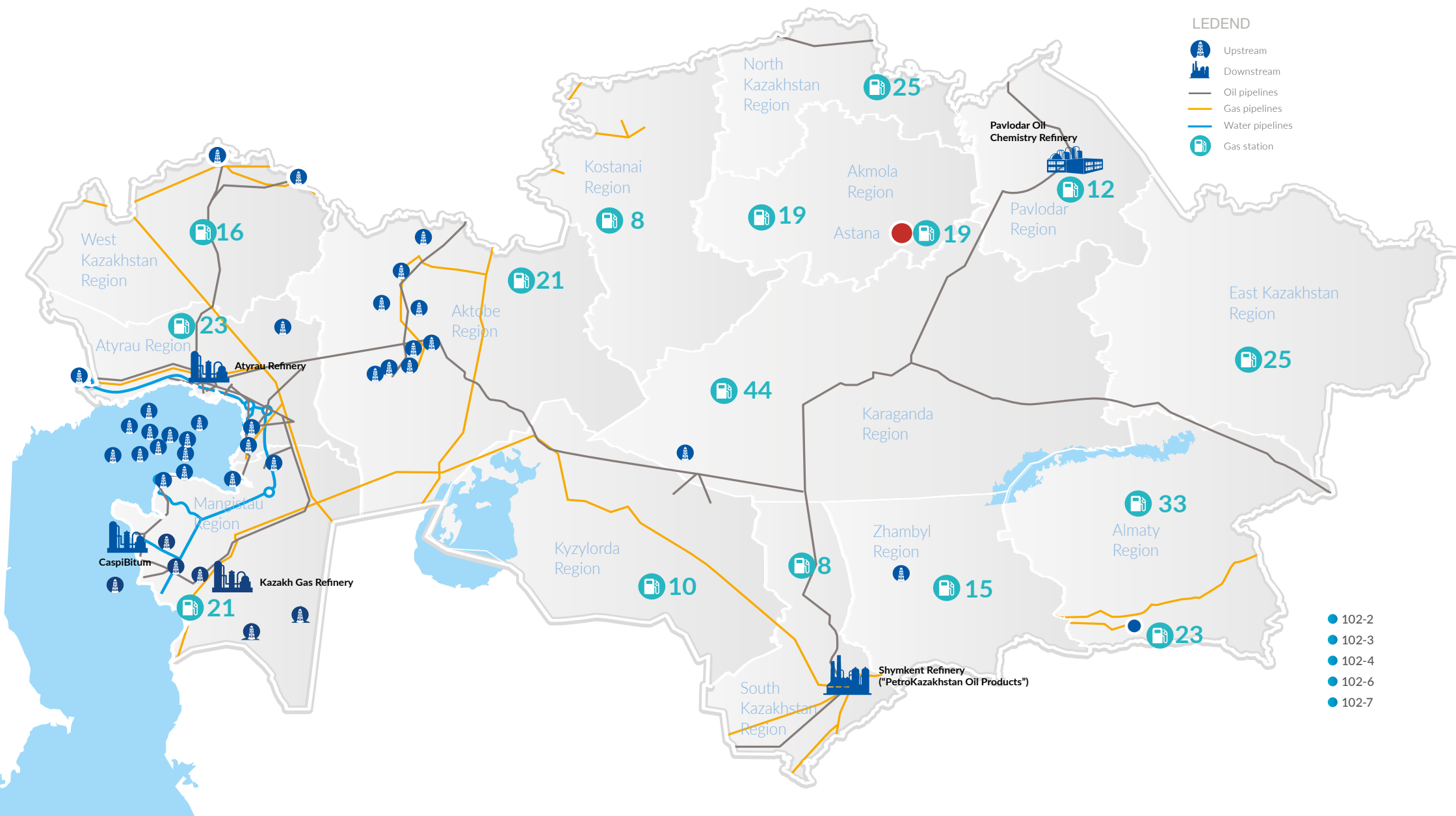
bulk plants in Kazakhstan

21,872 km

Total KMG oil and gas pipelines in Kazakhstan

#### LEDEND

- Upstream
- Downstream
- Oil pipelines
- Gas pipelines
- Water pipelines
- Gas station



## 2016 – YEAR OF TRANSFORMATION

### INTERNAL OPINION



**LUXEMBOURG Gleb, Vice President  
for Transformation of  
JSC NC "KazMunayGas"**

We are moving from a holding company (investor role), managing many sub holdings, to an active operational asset manager role.

The transformation initiatives aimed at improving efficiency include 30 projects in extractive and oilfield services organizations for the period 2016–2017.

The framework of transformation covers such important projects, as procurement optimization, Shared Service center and Data management office.

It is planned to develop an Industry Regulation on procurement management, which will change the approach to the procedure for selecting suppliers, saving the Group 200 billion tenge over the next 5 years. It is also planned to introduce a new approach in providing goods, works and services based on best world practices.

Part of the functions (IT services, accounting and treasury) are to be transferred to the Shared Service Center, which will allow the operating companies to focus exclusively on production and cost reduction. This approach will allow applying uniform standards and methodology, increasing the quality and speed of rendering these services.

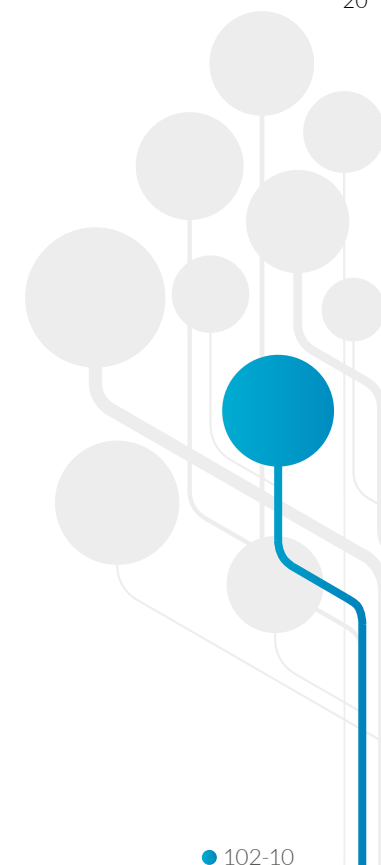
The most important event in 2015–2016 is the ongoing process of implementing the Transformation Program initiated by the Head of State. The transformation program is aimed at increasing the Company's value, increasing business efficiency through changing business processes, introducing best management practices and technologies, improving the quality of human resources management and the company's portfolio of assets.

Since June 2016, the transition to a new model of corporate structure has begun, which involves simplifying the management of production assets. The model is designed for the reduction of management levels by merging sub holdings, simplification of the legal structure, abandoning noncore and secondary businesses and reduction of the number of companies.

The number of management levels will be reduced to two from the current six. The first management level will be represented by a single national company having a centralized function of strategic management. The second level will be formed from the subsidiaries. Their goal will be to effectively implement the current production activities in accordance with the goals set by the first level, the corporate center.

The Group's oil producing companies will concentrate on the implementation of the production plan according to the approved budget and HSE standards.

The new model will reduce administrative procedures and the number of management levels, accelerate decision-making, concentrate resources on core business and improve the company's manageability. Full centralization of the functions of strategic management of all elements of the value chain will be ensured: from exploration and production of hydrocarbons to sales of oil products and gas.



## OUR STAKEHOLDERS

We have a wide range of stakeholders that are influenced by our activities or can have an impact on our success. We keep them informed, whether they are individuals or large-scale organizations.

In 2016, we developed a new map of key stakeholders, but there were no significant changes in comparison with the map given in the report for 2015.

In accordance with the Code of Corporate Governance, the building of trusted relations with our stakeholders is carried out through a transparent reporting mechanism. Taking into account the variety of stakeholders, we have a number of mechanisms for continuous interaction/engagement with each of them. More detailed information about our interaction is presented in the table.

### Principles of the top management in the area of HSE



### CASE STUDY

#### Annual HSE General Directors Forum

In 2016, considerable work was done to increase the Group's top management commitment and engagement to the safety process and to the implementation of industry best safety practices.

27 June 2016, the 2<sup>nd</sup> annual HSE forum for General Directors on topic of "Strengthening Safety Culture" took place.

More than 70 top leaders attended. This event is a platform for leaders to discuss problem questions and possible solutions, develop a uniform strategy for safe working conditions, discuss the importance of improving safety culture and the role of managers in this issue, and represented the possibility of sharing of best safety practices.

The Group's leaders made HSE commitments for their involvement in occupational safety, as well as to raise workers' awareness in the Occupational and Health safety field.

These commitments were included in the general directors' HSE personal plans, which demonstrates to workers about first leaders' involvement in HSE.



Sauat Mynbayev's HSE personal plan

- 102-16
- 102-42
- 102-43

# STAKEHOLDERS MAP

## Our approach to stakeholders engagement \*



- 102-40
- 102-42
- 102-43
- 102-44
- 103-2
- 102-21
- 413-1
- 102-29
- 102-15

\* Our approach to interaction with stakeholders is based on an analysis of the feedback from our stakeholders. For a feedback from stakeholders table see page 83.

## SUSTAINABILITY ISSUES IDENTIFIED AS "MATERIAL" FOR OUR REPORT

The process of selecting the content for this report was based on the guidance of the Global Reporting Initiative (GRI-4 version) and new GRI Standards, ensuring interests/expectations of our stakeholders and sustainability development context.

The Parts of this report cover the activities of the Group according to the 10 principles of the United Nations Global Compact.

### PROCESS OF IDENTIFYING RELEVANT SUSTAINABILITY TOPICS

The first step included the identification of topics from the perspective of a sustainability context. It was based on reviewing topics identified as material in the last year and analysis of feedback to the previous report.

We made analysis of internal and external documents: audit reports, Corporate Governance Code of our main stakeholder, corporate policies and procedures, GRI-4 Guidance and GRI Standards.

In addition, we have taken into consideration topics to be covered by the largest companies in the oil and gas sector and the topics discussed at the meetings

with KAZENERGY in 2016 to identify topics of interest for RoK oil and gas industry.

In the second step, we applied the Principle of Materiality, the Principle of Stakeholder Engagement and prioritized topics based on the results of the survey:

- the level of economic, environmental and social impact;
- the level of impact on the assessments and decisions of our key stakeholders.

During the survey, we asked the key leaders of the KMG Group of companies and state bodies to assess the topics in terms of their importance and influence, and identify topics of personal interest for them that they would like to include in the report.

Finally, we assessed the identified material topics from the point of view of compliance with the Principle of Completeness in order to ensure that the report will provide a reasonable and balanced view of our impact and allow stakeholders to evaluate the results of our work. As a result, the lists of material topics were updated (for example, the biodiversity and marketing communications are included).

KMG top management reviews and approves the report's content before publication.

The topics that were identified as material/significant and their priorities are reflected in the materiality matrix below. The full version of the report reveals topics that have high or medium priority.

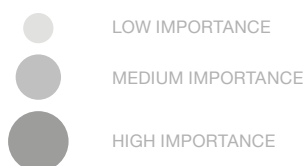
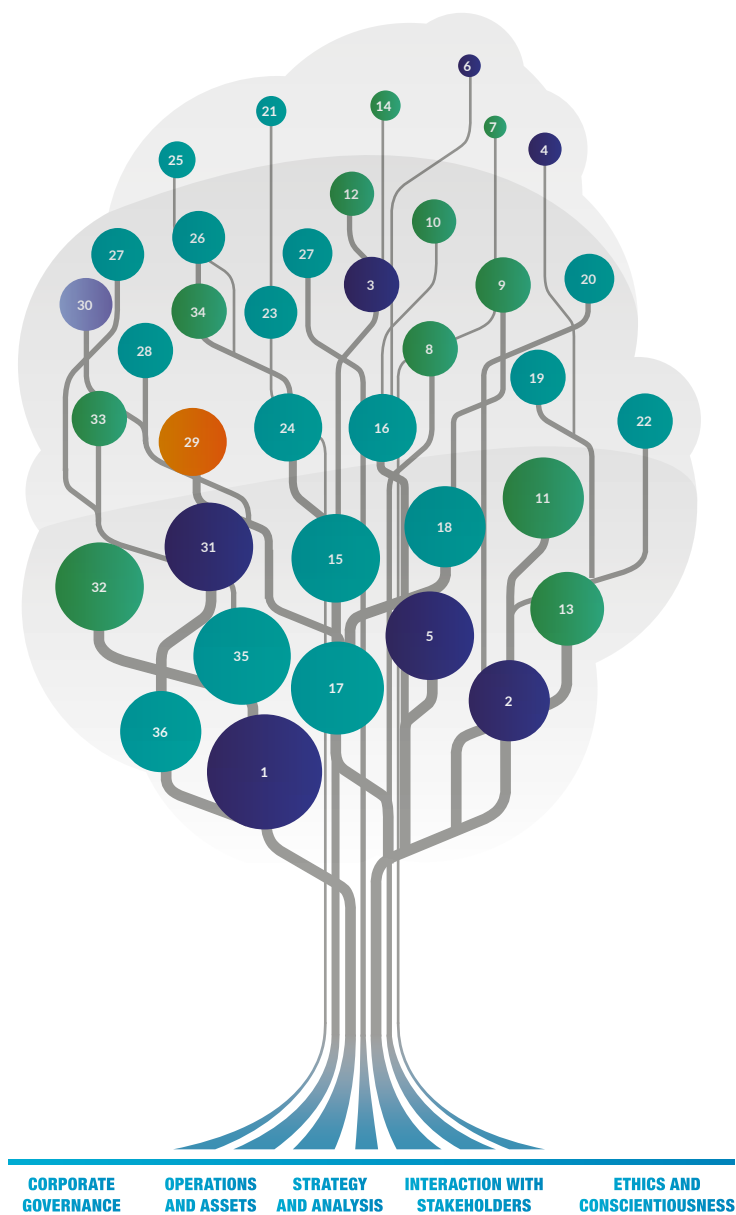
Our goal is to set priorities in accordance with their importance for the society and the Group, for the next planning of work direction. The fact that some of the topics on sustainable development are not material does not mean that they will be excluded from the business strategy.

The improved level of stakeholders' engagement increased the number of social topics disclosed in this report (compared to 2015) and significantly influenced the matrix of materiality and noted the emphasis of this report on the social impact of our activities.

- 102-43
- 102-46
- 102-49
- 103-1



# MATERIALITY MATRIX



- 1 Economic Performance
- 2 Market Presence
- 3 Indirect economic impacts
- 4 Procurement practices
- 5 Anti-corruption
- 6 Anti-competitive behavior
- 31 Volume and classification of estimated reserves
- 7 Efficient use of materials
- 8 Energy
- 9 Water efficiency
- 10 Biodiversity
- 11 Emissions
- 12 Waste management
- 13 Compliance
- 14 Supplier Environmental Assessment
- 32 Volume of burned hydrocarbons and leaks
- 33 Drill mud
- 34 Produced water utilization

- 15 Employment
- 16 Labour/Management Relations
- 17 Occupational Health and Safety
- 18 Training and Education
- 19 Equal remuneration for women and men
- 20 Supplier assessment for impacts on society
- 21 Human rights assessment (Investment)
- 22 Non-discrimination
- 23 Freedom of association and collective bargaining
- 24 Child & Forced/compulsory Labor
- 25 Supplier human rights assessment
- 26 Security practices
- 27 Public policy
- 28 Indirect socio-economic impacts
- 35 Oil spill prevention & emergency preparedness
- 36 Asset integrity & process safety
- 29 Local communities
- 30 Marketing and Labeling

- 102-44
- 102-47
- 103-1

# GOALS AND OBJECTIVES. FUTURE WORK DIRECTIONS

Our long term goal is “zero” injuries, incidents and spills at the operational sites. This is not an easy task, but we are working to achieve it. We continue to make significant efforts to create a positive safety culture based on an improved understanding of the risks at all levels of the Group; this is the only way to achieve a long-term improvement in safety performance. Our goal is to achieve a proactive safety culture by 2020 and we are on track to get there.

The HSE changes that took place in the last 2 years were enforced by the requirements for reporting

transparency, which was incorporated as a Corporate Key performance indicator (KPI) for the Top management teams of KMG and its subsidiaries in 2015 and 2016.

Starting from 2017, a new Corporate KPI will be introduced – the Lost Time Injury Rate (LTIR).

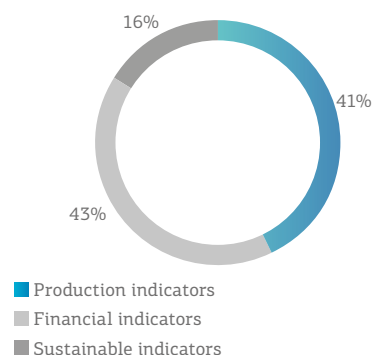
## THE DEVELOPMENT OF GROUP'S KPI

As a result of the Fund's new approach to the assessment of the Portfolio Companies' Corporate Management rating, the implementation of the

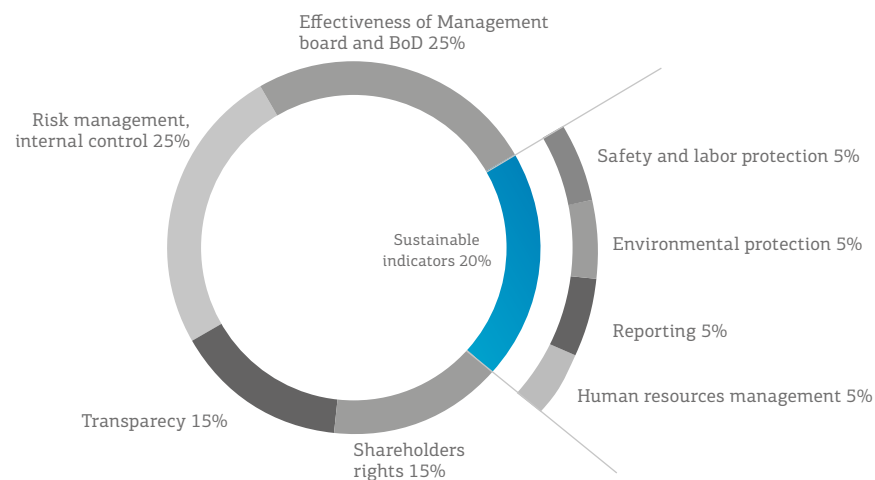
principles of sustainable development in the Group will directly affect the corporate governance rating. Since 2017, the Top management Corporate KPI will also include the level of the Corporate Governance Rating; the weighting of the component of sustainable development will be 20%.

The KMG corporate governance plan for 2016–2017 aims at further improvement of corporate governance issues and the implementation of this plan is included in the performance indicators of the top management.

Structure of KPI in the Group



Structure of corporate management rating

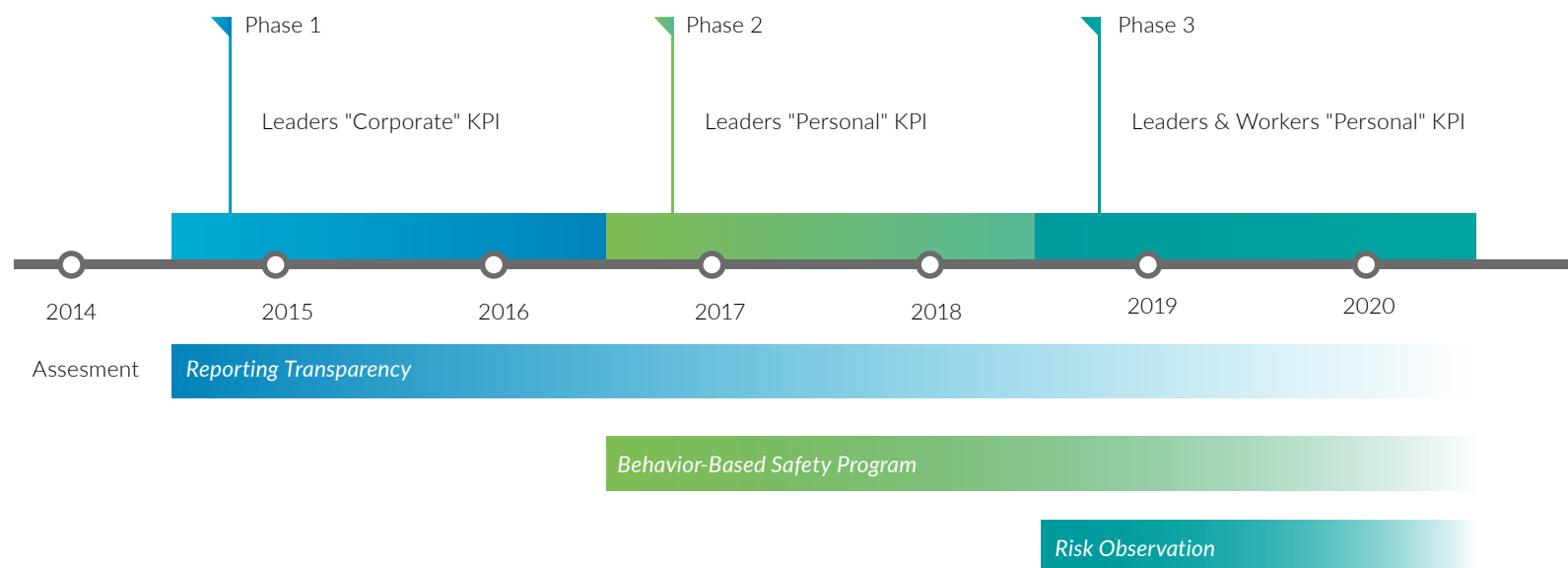


102-15

102-28

# GOALS AND OBJECTIVES. FUTURE WORK DIRECTIONS

## THE DEVELOPMENT OF GROUP'S KPI



103-3

## 2016 GOALS ACHIEVEMENT AND PLANS FOR 2017

### 2016

- Reporting Transparency Corporate KPI
- HSE awareness program



### 2016 goals achievements

- 90% reporting transparency has been achieved
- Golden Rules, corporate-wide Transport and Incident investigation standards, Chronic Unease video has been developed

### 2017

- Reduce LTIR by 15%
- To conduct >50,000 BBS management audits for the Group
- Corporate management rating not less than B level



PK Petro  
Kazakhstan  
Kumkel Resources

PK Petro  
Kazakhstan  
Kumkel Resources

OUR  
PEOPLE

## OUR PEOPLE

### *Our employees are our main value and asset.*

The level of their professionalism and safety impacts directly on the results of our overall performance and the value created for our investors. Therefore, we are striving to attract the best experts from the labor market and educate employees based on the principle of meritocracy; as well as to ensure their

safety and develop motivational and development programs.

In accordance with the new Group's model, KazMunayGaz JSC – Refining and Marketing JSC will be liquidated in 2017; its personnel will be transferred to the corporate center. The number of supporting functions of KMG as a whole is to be

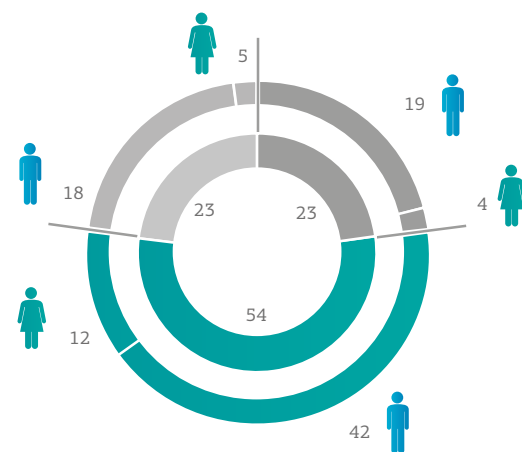
reduced by 15%. We will try to provide support to our employees during this transition period.

The minimum notice period about significant changes in the company's activities is 4 weeks.

Labor turnover (without data from KMG EP) in 2016 – 13.8 %, against 11.13% in 2015.



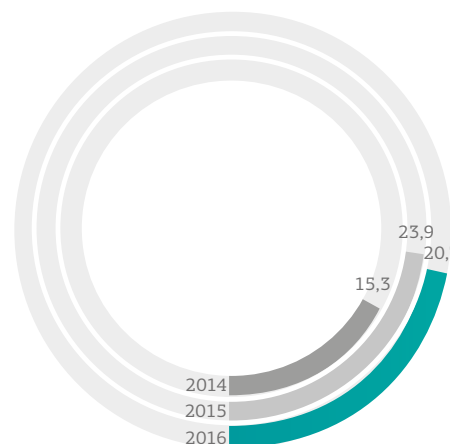
Age categories of employees, %



■ Employees under 30 years old  
 ■ Employees aged 31 to 50 years  
 ■ Employees over 51 years old

■ Share of men  
 ■ Share of women

Proportion of newly hired employees, %



● 102-8  
 ● 103-2  
 ● 401-1  
 ● 402-1  
 ● 405-1

## OUR PEOPLE



### CASE STUDY

#### *KazTransGas awarded the labor dynasty of gas workers*

“JSC Samruk-Kazyna Labor dynasty” solemn ceremony on behalf of the national gas operator and supplier “KazTransGas” gas workers dynasty of Eschanov family from Atyrau were awarded. Seven members of this family with a total work experience of 128 year are working in the field of natural gas pipelining. Dynasty head’s wife Mariash-apa, her eldest son Marat Pobedovich and granddaughter Adiana arrived from Atyrau for the awards ceremony.

Dynasty head Eschanov Pobeda Zhumagalievich was born in 1945. He started working in the gas industry in 1971 as an engineer. He worked as a maintenance shop supervisor all the way up to “Kazakhenergoemont” General Director, and contributed his soul and skills to the industry’s development. He was always willing to share his mastery, gladly trained young specialists, passing his experience since the gas industry began its development. Pobeda Zhumagalievich also was an active member of society where he was elected as a Makatskii region councilman.

Together with his wife – Eschanova Mariyash – they raised 7 children, and helped to raise grandchildren, 19 in this wonderful family. Most of the Eschanov family continued the work of Pobeda Zhumagalievich and, directly or indirectly, connected their life with the gas industry.

Inspired by the examples of their father and grandfather, they followed his footsteps, sharing the love for the gas profession through the generations. Bound by family ties, they tried not to let each other down in the professional sphere, always striving to be on top, maintaining the brand of the Eschanov family and by their hardwork contributed to the development of the gas industry in the RoK.

# OCCUPATIONAL SAFETY & HEALTH

## ***2016 was the second year of structural change in the area of HSE and the continuation of cultural change in the Group.***

2016 was a year of strengthening safety culture, increasing leadership engagement, empowering workers to stop unsafe behaviors, root cause analysis of incidents and implementation of industry best safety programs.

The commitment of the Group's leadership team to the safety process and implementation of industry best safety practices in 2016 has never been more robust. The leadership of KMG for the past three years has remained resolute in its position to promote:

- The value of human life in relation to production activities;
- Leadership engagement, commitment and training at all levels in the field of Health, Safety and Environment;
- Employees' personal responsibility for compliance with safety requirements;
- Creation of a positive safety culture focused on prevention of accidents and incidents;
- Transparent and effective communication between all stakeholders;
- Promotion of safe behaviors and correction of unsafe behaviors.

In 2016, HSE Leadership awareness training continued with excellent participation and commitment. Leaders attended safety trainings, reviewed safety performance monthly, asked the right safety questions, and requested more information on safety as they recognize the value of safety in their respective businesses. The practice of personal reporting of the General Directors of

subsidiaries to the BoD of the Group was introduced for each fatal work incident.

In 2016, matrix (or functional) reporting to the Corporate center has improved. We have proposed that the HSE function in each subsidiary should have a solid line reporting relationship into the General Director and a dashed line back to the corporate HSE Director in Astana. This functional link to Astana will provide improved bi-directional communication flow, improved support to the subsidiaries, the ability to provide organizational capability development and movement of HSE personnel.

More than 1,000 line managers in KMG have taken part in safety forums and seminars.

All HSE directors in all KMG subsidiaries have been trained on root cause analysis. A system to distribute "lessons learned" has worked well.

## **OCCUPATIONAL & TRANSPORT SAFETY INDICATORS**

In 2016, we lost seven workers (4 in 2015), 85 had work related injuries, (99 in 2015). Motor vehicle accidents remained flat – 64 and 65 respectively.

Injuries by Activity illustrate that 78% of all 85 injuries in 2016 continue to fall into three groups: Drilling & Workover, Maintenance and Transportation. Analysis by Category shows that 57% of all 85 injuries in 2016 also fall into three groups: Slips/Trips/Falls, Driving, and Struck by.

The overall KMG Group ratio, 1 HSE employee to subsidiary employees, has improved from 2015 to 2016 by 7% from 1:94 to 1:87.

## ***90% of all injuries are as result of employee's unsafe behaviors and sense of complacency reflecting a poor safety culture.***

Transportation is a significant risk in the Group. Everyday more than 10,500 KMG vehicles operate throughout the KMG group oilfields and assets. The intensive traffic and harsh road conditions expose real threats to the lives and health of KMG employees and 3<sup>rd</sup> parties.

A real success in 2015 & 2016 was the seat belt implementation program. Seat belts are now in all company vehicles. This reflects a 13% improvement over 2015 and 33% improvement over 2014.

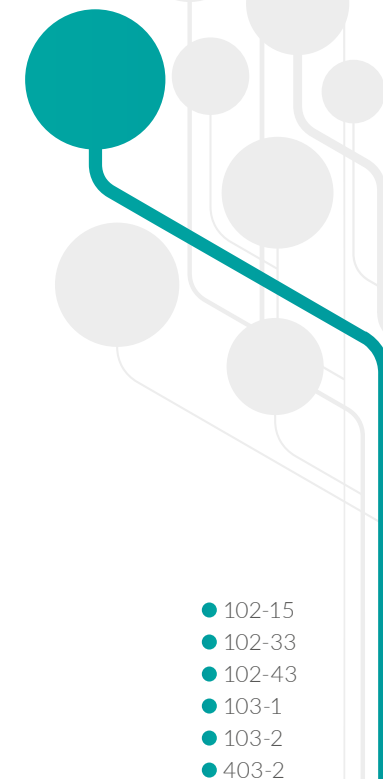
Our "Total" Motor Vehicle Accident Rate at the end of 2016 was 0.41 accidents per 1 million km driven vs. 0.44 in 2015, or 10% improvement.

## **ACHIEVEMENTS**

We have achieved a positive change in our corporate culture for occupational safety and labor protection through increased reporting transparency of more than 300%. The next step of reporting transparency improvement is KMG's participation as a member in the International Organization of Oil and Gas Producers (IOGP) association, which will also help to share experience and best practices.

Incident prevention and root cause based investigations; training and sharing of lessons across the company were the focus of occupational safety in 2016 and have aided in the reduction of LTIR this year.

We continue to benchmark KMG against its industry peers, (IOGP), and seek continuous improvement in



- 102-15
- 102-33
- 102-43
- 103-1
- 103-2
- 403-2

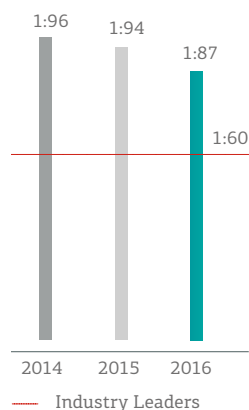
# OCCUPATIONAL SAFETY & HEALTH

health and safety, decline in accidents, industrial incidents, and environmental protection.

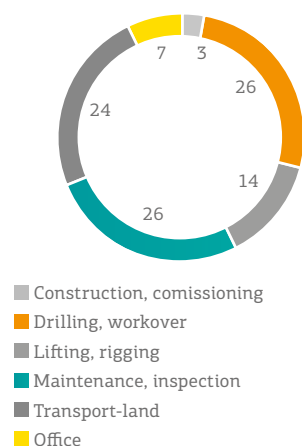
In 2016, to improve safety culture and decrease occupational injuries we implemented the following:

- Seat belts installed in all company owned vehicles;
- Behavioral Based Safety Program (BBS) developed;
- The corporate documents developed:
  - Health, Safety, Environment Road Map 2016–2020, including HSE strategic initiatives for 5 years;
  - Behavioral Based Safety Rules;

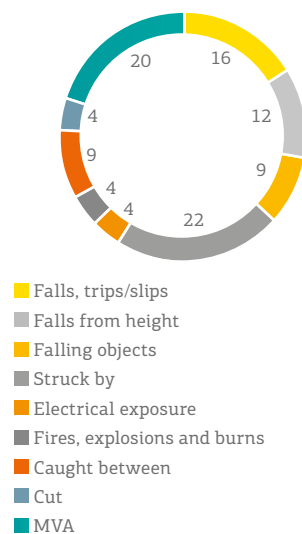
HSE Ratio (Ratio of KMG group employees per 1 HSE employee)



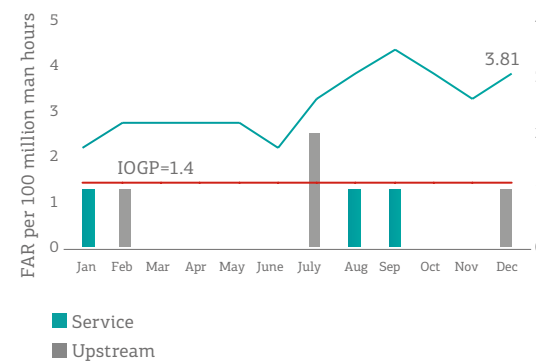
Lost time injuries by Activity, %



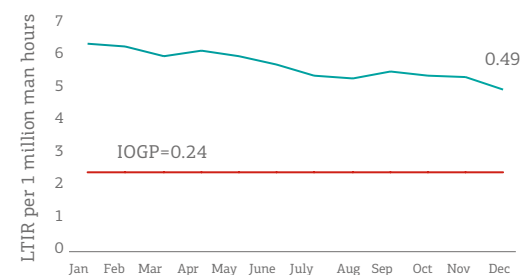
Lost time injuries by Category, %



Dynamics of FAR



Dynamics of LTIR



403-2  
103-3

# OCCUPATIONAL SAFETY & HEALTH

- Safety audits conducted in subsidiaries with high occupational injuries level;
- HSE safety roadshows conducted to train employees on risk analysis at workplace and top managers – new safety programs, the importance of their involvement in safety processes;
- The first safety company-wide culture survey took place to evaluate and baseline the current state of our safety culture;
- A supervisor's safety meeting manual was developed and distributed to frontline supervisors to assist them with work instructions during safety meetings;
- The second annual HSE forum for General Directors on strengthening safety culture took place;
- HSE Academy created;
- The 2<sup>nd</sup> annual Chairman's Award for "best innovative ideas in the field of safety" was held.

## FUTURE WORK DIRECTIONS

The HSE plan for the next 5 years are reflected in the Roadmap.

We are planning to implement a Behavioral Based Safety program in 2017 to engage both leadership (Business and operational) and field workers in meaningful safety discussions on safety at the field sites. This program is an industry best safety practice and will be beneficial to the Group's safety culture.

In 2017, a land transport program is planned with the application of a "Convincer", for improved seat belt usage, targeted training on the 5 most common driver mistakes, for driving management and enhanced control over the implementation of the Transport Safety Standard.

A three-level HSE Committee System comprised of both operational and HSE leaders will be developed in 2017. The main goal of the HSE Committee System is to lead and direct the HSE transformation. The Committees will be developed to solve the following tasks:

- Represent the views of senior management rather than the views of only the HSE function.
- Create a vision for the company in the matters of occupational and industrial safety, occupational

health and environmental performance with recommended HSE input and output targets.

- Provide leadership on the development of focused HSE programs and the necessary resources for the 5 year plan, and
- Advise on HSE risks and opportunities.



## OCCUPATIONAL HEALTH

**Management of health and safety of our employees in the Group is carried out in accordance with the requirements of national legislation and international standards.**

There were collective agreements between the Employers and the Labor Unions in the largest subsidiaries of the Group in 2016, which reflect health and safety issues. The Collective Employment Agreements include measures on safe working conditions, social guarantees, compensations and hardship allowances for improvement of workers' health status (financial assistance for medical treatment, organization of medical care, promotion of a healthy lifestyle, organization of sporting events).

An agreement between the Ministry of Energy of RoK, representatives of the National Chamber of Entrepreneurs, KAZENERGY Association and representatives of labor unions was created as an effective mechanism for regulating social and labor relations, ensuring an optimal balance of interests of employees and employers.

In 2016, we introduced the tracking of non-related deaths that occurred at home, previously never tracked before. The main reasons of non-work related deaths are cardiovascular diseases (ischemic heart disease, insult).

### WELLNESS PROGRAM

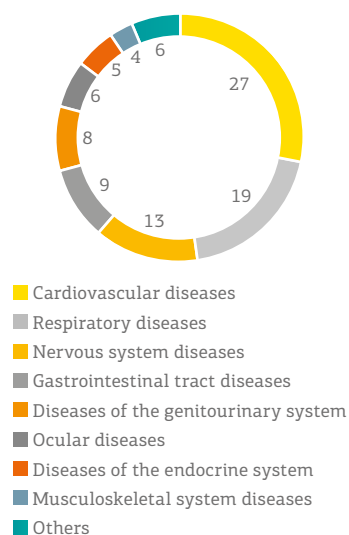
In order to achieve KMG's strategic goals in occupational health and hygiene, a number of initiatives were aimed and implemented for the wellness of employees. "10 Steps to Wellness" have been developed for increasing physical activity, promotion against bad habits (unhealthy eating habits, smoking, alcohol) and overall effective health improvement.

Further work on implementation of adopted wellness initiatives in 2017 will be aimed at better working conditions and workplaces, enhancing medical

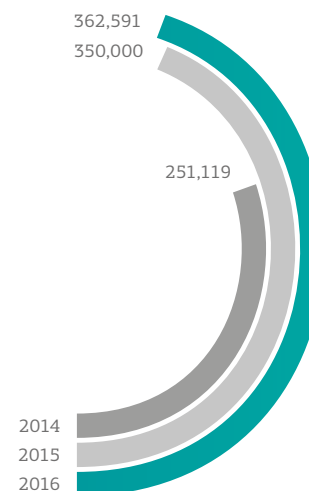
services and first aid, controlling and monitoring employees' medical care, raising awareness and promotion of a healthy life style.

Every year we conduct professional training and skills development and provide personnel with protective equipment. In order to identify possible occupational diseases, we are conducting annual medical examinations. In addition, professions related to harmful and dangerous influences and hazardous and harmful production factors have been identified, and measures have been developed to reduce them. All Company's personnel are insured against accidents at the workplace.

Disease distribution in the Group, %



Sick days



- 102-15
- 103-2
- 103-3
- 403-3
- 403-2
- 403-4

# OCCUPATIONAL HEALTH

## CASE STUDY



In 2016, the leaders of the trade unions and labor collectives of the Group united under the single flag of KMG for the Spartakiada dedicated to the 25<sup>th</sup> anniversary of the Independence of the RoK.

The two-stage Spartakiada was held in order to promote healthy lifestyles, engage employees in physical activities and sports and to establish networking between the Group's employees.

From March to July 2016 10 teams were formed from subsidiary employees. About 2,500 employees from 50 organizations of the Group took part. The winners of the competition were given permits to participate in the final stage.

The final stage of the Spartakiada took place on the eve of the Day of workers of the oil and gas industry in the 6 sports complexes of the city of Astana. Within 3 days, more than 500 participants from 30 organizations of the Group competed in 9 sports: mini-football, basketball, volleyball, billiards, running and mixed relay, table tennis, chess, checkers and togyz kumalak in a competitive and friendly atmosphere.

As a result of the competition, all winners were awarded medals and diplomas, as well as cash prizes.

Spartakiada will be held on an annual basis.



## CARE FOR OUR PEOPLE

KMG is providing guaranteed social packages which include different types of social benefits and compensation: paternity and bereavement leave, monthly payments to employees on maternity leave up to 1.5 years of the child, compensation for termination of employment agreements if it is found impossible to transfer to another job due to loss of a general capacity for work, receipt of disablement benefit, one-time funeral cost payment for an employee's death and one-time payment to victim's family resulting from an occupational accident.

We provide all the necessary conditions for maternity/paternity leave; hence we have a high return from maternity leave (85–86% for the last 3 years).

KMG also provides social guarantees for voluntary health insurance, arrangement of vacation of the employees' children at holiday camps in the RoK.

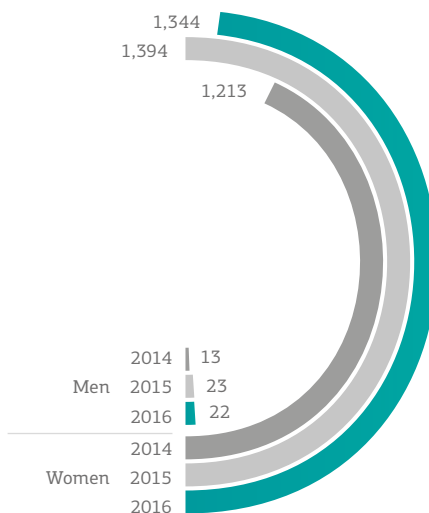
Also employees are provided with historically established types of social support. These types of social support are enshrined in collective agreements, or provided for by internal regulatory documents of the enterprise. These benefits include: milestone birthday payments, marriage benefits, marriage leave, paternity leave, bereavement leave, treatment leave in case of treatment expenses exceeds the limit established by the insurance program, to disabled employees, employees' disabled children and many more. These benefits have not changed, despite the crisis period.

According to legislation citizen's pensions are secured with the Single Accumulative Pension Fund of RoK. The pension consists of a basic guaranteed pension, individual contributions (fixed 10% from monthly income) and also regional additions.

In addition, the KMG Group of companies implements a retirement program allowing the retired employees to receive material aid from the organization.

In 2016, in 5 of the Group's subsidiaries a pilot project was implemented to provide employees at preretirement age to retire early with retirement benefits agreed with both parties and employees at retirement age to retire with paid benefits.

Employees on maternity /  
paternity leave, peoples



# 416 mln KZT

(\$1.2 mln)

Personal retirement savings of corporate center employees

# 19 billion KZT

(\$55 mln)

In 2016, expenses for social support of employees of the group of companies of KMG amounted including social assistance to non-working pensioners.

- 401-3
- 401-2
- 201-3



## EMPLOYEES INVESTMENT

We are striving to develop human capital in the regions in which we operate. To achieve the set strategic goals and objectives, we provide training and development of personnel on an annual basis and conduct training of young specialists.

In 2016, Group invested 4.5 billion KZT (\$13.2 mln) with an average training cost of 46 thousand KZT (\$134.6) per employee (45 thousand KZT in 2015, \$202).

Considering the hazardous nature of our employees' production activities, training in occupational safety is mandatory.

We believe that the timely and proper passage of training in occupational safety is a good risk management practice.

In 2016, 46 900 people were trained on HSE practices for 467.2 mln KZT (\$1.4 mln).

Root cause analysis training was provided for the Group's top management to increase awareness, improve monitoring and auditing functions, and to achieve high standards for inspecting and investigating HSE incidents.

We note that the training and development of employees is carried out regardless of gender and position.

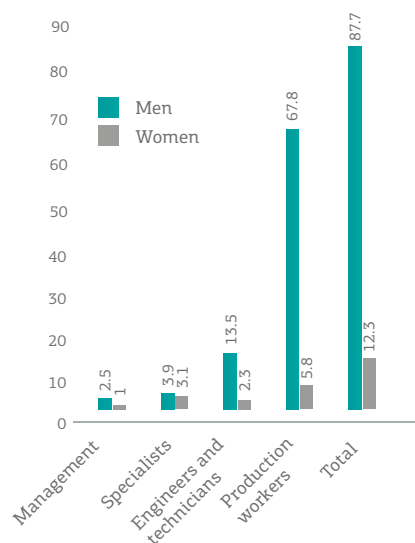
Within the framework of Group's new training model implementation (70% on-the-job training, 20% internal training and 10% external training), the project "Institute of Internal Trainers" was launched

in 2016. Hence, 334 employees were trained as internal trainers in 2016.

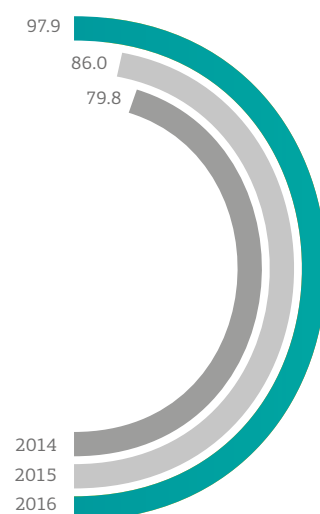
Another priority area for the long-term development of the Group is the formation and development of a succession pool in order to train future leaders of the company. During 2015–2016, 86 high-potential employees were enrolled in the candidate pool, which passed an objective and transparent competitive selection, during which their professional and personal-business qualities were assessed.

According to special training programs for candidates in 2016, 11 seminars were held (24 people were trained), and 6 candidates completed training on a two-diploma program Executive MBA. It was decided to send an additional 9 people from the

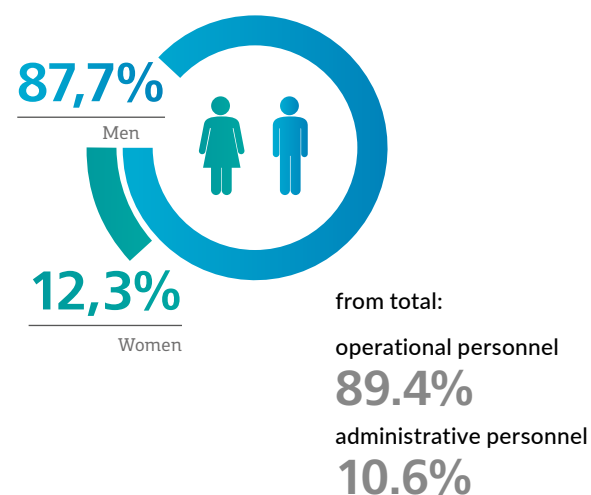
Trained employees by category, 2016, %



Number of employees trained, thousand people



Employees who have completed training



- 102-15
- 103-1
- 103-2
- 103-3
- 405-2
- 404-2

# EMPLOYEES INVESTMENT

## INDEPENDENT OPINION



*Gubkin Russian  
State University of  
Oil and Gas*

and JSC NC "KazMunayGas" have been successfully cooperating for more than 10 years in the field of additional professional education for the preparation of highly qualified specialists in the energy sector.

Within the framework of this mutually beneficial cooperation, the International Business School has been conducting trainings for personnel reserve of oil and gas companies of the Republic of Kazakhstan already since 2012 according to the program of additional professional education "Master of Business Administration (MBA)" Management of oil and gas business.

In the programs of additional vocational education implemented by the International School of Business, much attention is paid to personnel policy and personnel management, the improvement of social policy in the field of labor relations and the implementation of programs on corporate social responsibility in the regions of oil and gas companies presence.

We are pleased to underline high level of professionalism and the corresponding basic knowledge among the employees of JSC NC "KazMunayGas".

**Director of the International Business School,  
Dean of the Faculty of International Energy Business,  
Corresponding Member of the Russian Academy of  
Sciences, Doctor of Economics,  
Professor Telegina**

succession pool to study under the Executive MBA program, specially developed by the Kazakh-British Technical University and the Russian State University of Oil and Gas named after Ivan Gubkin.

In order to share and study best practices, acquire professional knowledge and skills, since 2016 a project has been implemented to provide internships for the Group's employees in partner companies such as Rosneft, Nabors Industries Ltd, Schlumberger company, PJSC Gazprom, Royal Dutch Shell, PJSC Tatneft, CNPC.

18 employees of the Group underwent training at the Karamai Xinjiang field of the Chinese National Oil and Gas Corporation (CNPC) in the drilling field, 8

### Directions and number of trained employees for the HSE for 2016, people

| HSE direction                        | Number of employees |
|--------------------------------------|---------------------|
| Safety and Labor Protection          | 6,653               |
| Industrial Safety                    | 29,732              |
| Fire safety                          | 9,057               |
| Transport safety                     | 757                 |
| Health protection                    | 38                  |
| Management System                    | 132                 |
| Environmental Protection             | 55                  |
| Sustainable development              | 15                  |
| Waste management                     | 19                  |
| Water resources management           | 2                   |
| Greenhouse gases                     | 27                  |
| Civil defense and emergency response | 15                  |
| Other                                | 399                 |

employees underwent training at the subsidiaries of PJSC NC RosNeft, in such areas as:

- HSE, Fire safety;
- Geology и geological exploration;
- Oil refining;
- Automation of production processes.

In addition, for the purpose of training, in 2016 a memorandum on cooperation in the field of education and training of personnel in the oil and gas industry was signed with JSC "Center for International Programs".

### ORGANIZATION OF DUAL TRAINING

In order to train young specialists in oil industry implementation of pilot projects in a dual education was continued. The main principles of dual education are 60% of training time in the company and 40% of time in a college.

Hence, at the Pavlodar refinery 33 students of State Communal Enterprise "Pavlodar Chemical and Mechanical College" received internship. As a result of the internship, 26 students were employed at the Pavlodar refinery.

39 students were trained at JSC Embamunaigas, of which 34 students of the Atyrau Institute of Oil and Gas and 5 students of APEC Petrotechnic High School LLP. As a result of the internship, 4 students were employed.

26 students received internships in JSC ICA, "Major gas pipeline management unit "Taraz": 25 students of Zhambyl polytechnic and 1 student from South Kazakhstan polytechnic college.

● 103-2  
● 404-2

# EMPLOYEES INVESTMENT

## INDEPENDENT OPINION



### *LLP "Oil and gas engineering & information technologies Kazakh British Technical University (KBTU)"*

cooperates with JSC NC "KazMunayGas" in the field of training and professional development of KMG employees for over 5 years.

In order to develop a corporate training system on an ongoing basis, JSC NC "KazMunayGas" motivates employees to improve their professional skills, assigning to be trained and improved professional skills and to graduate from master's programs.

After each training course, the effectiveness of the completed training is assessed, by questioning participants and getting feedback from trainers.

The results of the effectiveness evaluation revealed the high professionalism of KMG employees, a conscious sense of responsibility to their company.

We wish JSC NC "KazMunayGas" new achievements and financial success.

**The head of Corporate  
Training Center  
K. Filimonova**

Agreements with specialized universities for students internship were concluded (KBTU, KazNTU named after Satpaev, Atyrau Institute of Oil and Gas, Aktau State University named after Shahmardan Essenov, KIMEP, ENU named after Gumilev etc).

## EQUAL REMUNERATION FOR WOMEN AND MEN

Our approach to personnel motivation is based on the principles of ensuring appropriate compensation, transparency and respect of the employees' rights. All the changes to the compensation system are done taking into account the opinions and proposals of the stakeholders.

Ubiquitous system of labor compensation (USLC) has been implemented in upstream companies; it is aimed to help achieve the strategic goals of KMG by streamlining the wage system, ensuring a unified wage system in all departments, and strengthening the employees' interest in labor results. This system provides a number of conditions for employees to receive compensation payments, allowances and additional payments; one of these criteria is the Regional index – an indicator of the relative increase in wages in order to compensate additional costs and increased labor costs associated with performing work in regions with severe climatic conditions. This index is the biggest in Mangistau and Atyrau regions. At the same time, we have a competitive salary for all categories of employees, regardless of gender.

We have a competitive salary for all categories of employees, regardless of gender.

The ratio of entry-level wages in the Group to the minimum wage established by the national legislation is in the range from 5: 1 to 10: 1.

The proportion of senior managers in the regions of presence hired from among the representatives of the local population is 89%.

For improving the system of labor compensation we implemented a new job assessment approach (from the level of administrative employees at corporate level to the subsidiaries top management level) using the international methodology in the field of human resources management.

The payroll system for the management body and management team focuses on performance, motivation, productivity and efficiency, and includes elements of short-term remuneration based on the achievement of KPI. In accordance with best world practices, the performance indicators of managers reflect the economic, environmental and social objectives of the Group.

Project to assess the adequacy of senior executives was implemented in 2016 within the framework of the transformation (Job Matching). Recommendations for improving Group's labor compensation system were developed based on the results of this project.

- 402-1
- 405-2
- 202-1
- 202-2
- 102-35
- 102-36
- 103-2
- 103-3

# EMPLOYEES INVESTMENT

## CASE STUDY

### *Professional skills contest "Uzdik maman /Best by profession":*

Professional contest "Uzdik maman" was conducted within 20 professions in 2016. 126 best professionals, identified by qualification tours, participated in this contest.

The contest was organized on 6 production sites with 24 Group's subsidiaries participating.

Hence, MMG production units held contests for oil and gas operators, reservoir pressure maintenance operators, well survey operator and technical equipment maintenance technicians.

"Oil Transport Corporation" LLP held a contest for transport workers: drivers, crane operators and cementer engine mechanics.

Drilling teams, turners, well workover and wireline operations teams had a contest in "Oil Services Company" LLP.

KTO training facility had a contest for loading operators, instrument repairman, electric and gas welder, electricians and chemistry lab technicians from different subsidiaries of KMG.

Atyrau refinery held a contest for 4 oil processing professions, in order to identify the best of 3 refineries (Pavlodar, Shymkent and Atyrau).



On the 7<sup>th</sup> of October official contest results were announced and awards ceremony was held in Aktau Culture palace named after Abay. Best of the best were awarded with "Uzdik maman" medals, cash and valuable prizes.

More information on "Uzdik maman/ Best by profession" can be found at:  
[www.kmg.kz/thebestprofessional](http://www.kmg.kz/thebestprofessional)



## EMPLOYEE EVALUATION

The procedure for employee evaluation has been in force since 2004 in KMG and is aimed at determining the effectiveness of performed work and aimed to stimulate adequate material and non-material remuneration.

The procedure is governed by the "KMG Rules of Assessment of the administrative staff" and is based on two types of evaluation: evaluation of professional development and evaluation of performance.

Evaluation of performance is carried out on a quarterly basis, based on the goals set for the year, and has specific quantitative results from 1.5 to 0 of the official salary as a quarterly bonus payment.



## EMPLOYEES INVESTMENT

### INTERNAL OPINION

The project saved me. The savior in the literal sense of the word. The routine in all-day life draws so much that you live like in a world behind; you fall into a habit to live without inspiration, on autopilot solving every-day household issues. So when I saw the announcement about recruitment to the project, I suddenly remembered, then the feeling of student drive in the university and again pulled into this stream, where there is a place to challenge and strain, fear of failure and joy from victory, which means, the place of life itself. As a result, I received an unforgettable experience, there was both a challenge and a strain of strength when I prepared the first lecture, and the fear of failure before the performance and the joy of winning when the participants asked interesting questions.

Coaching gives me the opportunity to hone my knowledge. But most importantly, coaching helps not to lose the inquisitiveness of the mind and to fall in love with the profession again, because you again and again see your subject area with strange eyes, with curious eyes of inexperienced participants. The coach gives knowledge, but receives inspiration. It's certainly worth it.



Seitalina Korlan is the director of the strategy department, internal trainer (in the project "Institute of Internal Trainers" from its very founding, and by the results of 2016 took first place in the competition "The Best Coach of the Year").

Evaluation of professional development is held annually and is aimed at non-financial incentives – The Evaluation Commission may recommend enrollment in the succession pool, promotion, rotation in the KMG group of companies, individual training or other professional development opportunities.

In 2016, after the performance evaluation, 13% of corporate center employees received recommendations to join the succession pool, 5% received promotion and 29% received salary revisions. Individual development plans are developed for each employee based on the results of the assessment.

In addition, in 2015, a Standard Model for business competence of executives, management and administrative staff in the KMG Group of

companies was approved. Within the model 190 Group managers were evaluated. Individual development plans for every participant and succession plans for key positions in the company will be developed based on the evaluation results.

Performance evaluation was carried out for 23,466 employees on a quarter basis throughout 2016 (84% men and 16% women).

In 2016, many employees of the Group were awarded various prizes, including: state ones (76 people), departmental ones (112 people) and more than 60 employees were rewarded with the Certificate of Honor of Samruk-Kazyna JSC, 12 workers with KAZENERGY awards, and the best 320 employees received certificates of honor and commemorative badges of JSC NC "KazMunayGas".



103-3

404-3

## HUMAN RIGHTS

Republic of Kazakhstan is a state governed by the rule of law, the highest values of which are the person, his life, rights and freedoms. According to Article 14, paragraph 2 of the Constitution of the RoK – "no one shall be subjected to any discrimination based on origin, social, official and property status, sex, race, nationality, language, attitude towards religion, beliefs, residence or any other circumstances".

As a national company, we strictly honor fundamental human rights. We recognize the undeniable importance of granting equal rights to everyone.

Our policy of non-discrimination on any characteristic extends not only to employees of the Corporate Center and subsidiaries, but to all stakeholders. From year to year, our position on basic human rights remains unwavering: we do not use child labor, we do not practice forced labor, we recognize the equal rights of all employees and counterparties, regardless of their race, religion or gender. However, we realize their exceptional importance as a whole for society and, therefore, recognize the above aspects as essential for our group of companies.

At the same time, we monitor the compliance with workers' rights in the Group, and for this purpose we conduct periodic internal trainings, regular explanatory work, counseling, accepting requests and appeals from employees on issues of ethics and legislation violations. In cases of real conflicts of interest, we instruct employees, keep statistics and records of employees' appeals (internal appeals), appeals and requests from third parties (external appeals – clients, partners, and other interested persons). Incoming information analysis is reflected

into the continuous KMG Business Ethics Code improvement.

The uncontested rights of workers is the freedom of association, the right to form trade unions for the protection of the workers' collective interests. As a socially responsible company, KMG supports this right and creates a favorable environment for the development of this institutional structure.

Collective agreements are a legal act in the form of a written agreement between the collective labor organization of employees and employer regulating social and labor relations. Collective discussions in the Group's subsidiaries are conducted based on the principle of equality and respect for the party interests, freedom of choice in discussing issues that relate to the content of collective agreements, the voluntary acceptance of parties' obligations, control over compliance to the collective agreements, parties' responsibilities and their representatives for noncompliance with the collective agreements). At the end of 2016, collective agreements were signed in 38 of our subsidiaries (in 37 – in 2015).

In order to prevent the escalation of social tension and timely response to emerging situations, tools for "monitoring the social climate" (MSC) were developed in Group's subsidiaries. Tools of MSC help to respond to emerging situations, determine the causes of their occurrence, fix responsible and take appropriate solutions for solving problems in advance. In 2016, an MSC pilot was implemented in 6 subsidiaries which we identified subsidiaries with episodic social tension increase.

### Social Stability Rating

*Starting in 2013, the Group's subsidiaries are conducting social research for identifying a social stability rating (SSR). In 2013, the SSR was 61% in the KMG Group, and stable at 74% in the last 3 years, from 2014 to 2016.*

*Annually action plans for improving the SSR based on the conducted research are produced.*

# 58,658 people

Number of employees covered by Collective agreements in 2016 (54,197 – in 2015).

- 103-1
- 406-1
- 408-1
- 409-1
- 102-16
- 103-2
- 407-1
- 102-41



OUR  
ENVIRONMENTAL  
IMPACT

# POLICIES AND MANAGEMENT



## CASE STUDY

In 2016, the following Companies of the Group were awarded:

- In 2016, the following Companies of the Group were awarded:
- KazTransGaz JSC – "The pursuit of excellence" EFQM Certificate
- KazTransGaz JSC, Amangeldy Gas LLP, KazTransGas-Onimderi LLP – were awarded with unified certificates for compliance with the standards ISO 9001: 2008, ISO 14001: 2004, OHSAS 18001: 2007 according to the norms of AFNOR
- Intergas Central Asia JSC – 3 stars "Recognized perfection" EFQM Certificate.

*AFNOR is the French National Standardization Body and one of the world's leading players in the certification market.*

*EFQM is the only official European Union organization that prepares and conducts an annual competition of the European award for the quality and excellence of the company management system.*

***Our goal is to continuously reduce the negative impact of our activities on the environment.***

HSE management targets are directly linked to the Group's Development Strategy till 2025. We conduct our production activities in accordance with the requirements of the national legislation and the Company's Policy in the field of labor protection, industrial safety and environmental protection (hereinafter – Policy). According to the Policy, the main principles of HSE management are risk identification and risk management, introduction of safe and resource-saving technologies aimed to reduce pollutants emissions and greenhouse gases and to improve energy efficiency; ensuring constant readiness of personnel and production facilities to act in emergency situations; ensuring transparency and awareness.

The Policy applies to all employees of the Group, as well as employees of contractors providing services at our facilities.

As part of the Transformation, one of the tasks was to improve the effectiveness of the existing HSE management system. In 2016, the Policy was updated and a Roadmap was developed for improving HSE which defined our goals for the period until 2020. This Roadmap involves the main strategic initiatives in the field of sustainable development.

The HSE activities are coordinated in the corporate center by the HSE Vice President. The Corporate Center analyzes achievements and identifies areas for improvement, goals and objectives for future HSE activities and energy efficiency, carries out benchmarking with past periods and with similar indicators of the leading international companies of the industry (IOGP, IPIECA), Conducts audits of production facilities. In order to preserve the environmental prosperity and reduce the negative impact on the environment, we continuously search for possibilities to apply and introduce new practices and technologies.

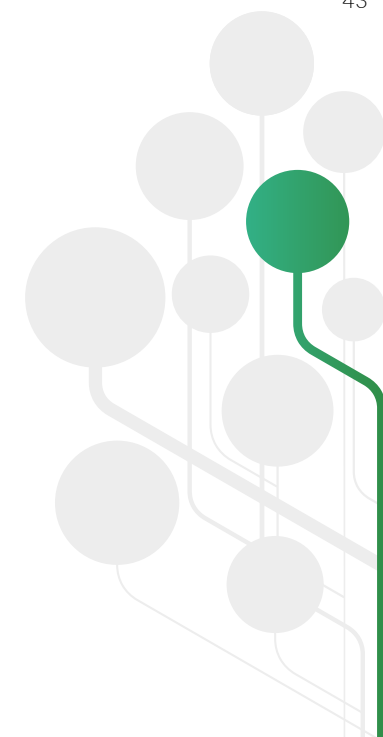
HSE results and issues are presented monthly at the KMG Management Board and the Board of Directors meetings, which increases the responsibility of managers and specialists.

The priority areas of our activity are: greenhouse gas emissions management, flaring reduction, historical waste disposal, land remediation and energy efficiency.



● 103-2

● 102-29



# CLIMATE CHANGE AND AIR QUALITY

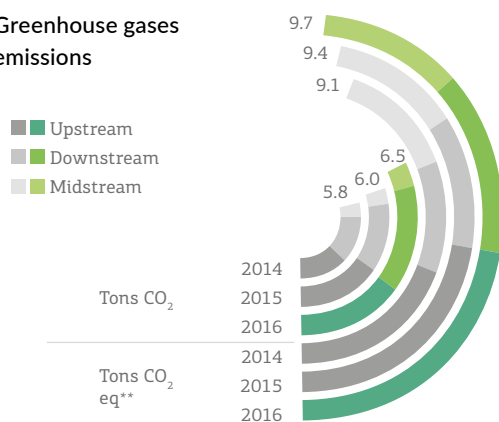
## We share the world's concerns about climate change.

November 4, 2016, the Paris Agreement came into force and defined the international legal framework for global efforts to reduce greenhouse gas emissions, improve energy efficiency, move to renewable energy sources and gradually phase out burning carbon fuels. Our Republic has joined the Paris Agreement (President's Decree of July 20, 2016) and October 27 this agreement was ratified.

Despite the fact that in 2016 the Government of the RoK suspended the system of greenhouse gas emissions quotas trading for 2 years, we take an active part in improving the country's regulatory legislation in this area. Along with the KAZENERGY

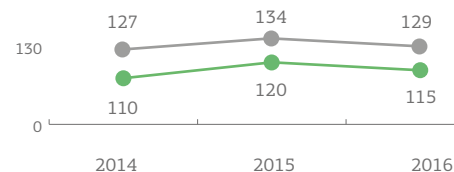
Association we participate in negotiations with the Ministry of Energy and "Atameken" National Chamber of Entrepreneurs, participate in forums, conferences related to climate change and improving our knowledge and skills for the successful implementation of emission reduction strategy. Within the framework of the Working Group on Emissions Management together with our subsidiaries, we are developing a unified position of the Group on the issue of legislative regulation of greenhouse gas emissions. In 2017, we will develop a Climate Plan that will determine our potential and goals for reducing greenhouse gas emissions. Thus, in 2018 we are preparing to restart the national system of quoting and trade in greenhouse gas emissions which will become a tool for fulfilling our country obligations under the Paris Agreement.

## Greenhouse gases emissions



\*\* CO<sub>2</sub> equivalent is a measure of the potential of global warming of greenhouse gases. Carbon dioxide is the benchmark by which other greenhouse gases are evaluated. The country's uses the global warming factor for methane-21 and for nitrous oxide-310.

## Upstream GHG intensity



KMG —●—  
IOGP —●— Average = 129

## GREENHOUSE GAS EMISSIONS

We carry out an annual inventory of greenhouse gas emissions in the framework of state registration and regulation of greenhouse gas emissions. Calculation of greenhouse gas emissions with direct greenhouse effect (carbon dioxide, methane, nitrous oxide, petrofluorocarbons) is based on methodological guidelines for greenhouse gas emissions calculation which are approved by the authorized body. Inventory reports are subject to verification, hence, only verified data was used when writing this report.

The quantitative indicators cover 15 of the most significant subsidiaries of the Group whose greenhouse gas emissions amount to more than 20,000 tons of CO<sub>2</sub>-equivalent per year. Emissions of CO<sub>2</sub> from the combustion of biomass or its decomposition are not taken into account.

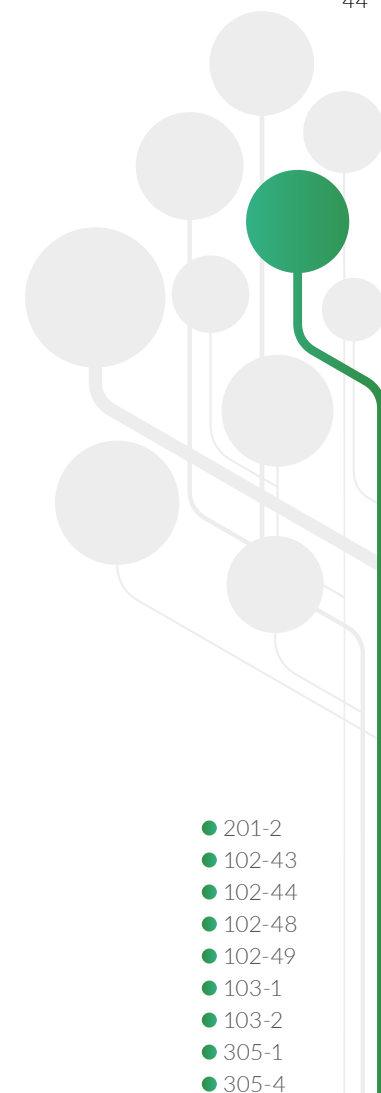
The actual amount of CO<sub>2</sub> emissions for the Group during the reporting period was 6.5 mln tons (6.0 mln tons in 2015) \*.

Upstream emissions of greenhouse gases in 2016 amounted to 2.6 mln tons of CO<sub>2</sub> (2.7 mln tons in 2015).

Downstream and upstream contribution to the total volume of greenhouse gas emissions is 47% and 42% respectively.

The increase in emissions is due to the change of reporting boundaries (more organizations are included in this report). In connection with the modernization of refineries and an increase in the processing depth, there is an increase of greenhouse gas emissions and intensity in downstream.

\*(In SDR 2015, the volume of 5.7 mln tons it was indicated due to the fact that in 2015 there were 13 organizations of the Group with emissions >20 000 tons of CO<sub>2</sub> and in 2016 this number in-creased to 15).



# CLIMATE CHANGE AND AIR QUALITY

## CASE STUDY

### *Pilot project for direct detection of methane leaks*



In 2016, we continued the field research project launched last year at the Group's facilities which is aimed to identify and quantify methane emissions from leaks and weathering. In September 2016, a survey of production facilities in the Aktope region was carried out jointly with the US Environmental Protection Agency (EPA) and the Global Methane Initiative (GMI).

The purpose of this research is to provide technical support and build technical capabilities that will identify and prioritize projects for reducing emissions, and facilitate their implementation.

Based on the results of the research, the main sources of emissions and the potential for reducing methane emissions from the Group were identified. Besides the climate affect, the prevention of methane leaks will result in significant financial saving. By joining forces we plan to register a project for the domestic reduction of greenhouse gases.

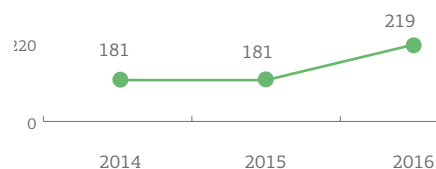
In 2017, we plan to join the Global Methane Initiative.

## GREENHOUSE GAS EMISSIONS REDUCTION

As a result of energy efficiency measures intensity of emissions in downstream decreased by 4%. \*

As a result of measures taken for reducing greenhouse gas emissions, such as: changes in the technological regime of production, converting vehicles to natural gas, planting trees, there is a reduction in greenhouse gas emissions in Upstream. At one of the Upstream enterprises 24 hot-water boilers have been converted to electric heating. In Midstream, 136 vehicles have been converted to natural gas (242 in 2015), which includes 25 vehicles converted to compressed natural gas. We expect a significant reduction in greenhouse gas emissions in 2018 as a result of increased use of associated petroleum gas (APG).

### Downstream GHG intensity, thousand tons



## AIR QUALITY

One of the main environmental objectives of the Group is to reduce pollutant emissions. We have implemented a set of measures aimed at compliance with established standards and reduction of pollutant emissions, including inventory of emission sources, quarterly industrial environmental air quality control, and improvement of our technological processes.

We continue the program of extensive modernization of our refineries to not only provide the domestic market of the RoK with high-quality petroleum products from the ecological class K4 and K5 (to reduce the content of sulfur, benzene and olefinic hydrocarbons in products), but also reduce the negative impact on the environment through improving automation of management, use of energy-saving and environmentally friendly technologies and rational use of natural resources.

In order to reduce emissions of sulfur-containing gases in the atmosphere, an installation for the utilization of hydrogen sulphide gas by the method of Klaus was built (sulfur plant). At PKOP refinery since the beginning of 2016 emissions of sulfur dioxide into the atmosphere decreased by 13% in comparison to 2015.

At the Pavlodar refinery new fuel burners have been installed on technological furnaces, which not only reduced polluting

- 103-2
- 103-3
- 305-4
- 305-5
- 201-2

\*We excluded Midstream from the intensity calculations due to the fact that only one enterprise is represented in each Midstream direction.

# CLIMATE CHANGE AND AIR QUALITY

## CASE STUDY

### *We support transition to cleaner types of fuels in the regions.*

With the participation of "KazTransGas" JSC the Program of passenger vehicles and harvesting equipment transition to compressed natural gas (CNG) in Almaty is being implemented. CNG is more environmentally friendly and economical type of fuel than traditional ones – gasoline, diesel and liquefied hydrocarbon gas. Five CNG filling stations were built and now functioning.

In Aktobe also in the framework of the Program of passenger buses transfer to CNG (more than 200 units), it is projected to construct a CNG filling stations in 2017.

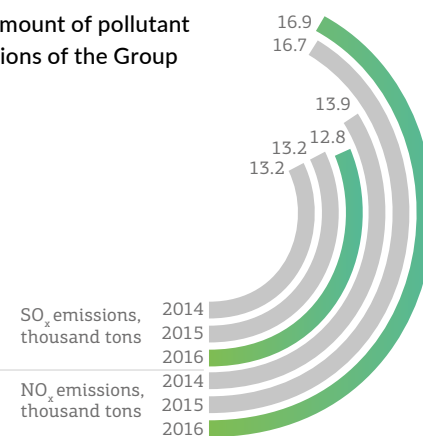


substance emissions (nitrogen oxides and sulfur dioxide), but also resulted in a reduction in fuel oil consumption. The implemented measures prevented the emission of 2,295 tons of pollutants.

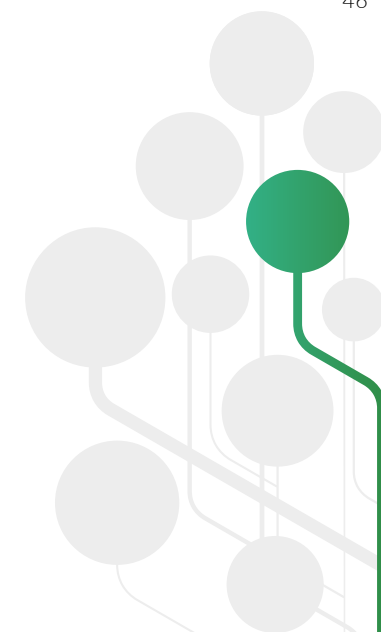
Gross pollutant emissions by the Group in 2016 amounted to 173,400 tons (171,200 tons in 2015). There has been a slight increase in emissions due to an increase in oil and gas production. The main volume of pollutant emissions occurs in the Midstream businesses – 48%, with Downstream and Upstream at 27% and 25% respectively.

Emissions of pollutants are calculated on the basis of technical characteristics of the equipment in accordance with current guidelines and recommendations. The most significant emissions are sulfur oxides (SO<sub>x</sub>) and nitrogen (NO<sub>x</sub>).

### The amount of pollutant emissions of the Group



*\* In the 2015 SDR data was presented with the use of the estimating method for emissions quantification. Herein the calculation method is used for emissions quantification of sulfur oxides and nitrogen.*



102-48

305-7

# CLIMATE CHANGE AND AIR QUALITY

## CASE STUDY

As part of the World Bank's global initiative for termination of regular APG flaring by 2030, we participated in meetings of the Steering Committee in London, at meetings in Astana with the participation of representatives of the World Bank and our subsidiaries in order to discuss the scope of cooperation in APG utilization and possible joint activities. In Q1 2017, the first report of associated gas flaring for 2016 will be submitted.

Except KOA, where the project on reduction of gas combustion has not yet been completed, the value of NOx emission intensity in other Upstream companies is lower than the industry IOGP average indexes.

## ASSOCIATED PETROLEUM GAS UTILIZATION

One of our most important tasks is to increase the utilization and recovery of APG and to minimize flaring. We use APG in the fields to generate electricity and for our own technical needs. Commodity associated gas is supplied to gas processing plants and for local communities.

The gas utilization average in the Group in 2016 accounted for 86% (85.3% in 2015). Most of our subsidiaries have achieved utilization rates of

more than 95%. Only two of our subsidiaries still burn large volumes (the level of utilization there remains at 55% and 66%). By mid-2017, the PNG desulphurisation unit of Prorva fields is expected to be commissioned, where APG flaring will be reduced to zero. A new roadmap for the implementation of Kozhasai Natural Gas Processing Project is expected to be signed in 2017. The project duration has been extended due to the fact that several legal entities outside the Group participate in the project, and the negotiation process takes time.

The construction of infrastructure and modern facilities for utilization of APG will allow full-scale development of production assets and significantly reduce greenhouse gas emissions into the atmosphere.

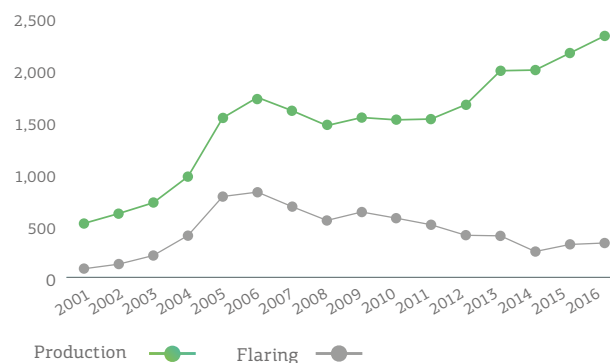
# 0.2 t/1,000 tones

our Group's average NOx emission intensity per thousand tones of hydrocarbon crude (an average index for IOGP companies is 0.4).

# 12 t/1,000 tones

our Group's average amount of burned gas per unit of produced hydrocarbon which is lower than the similar index for IOGP companies (13.6).

Gas production and flaring,  
mln m<sup>3</sup>



● 102-43  
● 102-44  
● OG6

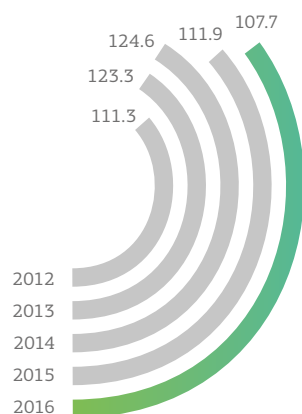
# ENERGY USE AND ENERGY SAVING

*We are actively working to improve energy efficiency and optimize the use of energy resources*

In 2016, we developed a corporate "Road Map for Energy Saving and Energy Efficiency Improvement" for the period until 2021, the implementation of which will result in reducing the consumption of energy resources by 4.5 million Gj. We continue our work in attracting strategic investors to the sphere of energy saving through internationally recognized mechanisms of energy service agreements.

In our activities we consume electric and thermal energy, as well as various types of fuel (see diagram). In total, 107.7 mln Gj of fuel and energy resources were consumed in the reporting year, which is 4% lower than in 2015 (and 13.6% lower than in 2014)

Dynamics of energy consumption, mln Gj



The main strategic directions for the Group's energy saving and energy efficiency development are modernization of technological equipment, introduction of energy saving technologies, optimization of generation and consumption of thermal energy and development of own sources of energy generation including using APG.

As a result of energy saving measures consumption of fuel and energy resources decreased by 1.4% in comparison to the base year (2014).

1,617 mln KZT (\$4.7 mln) were invested in the implementation of energy saving and energy efficiency measures, more than 74 events were carried out. Costs saving on purchasing of fuel and energy resources amounted to 955 mln KZT (\$2.8 mln), which is 4.6% more than in 2015.

## ECONOMY OF FUEL AND ENERGY RESOURCES AMOUNTED:

# 1.5 mln Gj



Upstream

**352.8 thousand Gj**



Midstream

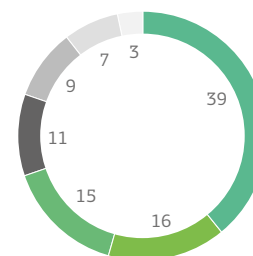
**318.8 thousand Gj**



Downstream

**871.8 thousand Gj**

## Energy consumption structure, by type of energy, %



- Natural gas
- Associated petroleum gas
- Boiler and furnace fuels
- Thermal energy
- Electricity
- Fuel oil
- Other

## ECONOMY BY TYPES OF FUEL AND ENERGY RESOURCES

**16.9 mln kW**  
of electric power (0.5%)

**76.4 thousand GCal**  
of thermal energy (2.9%)

**7,478.8 thousand m<sup>3</sup>**  
of natural gas (0.6%)

**18.8 thousand tons**  
of boiler-furnace fuel (4.7%)

- 103-2
- 103-3
- 302-1
- 302-4
- 201-2

# ENERGY USE AND ENERGY SAVING

## CASE STUDY

### Smart field "SanaField"



In 2016, a pilot project for implementation of intellectual (digital) field "SanaField" on the Uaz field in the JSC "Embamunaygas". Implementation of digital field "SanaField" will result in production increase and to risk mitigation for both the company and its employees. The digital oilfield allows remote control and monitoring of oil and gas production facilities, control of energy consumption to improve energy efficiency, improve facility management effectiveness, rationally use personnel, improve information transparency and automate production.

The introduction of the intellectual field UAZ allows the optimization of energy resources to reduce consumption by 32%.

This project is planned for other oilfields of the Group. The deadline for completion of the program is 2020.

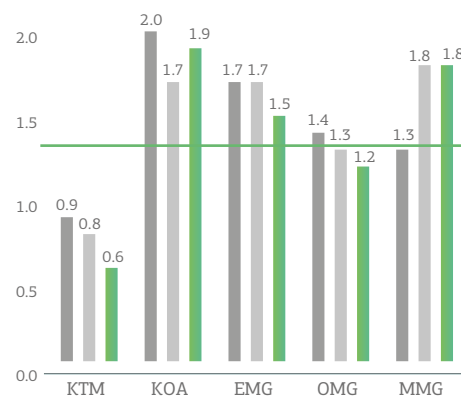
Group's average energy consumption intensity in upstream is 1.5 Gj per ton of produced hydrocarbon which is 7% higher than IOGP index (1.4 Gj per ton of hydrocarbons produced). This is due to the age of the oilfields and the high water-cut.

The Group's average energy consumption intensity in downstream is 1.5 Gj per ton of refined oil, which is 18% higher than at the European refineries. This is due to the harsh climatic conditions of the refinery locations and the age of the refineries.

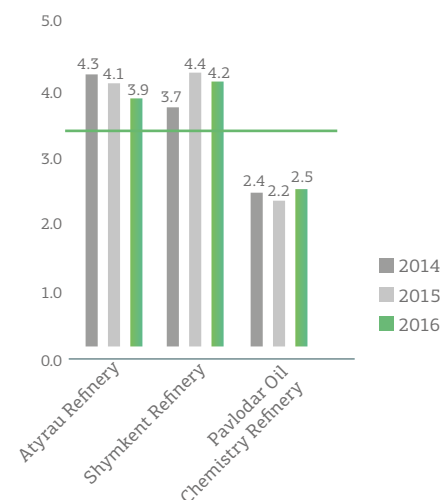
For the period 2017–2020 we plan to:

- Conduct an energy audit at the corporate center to develop a plan of energy-saving measures;
- publish a specific Energy Report of the Group;
- implement energy saving and efficiency measures to save at least 0.9 million Gj of energy in 2017.

**Upstream Energy consumption intensity**  
(Gj per ton of oil production)



**Downstream Energy consumption intensity**  
(Gj per 1 ton of oil refined)



● 102-48  
● 103-3  
● 302-3

# USE OF WATER RESOURCES

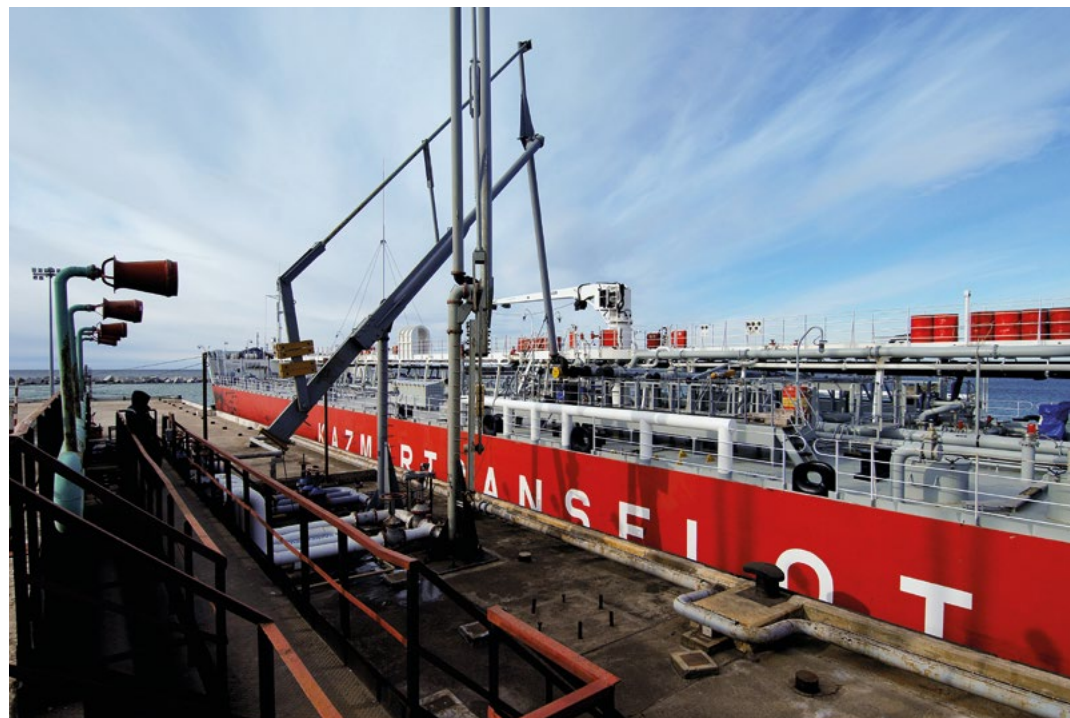
*Water is one of the most important environment components. We realize its great role in preserving and maintaining environmental prosperity in our operating regions.*

Water is an integral part of all our production processes. Water withdrawal, water consumption and wastewater disposal information is aggregated in the corporate center on a quarterly basis and is the blueprint for the current situation analysis, weaknesses in uncovering and searching for solutions to improve the water management system. The standardized approach to the collection of primary information, which we applied for the first time in 2016 for a comparative analysis between companies within the Group, takes into account the diversity of our production processes that require the use of water.

## OUR WATER FOOTPRINT

In 2016, our total water withdrawal accounted for 77.8 mln m<sup>3</sup> (\*78.3 mln m<sup>3</sup> in 2015).

In 2016 the Group of Companies discharged 8.8 mln m<sup>3</sup> of wastewater versus 8.0 mln m<sup>3</sup> in 2015, which was associated with increased use of water during the overhaul of Tuimazy – Omsk – Novosibirsk-2 oil-trunk pipeline. 84% of all wastewaters were discharged to evaporation ponds, and the rest was transferred to third parties for disposal. The standards of discharged water quality, established by environmental legislation, are achieved through using mechanical and biological methods of discharged water treatment. Water is reused for cleaning vehicles, dust suppression and for fire-fighting



water replenishment. However, the largest volume of treated wastewater is reused only in refineries where 3.6 mln m<sup>3</sup> of treated discharged water were returned to the circulating water supply units in 2016. (3.1 mln cubic meters in 2015).

99% of 123 mln m<sup>3</sup> of produced water have been reinjected for maintaining reservoir pressure and only 1% into absorption wells.

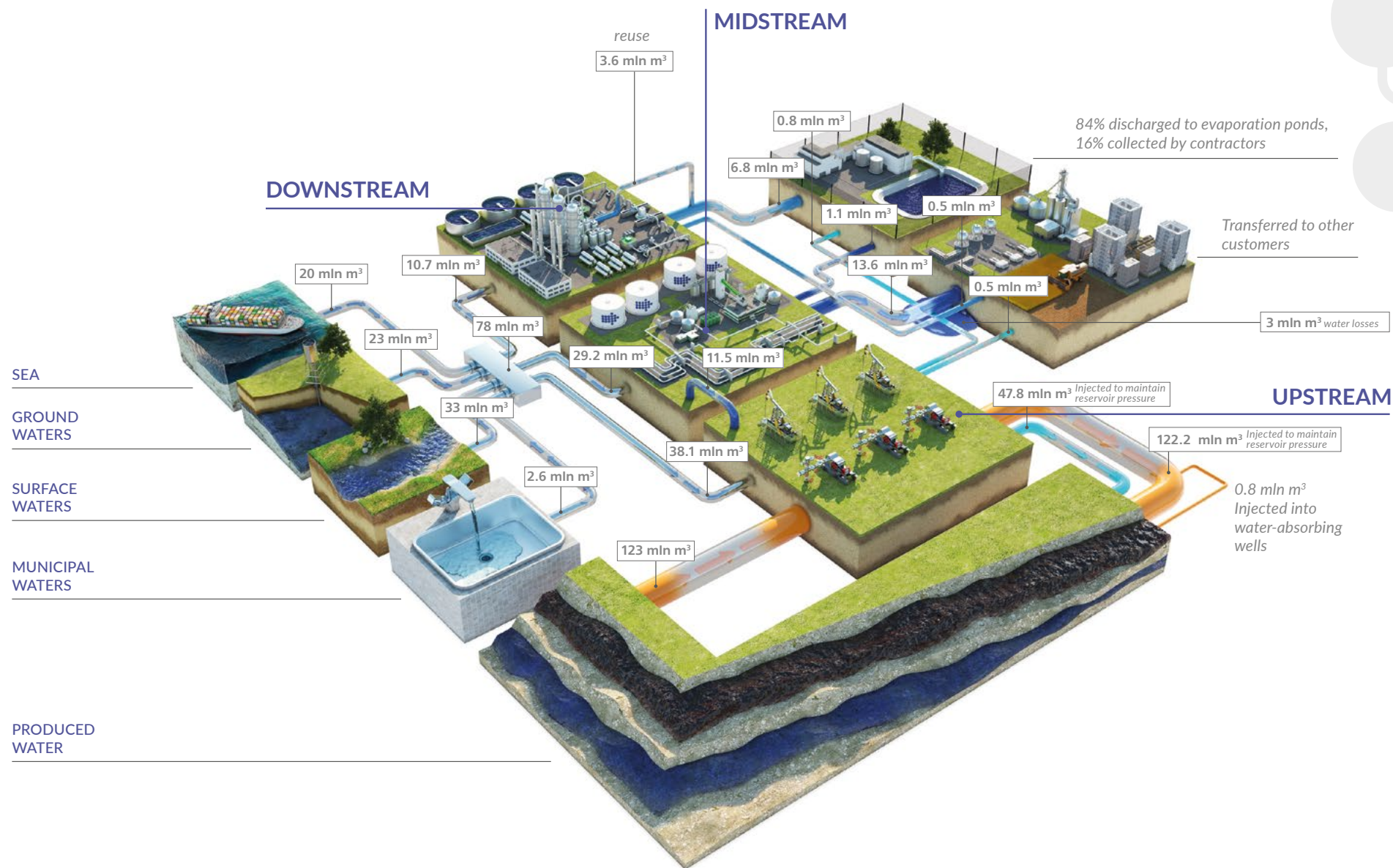
Our activities have the most significant impact on water bodies of the western region of Kazakhstan (Ural and Kigach rivers, Kokzhide

sands, Pyatimarskoe reservoir) which represent a special ecological, economic, historical, cultural and recreation value. We recognize that the northeastern Caspian region is characterized by high moisture scarcity and we strive to use water resources rationally. To prevent negative impacts on sensitive ecosystems we regularly monitor groundwater through observational monitoring wells and for surface water bodies – we regularly hold activities aimed to reduce the volume of water withdrawal and to increase the use of recycled water.

- 303-1
- 102-48
- 103-2
- 103-3
- 306-1
- 303-2
- OG5
- 303-3

\*SDR 2015 specified the total water withdrawal as 87 million m<sup>3</sup> for the reason that redistribution of the very same water between companies within the Group was not taken into account. This year the total water withdrawal for the year of 2015 was adjusted.

# USE OF WATER RESOURCES



# BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MONITORING

## *We recognize that biodiversity is a key element for ecological prosperity*

In addition to the abiotic component, we also strive to minimize our impact on living organisms that inhabit natural objects in the regions of our presence. For this purpose on a stage of planning our future activities we assess the possible damage that may be caused to biodiversity and we develop measures in an attempt to reduce it. Therefore when carrying out our production operations we conduct regular environmental monitoring in accordance with the requirements of the environmental legislation of the

RoK, at the same time giving significant attention to specially protected natural areas and reservation zones.

In 2016, there was no development drilling on sites that are located or border on specially protected areas or conservation zones; only seismic exploration operations took place. Consequently, the main impact was from physical pollution: noise, vibration, soil disturbance due to vehicle traffic, and transformation of the terrain as a result of routine operations. The impact on wildlife is mainly due to changes in other natural components: soils, vegetation, surface water.

## **PROTECTED NATURAL AREAS IN THE REGIONS OF OUR PRESENCE**

**North Caspian reserve zone.** The eastern part of the Northern Caspian with the deltas of the Volga (within the RoK) and the Ural rivers is part of the state reserve zone in the northern part of the Caspian Sea designed to conserve fish stocks and provide optimal habitat and natural reproduction of sturgeon and other valuable fish species.

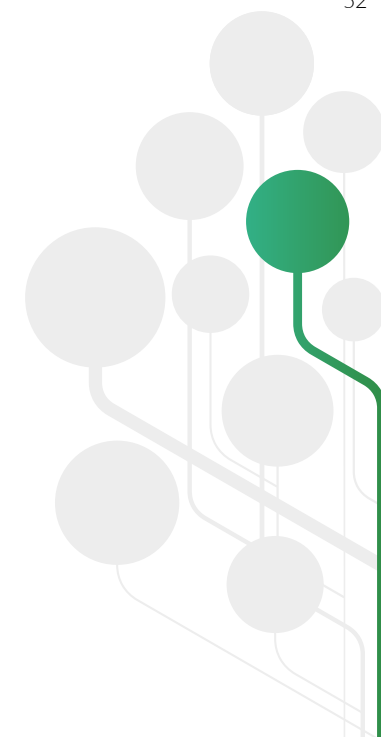
Fishery, use of water transport, as well as carrying out operations for the exploration and production of

### **OUR CONTRIBUTION TO BIODIVERSITY CONSERVATION IN 2016:**

- 149.2 km<sup>2</sup> of disturbed land was remediated.
- The production of juvenile sturgeon species was implemented (600 units of young-of-the-year) under the agreement with the plant for the production and release of young sturgeon species of fish.
- An environmental audit conducted for the Kansu site resulted in the development of recommendations for realization of production operations with minimal impact on the biological diversity of the site and taking into account the special status of the Kenderli-Kayasan Reserve Zone.



● 103-2  
● 103-3  
● 304-2  
● 304-3  
● 306-5  
● OG4



# BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MONITORING



Production sites located within the boundaries or near specially protected natural areas

| Kind of specially protected natural areas | Within the borders | Adjacent borders (part of the territory) | Outside Borders     |
|---|--------------------|--|---------------------|
| IUCN category I-IV                        | 0                  | 0  | Kansu               |
| IUCN category V-VI                        | Zhambyl Satpayev   | Zhambyl Kansu Urikhtau                   | Alibekmola Kozhasay |
| World Heritage Sites                      | -                  | -  | -                   |
| Ramsar Sites                              | -                  | -  | -                   |

hydrocarbons are allowed only taking into account special environmental requirements and special regime of use.

**Novinsky state reserve area.** It was established in order to create optimal conditions for the reproduction of flora and fauna, including those listed in the Red Book of the RoK. Special protection mode is applied.

**Kenderli-Kayasan State Reserve Zone.** It was created in order to preserve the habitat and natural reproduction of Houbara Bustard and Saker Falcon.

**Ustyurt Nature Reserve.** Belongs to the highest category of specially protected territories of national significance. The reserve was established in order to preserve in its original state the natural complex of the northern deserts of the Ustyurt plateau including a number of rare species of fauna and flora.

**“Kokzhide-Kumzhagan” State natural reserve zone** includes 2 regions of Republican significance: Kokzhide sands and Kokzhide groundwater field which are included in the List of geological objects of the state natural reserve fund of national and international importance.

## AREAS OF OUR PRODUCTION ACTIVITIES LOCATED WITHIN THE PROTECTED AREAS AND STATE RESERVES

**Kansu site** is located in Kansu Karakiya district of Mangistau region. The contract area is partially located within Kendirli Kayasaskaya protected area and borders on the Ustyurt State Nature Reserve (2 km buffer zone from the site's borders). In 2016 there were no geological prospecting and exploration on the site.

- 304-1
- 304-2
- 306-5
- 413-2

# BIODIVERSITY CONSERVATION AND ENVIRONMENTAL MONITORING

**Urikhtau, Alibekmola and Kozhasay fields** are located in the Mugaljar district of Aktobe region. The North-western part of the field is located on Kokzhide sands. Also the fields border on “Kokzhide-Kumzhagan” state natural complex.

In order to prevent groundwater pollution we regularly carry out environmental monitoring both in the area of the Group's companies and in the Kozhikode sand zone which is adjacent to the contract area.

A quarterly monitoring program has been developed for the fields, it includes a network of 15 wells specially drilled to monitor groundwater status, soil covering samples collection and analysis, air quality monitoring.

The sites **Zhambyl and Satpayev** are located in the northern part of the Caspian Sea. The contract areas are located within the protected zone of the Caspian Sea, as well as partially within the Novinsky Reserve, but production sites do not affect ecologically sensitive areas.



## Affected species of flora and fauna in specially protected natural areas

| Flora and fauna | Kenderli-Kayasan State Reserve Zone | Ustyurt Nature Reserve | Novinsky state reserve area | North Caspian reserve zone | “Kokzhide-Kumzhagan” State natural reserve zone |
|-----------------|-------------------------------------|------------------------|-----------------------------|----------------------------|---|
| Vegetation      | 20 (13)                             | 336 (5)                | 4                           | 229 (54)                   | 94  |
| Birds           | 10                                  | 166 (18)               | 27                          | 466 (63)                   | 75  |
| Animals, incl.  | 18                                  |                        | 3                           |                            |   |
| Mammals         | 17                                  | 29 (8)                 |                             | 125 (41)                   | 44  |
| Reptiles        |                                     | 15 (1)                 |                             | 20 (9)                     | 8   |
| Fish            |                                     |                        |                             | 133 (27)                   |   |

\* In brackets: Number of species listed in the Red Book of the RoK.

# PREVENTION OF OIL SPILLS AND PREPAREDNESS

*Constant readiness for oil spill liquidations is our undisputable priority.*

## OUR OFFSHORE OPERATIONS

The Caspian Sea is a unique natural landlocked water body with a fragile ecosystem extremely sensitive to oil pollution. We set the bar high for environmental safety in our offshore oil operations: before the beginning of any operations we carry out baseline environmental studies in contract areas and assess our potential social and environmental impacts. Also we monitor our impact, emissions and emergency preparedness – during and after our operations.

Before the beginning of offshore drilling operations we ensure permanent preparedness to respond to all possible oil spills. After finishing our operations we carry out continuous environmental monitoring of abandoned wells. Monitoring of abandoned wells in contract areas includes monitoring of: air quality, pollution of sea water and bottom sediments, biodiversity, as well as laboratory and analytical work, photo and video recording of the wellheads of abandoned wells.

During offshore operations we adhere to the following principles:

- Strict adherence to project documents;
- Principle of "zero waste and discharge" when all waste and water are transported to the land;
- Provisioning of all floating crafts with fish protection devices and ensuring the absence of bilge water;

- All operations are prohibited during spawning periods (April 1<sup>st</sup> – July 15<sup>th</sup>);
- Prohibition of fishing from production vessels;
- Prohibition of well testing and burning of hydrocarbons at night;
- Compliance with the special mode of use.

The Group's operation sites are provided with OSR plans brought into action in accordance with the established procedures. To increase the level of OSR preparedness we regularly carry out practical and theoretical exercises and trainings at various levels in order to improve the practical skills of personnel.

## PREVENTION OF SEA POLLUTION

The Group has a system to ensure prompt and effective response to emergencies, including oil spills and the implementation of appropriate operations to eliminate their consequences.

During the reporting period, we did not conduct offshore drilling operations. However, in 2017, exploration drilling is planned at the Satpaev site, and a special program for the prevention of sea pollution will be developed. The program will include measures for a proper level of protection of the marine environment, removal of stored materials, drilling fluids and other substances from the flooding zone that may harm the environment, the lawful use of the sea and other economic activities.

A program for the localization and purification of water in the case of marine pollution (modeling the spread of oil spills), in addition, a scheme will be

## CASE STUDY

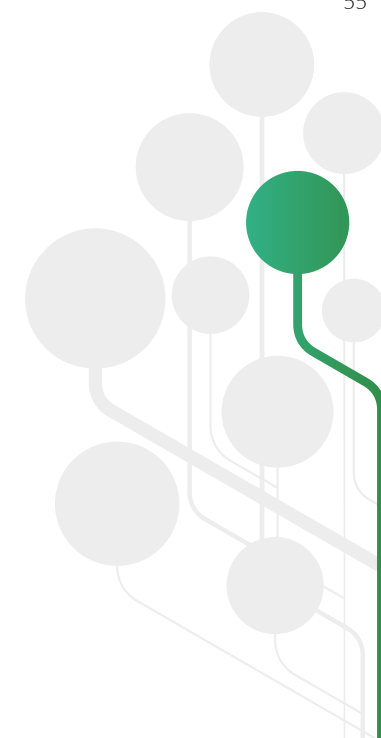
In order to develop cooperation in the field of assessment, risk and hazard management taking into account the Norwegian experience in ensuring safety at sea KMG S&S signed a memorandum of cooperation with Det Norske Veritas (DNV GL group).

Also in 2016, KMG S&S signed a memorandum of cooperation with the international OSR organization SWIRE Emergency Response Services. Under the memorandum the parties will jointly develop OSR activities in RoK.

provided for the organization of the liquidation of oil spills involving various companies and facilities, depending on the level of pollution.

In case of possible spills we conclude contracts with specialized companies for response to 1<sup>st</sup> and 2<sup>nd</sup> levels oil spills. In case of 3<sup>rd</sup> level oil spills we have concluded an agreement with the international association Oil Spill Response Limited specializing in the liquidation of accidents at offshore oil and gas fields.

Our subsidiary KMG Systems & Services LLP (hereinafter referred to as KMG S&S) owns the North Caspian Environmental Oil Spill Response Base



- 102-29
- 103-2
- 304-1
- OG4
- 303-2
- 306-5
- 306-3

# PREVENTION OF OIL SPILLS AND PREPAREDNESS

(hereinafter referred to as NCEOSR) in Atyrau Oblast which is the only specialized facility in the RoK for OSR. Its main tasks are:

- oil spill response in the North Caspian, in particular when Kashagan field facilities operate;
- rehabilitation of animals in case of emergency at sea;
- personnel training on the use of emergency equipment;
- ecological and meteorological monitoring.

All equipment for response to 1<sup>st</sup> and 2<sup>nd</sup> levels oil spill are located on the NCEOSR base owned by the North Caspian Operating Company.

In 2016, KMG S&S acquired an oil operations support base (OOSB) in Fort Shevchenko of Mangistau region which has an optimal location for effective and well-timed response to oil spills at any time of the year.

As part of the cooperation agreement with LLP "NRC Kazakhstan" KMG S&S gained access to international resources owned by NRC International. NRC International has a large number of equipment in different countries of the world which can be mobilized in the event of large spills in the Kazakhstan sector of the Caspian Sea.

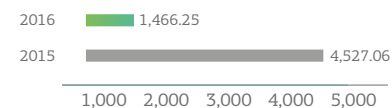
## ONSHORE SITES

The main cause of oil spills in the Company is oilfield pipeline ruptures due to corrosion. In 2017, it is planned to focus on the creation of a program for the integrity of in-field pipelines in Upstream.

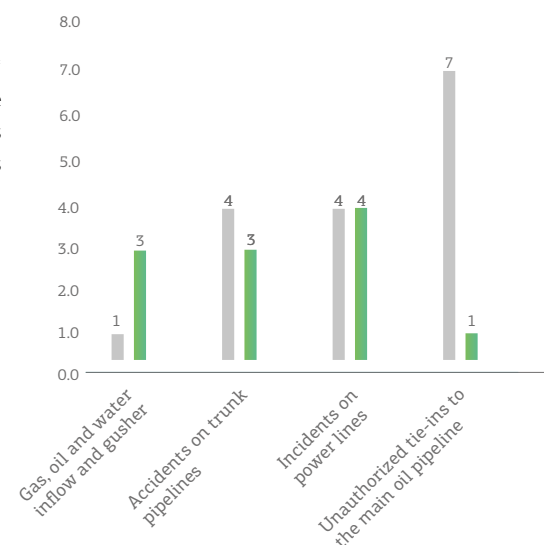
In 2016, at onshore production sites of the Group's Upstream businesses, the volume of spills decreased by 67.6% compared to the previous year due to the implementation of planned works on diagnostics, repair and replacement of field pipelines.

In 2016, KMG Tier 1 Process Safety Event Rate\* (PSER) was benchmarked against oil companies in the IOGP association for the first time. In 2016, it was 18 times higher than the IOGP group of companies (which is 0.14 cases per 1 mln man-hours).

## Upstream oil spills volume (onshore), tons



## Number of industrial safety Incidents



\* Tier 1 index = number of occupational safety incidents of the first level / number of spent man hours \* 1,000,000

Tier 1 PPM is specified according to the classification of the American Petroleum Institute Guidelines 754



# INDUSTRIAL SAFETY AND INTEGRITY MANAGEMENT.

## EMERGENCY RESPONSE PREPAREDNESS

### CASE STUDY

#### Lockout-Tagout

Electrical isolation is a significant operational risk (more than 20,000 transformers are serviced on a quarterly basis every year).

We launched an industry best practice called Lock-Out-Tag-Out at the 1<sup>st</sup> pilot site in Ozenmunaigas JSC in 2016. LOTO is a production safety system that prevents unauthorized use of equipment during maintenance and repair.

In 2017, we plan to further implement the LOTO system in other companies of the Group.



*We recognize the danger and criticality of the consequences in case of industrial safety accidents.*

In 2016, significant industrial accidents that could cause damage to employee's health or to the environment were not registered at the Group's production facilities. Other accidents taking into account the frequency of their occurrence and the various production specificities by category are indicated in the graph.

All incidents are subject to internal analysis for identifying root causes. Information on lessons learned and recommendations for their prevention are spread among all companies of the Group.

The corporate center conducts risk-audits on the industrial safety of our production facilities. Based on the results of these audits we developed recommendations for reduction of main production risks while taking into account best world practices and international standards in the field of industrial and fire safety.

We study international experience in the field of industrial safety at the production facilities and

in the long term we plan to introduce Integrity Management in our Group.

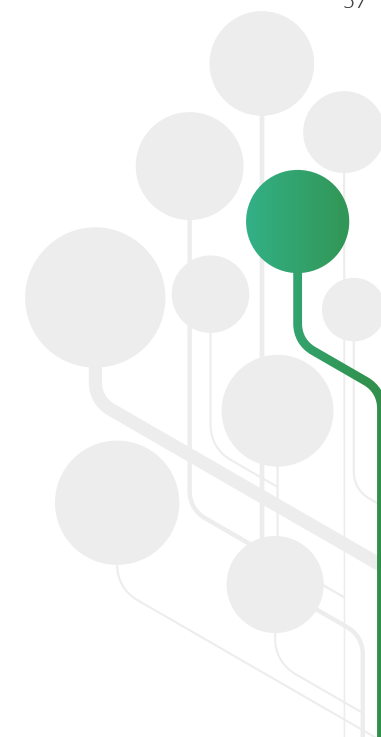
### EMERGENCY SITUATIONS PREPAREDNESS

Comprehensive emergency management is carried out by the first leader, and operative emergency management – by the emergency commissions. Instructions, Rules and Response Plans in the conditions of emergence of emergency and other contingencies determine the interaction procedure for all responsible persons. In order to promptly respond to emergency situations we have developed alert schemes for internal and external stakeholders.

Fire prevention divisions have been established at 95 sites of the Group's activities. These divisions are equipped with 189 fire trucks and supportive firefighting equipment. Practical training of emergency situations for personnel is carried out according to the programs of training.

In order to ensure the safety of workers, the environment and to minimize damage, we conduct tactical fire trainings with the participation of volunteer firefighters among employees and

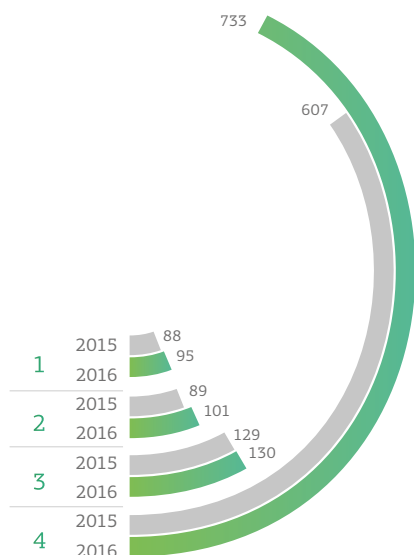
- OG13
- 102-29
- 103-2



# INDUSTRIAL SAFETY AND INTEGRITY MANAGEMENT. EMERGENCY RESPONSE PREPAREDNESS

training sessions for oil and gas wells. The results of training exercises are analyzed by management, emergency response services and state inspectors. In order to improve the preparedness level of the Group companies as well as of hired non-state firefighting services, in 2017, we plan to introduce a unified approach to the verification and assessment of firefighting services preparedness to prevent and extinguish fires at our production facilities.

Number of trainings on fire and process safety



- 1 Republican team-headquarters emergency training exercises
- 2 Team-headquarters emergency training exercises
- 3 Fire-tactical exercises
- 4 Emergency response exercise lessons



# WASTE MANAGEMENT

Industrial waste management is one of our environmental priorities. On an annual basis we allocate significant means and identify investments for solutions to problems related to waste generation and land pollution at our production facilities.

Following the requirements of the national environmental legislation hazardous waste that cannot be rendered harmless, recycled or disposed at our facilities is transported to specialized landfills. We ensure that our contractors comply with the requirements of safe transport, disposal and treatment of waste.

Also in order to comply with legal requirements the Group has developed and now implements waste management programs agreed with state authorities in the field of environmental protection.

We regularly search for new practices and effective technologies in the field of waste management for introduction at our facilities.

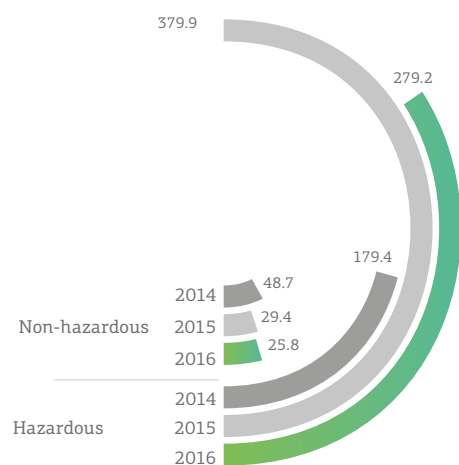
Within the framework of social responsibility and commitments we continue to work on the removal of historical oil waste matter and contaminated land remediation at our contract areas. In 2016, more

than 2.3 billion KZT (\$6.7 million) were allocated for these purposes.

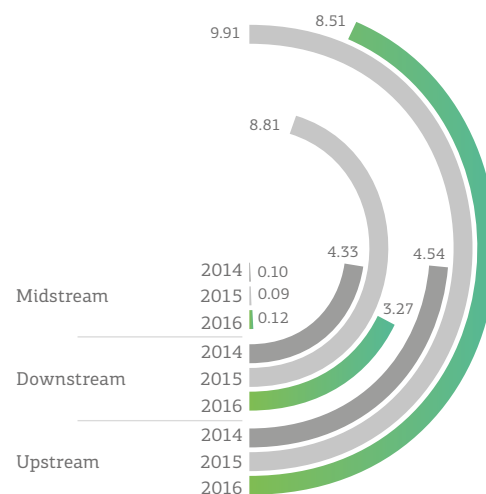
The volume of accumulated wastes in 2016 was 305 100 tons, or 25.4% less than in 2015. This difference is explained by an increase in the volume of generated waste in 2015 due to the measures taken for expansion of production at Atyrau Refinery.

Drilling waste is the majority of all accumulated waste and accounts for 56.8% of the total (drill cuttings 35.1%, oil sludge 14.5% and clayed soil 7.2%).

Waste generation, thousand tons

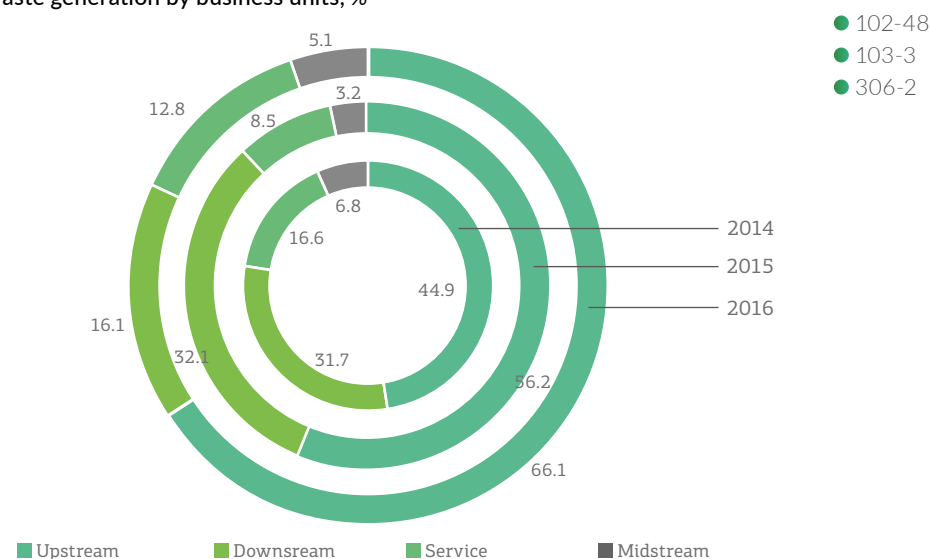


Waste generation intensity, tons/tons of crude hydrocarbons



\*Waste volumes for 2015–2016 are shown taking into account the subsidiaries and contractors of EP KMG and MMG

Waste generation by business units, %



# WASTE MANAGEMENT

## WASTE GENERATION INTENSITY

The intensity of waste generation decreased in the Upstream business unit, and slightly increased in the Midstream business unit due to a decrease in the volumes of transported Turkmen gas to the Russian Federation in the main gas pipelines of Intergas Central Asia JSC.

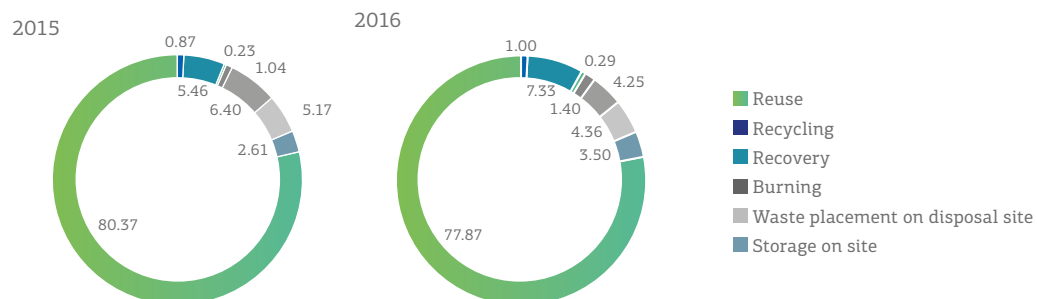
We do not import or export hazardous wastes outside RoK.

In 2016, the total amount of accumulated drilling waste amounted to 151,300 tons (or 47% less than in 2015), where 107,100 tons was drilling sludge and 44,200 tons was used drilling mud. The decrease was due to a reduction in the drilling of exploratory wells during oil and gas operations on land and sea.

In order to treat and dispose drilling waste we applied the following methods and technologies: biological remediation, thermal cracking, thermal desorption, burial at specialized landfills.



Waste utilization methods, %



● OG7  
● 103-3  
● 306-4

# ENVIRONMENTAL COMPLIANCE

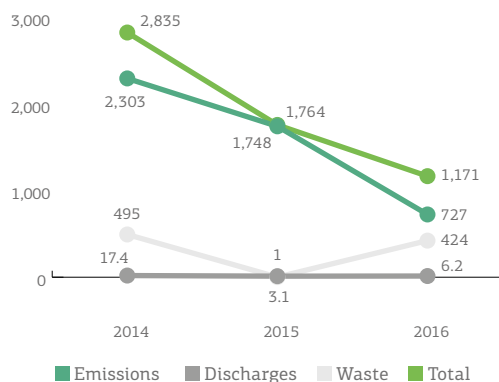
In 2016, the total costs and investments for environmental protection amounted to 15,580 mln KZT (\$45.6 mln), of which costs related to waste management, purification of emissions and discharges and elimination of environmental damage – 14,185.8 mln KZT (\$41.5 mln) and investments aimed at prevention of environmental impact and environmental management of 1,394.7 mln KZT (\$4.1 mln).

The total amount of penalties paid was 1,170 mln KZT or \$3.4 mln (1,764 mln KZT or \$7.9 mln in 2015), including administrative fines, damages and excess payments.

Penalties for air emissions compared to 2015 decreased by 60%, and 2014 by 70%.



**Paid environmental fines,  
mln KZT**



*\*Compared to the 2015 SDR, data for 2015 changed due to the fact that the amount of excess payments was paid in early 2016. The difference was postponed from 2015 to 2016.*

103-3  
307-1  
203-1



## OUR COMMUNITIES

***We contribute to the development of regions and are in regular dialogue with key stakeholders on material topics.***

In order to assist with the development of regions we actively interact with local authorities, signing memorandums of cooperation in the field of socio-economic development provide gas to the regions, provide access to hard-to-reach and necessary goods and services in the regions.

As a national operator of petroleum and its products, we offer shipment of socially important petroleum products at a reduced cost. Every year we provide diesel fuel to farmers during the sowing and harvesting at a reduced price, supply oil with the onset of the heating season. In 2016, for the needs of agriculture, we shipped 247,000 tons of diesel fuel (120,000 tons in 2015) and 6,000 tons (24,000 tons in 2015) of fuel oil for heating needs. In July 2015, within the framework of the Group's transformation, a unique program for our country, "CODO" ("Company Owns-Dealer Manages") was launched to transfer almost half of the KazMunayGas fuel stations to private management. It is aimed at supporting small business in the regions of the republic and contributes to the creation of an efficient private sector of the economy, the development of public-private partnership. For today in 110 regions of the country 110 entrepreneurs are successfully managing 150 fuel stations of KazMunayGas.

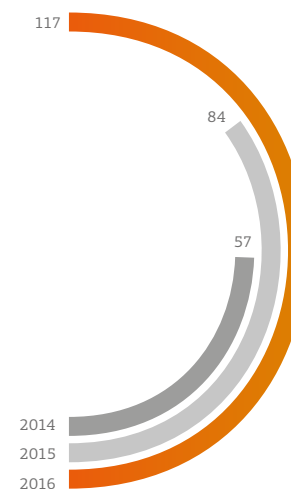
Since 2016, the franchising program "DODO" ("Dealer Owns-Dealer Manages"), will become the main direction of the Group's fuel stations network. The program allows the owners of fuel stations to become part of the network of KazMunayGas to sell petroleum products under our brand, which is well recognized in the RoK.

We continue to carry out measures to support domestic entrepreneurs by making certain purchases only among producers in the Fund's Register, as well as only among the organizations for disabled people from the Register of Organizations of Disabled Persons of the Fund within the framework of the current procurement system.

In 2016, the share of local content of purchased goods, works and services accounted for 76%, 83% for goods and 71% for services.

We conduct systematic work on interaction with the population. We provide social assistance to the people of need of the population, contribute to the development of culture and sports under the program of social responsibility of business. The social projects are implemented under the Local Communities Development Program, taking into account the needs and expectations of local communities (appeals of the population, public organizations of veterans of the Second World War, labor, invalids, educational centers, medical centers and orphanages).

Number of public hearings



- 103-1
- 103-2
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## OUR COMMUNITIES

### CASE STUDY

#### *Atyrau refinery in the charitable project "Zhanashyr"*

June 1, 2015, in the Atyrau region, a project of corporate social guardianship "Zhanashyr" was launched. The project is to provide support to orphans in three directions: upbringing, education and assistance in social adaptation. Immediately after the launch of the project, the staff of the Atyrau Refinery supported 16-year-old Yersultan U., a student of the orphanage named after S. Kazybaev. A tripartite memorandum was signed between the Atyrau Mayor office, Atyrau Refinery, and the Children's Home for orphans and children left without parental care, for collective social assistance to Yersultan U.

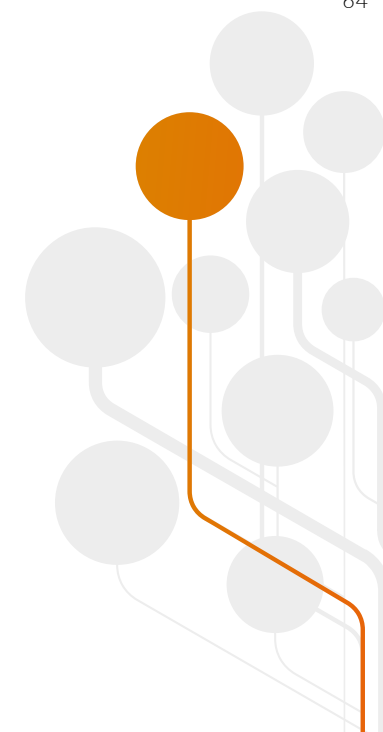
The refinery developed a program with involvement of "Nur Otan", the youth chapter, the trade union committee and the administration of the refinery. An instructor was assigned to Yersultan, from the young specialists committee. After graduating from the school, Yersultan entered the Polytechnic College of Atyrau specializing in the technology of oil and gas processing. Yersultan will do his internship at the refinery, and later be accepted into the team as an employee.

During the summer holidays, Yersultan vacationed together with the children of the Atyrau refinery in Borjomi (Georgia) and in the health-improving center "Mashat-Arasan", Shymkent.

Also, companies within the project are advised to open housing deposits in banks, so that in the future the orphans could buy their own house. For this purpose, a personal account was opened in JSC "Housing and Construction Savings Bank of Kazakhstan" for Yersultan and the plant transfers payments monthly in the amount of 40,000 tenge for the purchase of housing upon reaching adult age.

### CASE STUDY

1. "KazMunayGaz" as a national operator in the oil and gas industry and continues to support the domestic commodity producers, and also participates in the industrialization of the country through the establishment of enterprises.  
  
KMG automation successfully operates in cooperation with the international company, Schneider Electric.  
  
A joint venture between KazMunayGas and the American company Nabors Drilling International Ltd was signed.
2. KTG supplies traded gas to more than 8 million consumers inside the country. This is more than 1.6 million clients and about 35,000 companies in 10 regions of RoK.
3. Due to the main gas pipeline Beineu – Bozoy – Shymkent, 577 settlements of the southern regions (half of the population of the republic) are additionally gasified.
4. In 2016, PetroKazakhstan Oil Products LLP became the winner of the annual national competition on social business responsibility "Paryz".
5. The Ministry of Health and Social Development of RoK nominated Shymkent Oil Refinery "For Contribution to the Environment" Shymkent Oil Refinery.



## OUR COMMUNITIES

For example, under the "Road to School" project, the Shymkent refinery annually helps 50 children from low-income large families to prepare for school. For several years, KMG has helped to develop village schools under the project "Caring for the Childhood".

Some of our female employees are members of the Association of Business Women of Kazakhstan.

KMG subscribes to principal provisions of the precautionary principle (Principle 15 of the Rio Declaration on Environment and Development of the UN, 1992). Prior to launching new projects and facilities we implement a complex plan of actions in

the framework of environmental impact assessment (EIA), which is aimed at informing the society on planned activities in order to get their feedback. We ensure access of all stakeholders to EIAs, suggestions and comments. The EIA and other related materials are posted on local authorities' websites and in massmedia. We immediately respond to questions, which are important to communities and one of the Group's priorities is pre-trial settlement of situations.

Assessment and continued monitoring are conducted in accordance with the Industrial Environmental Control Programs.

In order to ensure the requirements of occupational safety, prevention of occupational diseases and accidents at work, as well as to check working conditions in the regions, the Health, Safety and Environmental Protection Commissions are doing work together with Local Labor unions.

There are official mechanisms for submitting complaints; the detailed information is provided in The grievances procedure.





MARKETING  
AND LABELING

## MARKETING AND LABELING



We distribute a wide range of petroleum products, including premium petrol, diesel fuel and aviation kerosene (jet fuel), heating oil, fuel oil, vacuum gas oil, coke, liquid gas, scrape, bitumen both for export and for the domestic market of RoK.

In accordance with the state program for industrial and innovative development of RoK, three refineries are undergoing modernization and reconstruction. Modernization of refineries will reduce the negative impact on the environment and improve the quality of petroleum products to the requirements of the class K4, K5 and in accordance with the requirements of technical regulations of the Customs Union, to increase the capacity of the secondary processes and oil refining depth. The fuel requirements of class K5 provide a sulfur content 50 times less than in K2 fuel, and the content of the volume fraction of benzene is reduced from 5% to 1%, and also completely rejects the highly toxic octane-enhancing additive – monomethylaniline (MMA). In 2016, the benzene and paraxylene (the base products for petrochemicals) production unit was put into operation. The production of high-octane gasolines has been increased.

To ensure the quality of the fuel, we continuously monitor the entire supply chain of petroleum products from refinery oil depots to gas stations. The process of oil products quality control is governed by the "Regulations on the Control and securing the quality of petroleum products", documents of accredited laboratories management systems and is conducted by a special quality control department. Laboratories carrying out quality control in KMG facilities are accredited by the state accreditation system of the RoK and are included in the registers of Testing Laboratories of the Customs Union and international laboratories, which are part of International Laboratory Accreditation Cooperation (ILAC). In addition, control is carried out by express analysis laboratories, allowing monitoring of fuel quality at all sites on the territory of the RoK.

Before the release of fuel into circulation/consumption, an appropriate fuel acknowledgment is carried out and a declaration of conformity is issued. Each batch of fuel put into circulation is accompanied by a quality document (passport). Information about the name, brand fuel dispensers of gasoline and diesel

fuel is available at petrol stations and reflected in the cash receipts. In addition, at each gas station there is a "Customer point", where all information is available for review – quality passports and company declaration for each type of fuel sold.

During the reporting year, there were no cases of noncompliance with regulations and voluntary codes concerning product marketing and labeling.

KMG-Onimderly, KazMunayGas – Aero and KMG-RM are the sole operators of petrol, diesel fuel, aviation fuel and fuel oil supply to the security agencies of the Republic of Kazakhstan, to the state material reserve, as well as for the needs of the national operating airline.

In the national project "#1 Choice of the Year in Kazakhstan", which was held in November 2016, people of Kazakhstan again voted for the brand "KazMunayGas".

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OUR ECONOMIC  
INPUT

## OUR ECONOMIC INPUT

### Key production indicators

| Indicator  | metrix                | 2014    | 2015    | 2016   |
|--|-----------------------|---------|---------|--------|
| <b>Oil production</b>  | K tons                | 22,490  | 22,670  | 22,638 |
| <b>Gas production (natural)</b>                              | mln m <sup>3</sup>    | 7,025   | 7,255   | 7,384  |
| <b>Hydrocarbons refining</b>                                 | K tons                | 17,115  | 16,317  | 16,601 |
| <b>Oil transportation by trunk oil pipelines</b>             | K tons                | 64,005  | 61,001  | 56,576 |
| <b>Oil cargo turnover</b>                                    | mln tons km           | 44,206  | 45,447  | 43,130 |
| <b>Marine oil transportation</b>                             | K tons                | 9,606   | 7,033   | 7,082  |
| <b>Gas transportation by main gas pipelines</b>              | mln m <sup>3</sup>    | 105,445 | 102,750 | 88,077 |
| <b>Commodity transport operations for gas transportation</b> | bln m <sup>3</sup> km | 45,381  | 40,339  | 40,436 |

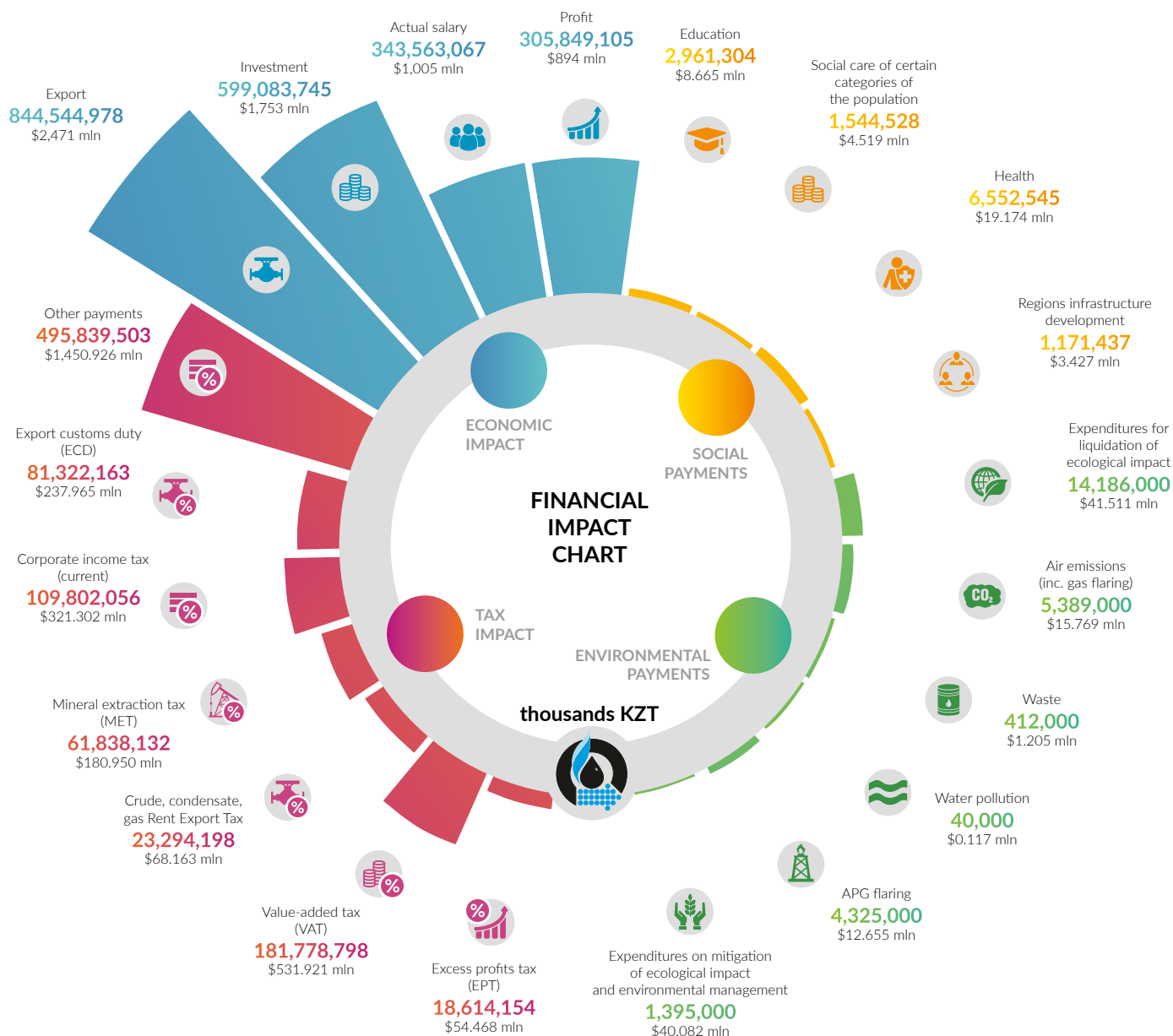
### Key Financial indicators, mln KZT

| Indicator  | 2016      | 2015      | 2014      | 2013      | 2012      | 2011      | 2010      |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Income, total</b><br>including:                 | 3,041,975 | 2,215,626 | 3,541,713 | 3,405,049 | 3,101,218 | 2,787,707 | 2,252,197 |
| Income from sales of goods and rendering services  | 1,857,435 | 1,093,806 | 3,186,764 | 3,252,719 | 2,960,418 | 2,625,256 | 2,098,942 |
| <b>Costs. total</b><br>including:                  | 3,143,713 | 2,272,402 | 3,650,072 | 3,206,860 | 2,982,379 | 2,689,116 | 2,065,663 |
| Cost price of sold products and rendered services  | 1,561,746 | 1,090,380 | 2,322,162 | 2,354,109 | 2,090,818 | 1,836,061 | 1,409,001 |
| <b>Corporate income tax expenses</b><br>(inc. EPT) | 163,791   | 231,528   | 117,101   | 193,396   | 177,131   | 153,147   | 132,675   |
| <b>Net income after minority interest</b>          | 305,849   | 398,326   | 207,363   | 440,955   | 369,420   | 422,422   | 305,309   |

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# FINANCIAL IMPACT



## SOCIO-ECONOMIC COMPLIANCE

The violations for non-compliance with the requirements of legislation in the field of industrial and fire safety were identified during the audits of our companies, penalties were imposed by the transport prosecutor's office, statistics bodies, etc. In 2016, the size of fines for the Group was 50.1 million KZT (\$147,000), which exceeds the fine of 2015. The majority of the fines imposed on the results of the tax audit (penalty tax accrued) were 41.7 million KZT or \$122,000.

During the reporting period, there were no significant cases of non-financial sanctions and significant cases using dispute resolution mechanisms.

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GRI STANDARDS  
CONTENT INDEX

# GRI STANDARDS CONTENT INDEX



| GRI Standard                     | Disclosures  | Page number or URL   | Omission                          |        |             | Connection with the UNGC |
|----------------------------------|--|--|-----------------------------------|--------|-------------|--------------------------|
|                                  |  |  | Part Omitted                      | Reason | Explanation |                          |
| GRI 101 Foundation 2016          |  |  |                                   |        |             |                          |
| General Disclosures              |  |  |                                   |        |             |                          |
| GRI 102 General Disclosures 2016 | 102-1 Name of the organization   | p. 2, 5  | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-2 – Activities, brands, products, and services                                   | p. 2, 19, 67   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-3 Location of headquarters   | p. 2, 19, 89   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-4 Location of operations   | p. 2, 19   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-5 Ownership and legal form   | p. 5, 10   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-6 Markets served   | p. 2, 17, 19   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-7 Scale of the organization  | p. 2, 10, 17, 19   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-8 Information on employees and other workers                                     | p. 2, 28   | this disclosure cannot be omitted |        |             | Principle 6              |
|                                  | 102-9 Supply chain   | p. 2, 63<br><a href="#">Annual Report*</a>   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-10 Significant changes to the organization and its supply chain                  | p. 20  | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-11 Precautionary Principle or approach   | p. 65  | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-12 External initiatives  | p. 18  | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-13 Membership of associations  | p. 17, 18  | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-14 Statement from senior decision-maker  | p. 6, 7, 8   | this disclosure cannot be omitted |        |             | Principle 1              |
|                                  | 102-15 Key impacts, risks, and opportunities   | p. 10, 11, 13, 15, 17, 22, 25, 30, 33, 36, 83-84   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-16 Values, principles, standards, and norms of behavior                          | p. 9, 13, 14, 21, 41   | this disclosure cannot be omitted |        |             | Principle 10             |
|                                  | 102-17 Mechanisms for advice and concerns about ethics                               | p. 14, 15  |                                   |        |             | Principle 2, 10          |
|                                  | 102-18 Governance structure  | p. 10, 11<br><a href="#">Annual Report</a>   | this disclosure cannot be omitted |        |             |                          |
|                                  | 102-19 Delegating authority  | p. 10<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-20 Executive-level responsibility for economic, environmental, and social topics | p. 10, 11<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-21 Consulting stakeholders on economic, environmental, and social topics         | p. 10, 22, 83-84   |                                   |        |             |                          |
|                                  | 102-22 Composition of the highest governance body and its committees                 | p. 9, 10<br><a href="#">Annual Report</a>  |                                   |        |             |                          |
|                                  | 102-23 Chair of the highest governance body  | p. 9<br>According to the Charter, the Chairman of the Management Board can not be elected the chairman of the Board of Directors |                                   |        |             |                          |
|                                  | 102-24 Nominating and selecting the highest governance body                          | p. 10<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-25 Conflicts of interest   | p. 10<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-26 Role of highest governance body in setting purpose, values, and strategy      | p. 10, 14  |                                   |        |             |                          |
|                                  | 102-27 Collective knowledge of highest governance body                               | p. 10<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-28 Evaluating the highest governance body's performance                          | p. 10, 25  |                                   |        |             |                          |
|                                  | 102-29 Identifying and managing economic, environmental, and social impacts          | p. 10, 11, 22, 43, 55, 57, 83-84<br><a href="#">Annual Report</a>  |                                   |        |             |                          |
|                                  | 102-30 Effectiveness of risk management processes                                    | p. 10<br><a href="#">Annual Report</a>   |                                   |        |             |                          |
|                                  | 102-31 Review of economic, environmental, and social topics                          | p. 10  |                                   |        |             |                          |
|                                  | 102-32 Highest governance body's role in sustainability reporting                    | p. 5   |                                   |        |             |                          |

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# GRI STANDARDS CONTENT INDEX

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|  | 102-33 Communicating critical concerns   | p. 10, 30                                |                                   |                             |   |             |
|  | 102-34 Nature and total number of critical concerns                                  | p. 11<br><a href="#">Annual Report</a>   |                                   |                             |   |             |
|  | 102-35 Remuneration policies   | p. 38<br><a href="#">Annual Report</a>   |                                   |                             |   |             |
|  | 102-36 Process for determining remuneration  | p. 38<br><a href="#">Annual Report</a>   |                                   |                             |   |             |
|  | 102-37 Stakeholders' involvement in remuneration                                     | <a href="#">Annual Report</a>            |                                   |                             |   |             |
|  | 102-38 Annual total compensation ratio   | -  | Not disclosed                     | Confidentiality constraints |   |             |
|  | 102-39 Percentage increase in annual total compensation ratio                        | -  | Not disclosed                     | Confidentiality constraints |   |             |
|  | 102-40 List of stakeholder groups  | p. 22, 83-84                             | this disclosure cannot be omitted |                             |   |             |
|  | 102-41 Collective bargaining agreements  | p. 41                                    | this disclosure cannot be omitted |                             |   | Principle 3 |
|  | 102-42 Identifying and selecting stakeholders  | p. 21, 22, 83-84                         | this disclosure cannot be omitted |                             |   |             |
|  | 102-43 Approach to stakeholder engagement  | p. 13, 17, 21, 22, 23, 30, 44, 47, 83-84 | this disclosure cannot be omitted |                             |   |             |
|  | 102-44 Key topics and concerns raised  | p. 3, 22, 24, 44, 47, 83-84              | this disclosure cannot be omitted |                             |   |             |
|  | 102-45 Entities included in the consolidated financial statements                    | p. 81                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-46 Defining report content and topic Boundaries                                  | p. 23, 81, 82                            | this disclosure cannot be omitted |                             |   |             |
|  | 102-47 List of material topics   | p. 3, 24, 82                             | this disclosure cannot be omitted |                             |   |             |
|  | 102-48 Restatements of information   | p. 44, 46, 49, 50, 59                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-49 Changes in reporting  | p. 23, 44                                | this disclosure cannot be omitted |                             |   |             |
|  | 102-50 Reporting period  | p. 81                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-51 Date of most recent report  | p. 81                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-52 Reporting cycle   | p. 81                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-53 Contact point for questions regarding the report                              | p. 89                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-54 Claims of reporting in accordance with the GRI Standards                      | p. 5                                     | this disclosure cannot be omitted |                             |   |             |
|  | 102-55 GRI Standards Content Index   | p. 72                                    | this disclosure cannot be omitted |                             |   |             |
|  | 102-56 External assurance  | p. 5                                     | this disclosure cannot be omitted |                             |   |             |
| <b>Material topics</b>                   |  |  |                                   |                             |   |             |
| <b>GRI 200 Economic Topics</b>           |  |  |                                   |                             |   |             |
| <b>Economic Performance</b>              |  |  |                                   |                             |   |             |
| <b>GRI 103</b> Management Approach 2016  | 103-1 Explanation of the material topic and its Boundary                             | p. 23, 81, 82                            |                                   |                             |   |             |
|  | 103-2 The management approach and its components                                     | <a href="#">Annual Report</a>            |                                   |                             |   |             |
|  | 103-3 Evaluation of the management approach  | p. 70<br><a href="#">Annual Report</a>   |                                   |                             |   |             |
| <b>GRI 201</b> Economic Performance 2016 | 201-1 Direct economic value generated and distributed                                | p. 69                                    |                                   |                             |   |             |
|  | 201-2 Financial implications and other risks and opportunities due to climate change | p. 44, 45, 48                            |                                   |                             |   | Principle 7 |
|  | 201-3 Defined benefit plan obligations and other retirement plans                    | p. 35                                    |                                   |                             |   |             |
|  | 201-4 Financial assistance received from government                                  | -  | Not disclosed                     | Not applicable              | KMG does not receive financial assistance from the government |             |
| <b>Market Presence</b>                   |  |  |                                   |                             |   |             |
| <b>GRI 103</b> Management Approach 2016  | 103-1 Explanation of the material topic and its Boundary                             | p. 23, 81, 82                            |                                   |                             |   |             |
|  | 103-2 The management approach and its components                                     | p. 28, 38                                |                                   |                             |   |             |
|  | 103-3 Evaluation of the management approach  | p. 38                                    |                                   |                             |   |             |

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|---|--|--|---------------|-------------------------|--|--------------------|
| <b>GRI 202</b> Market Presence 2016           | 202-1 Ratios of standard entry level wage by gender compared to local minimum wage | p. 38  |               |                         |  | Principle 6        |
|   | 202-2 Proportion of senior management hired from the local community               | p. 38  |               |                         |  | Principle 6        |
| <b>Indirect Economic Impacts</b>              |  |  |               |                         |  |                    |
| <b>GRI 103</b> Management Approach 2016       | 103-1 Explanation of the material topic and its Boundary                           | p. 23, 63, 81, 82                                    |               |                         |  |                    |
|   | 103-2 The management approach and its components                                   | p. 63  |               |                         |  |                    |
|   | 103-3 Evaluation of the management approach  | -  |               |                         |  |                    |
| <b>GRI 203</b> Indirect Economic Impacts 2016 | 203-1 Infrastructure investments and services supported                            | p. 61, 63, 70<br><a href="#">Annual Report</a>       |               |                         |  |                    |
|   | 203-2 Significant indirect economic impacts  | p. 63<br><a href="#">Annual Report</a>               |               |                         |  |                    |
| <b>Procurement Practices</b>                  |  |  |               |                         |  |                    |
| <b>GRI 103</b> Management Approach 2016       | 103-1 Explanation of the material topic and its Boundary                           | p. 23, 81, 82  |               |                         |  |                    |
|   | 103-2 The management approach and its components                                   | p. 63<br><a href="#">Annual Report</a>               |               |                         |  |                    |
|   | 103-3 Evaluation of the management approach  | p. 63  |               |                         |  |                    |
| <b>GRI 204</b> Procurement Practices 2016     | 204-1 Proportion of spending on local suppliers                                    | p. 63<br><a href="#">Annual Report</a>               |               |                         |  |                    |
| <b>Anti-corruption</b>                        |  |  |               |                         |  |                    |
| <b>GRI 103</b> Management Approach            | 103-1 Explanation of the material topic and its Boundary                           | p. 23, 81, 82  |               |                         |  |                    |
|   | 103-2 The management approach and its components                                   |  |               |                         |  |                    |
|   | 103-3 Evaluation of the management approach  | p. 15<br><a href="#">Annual Report</a>               |               |                         |  |                    |
|   |  | p. 15 -16, 70  |               |                         |  |                    |
| <b>GRI 205</b> Anti-corruption 2016           | 205-1 Operations assessed for risks related to corruption                          | p. 15  |               |                         |  | Principle 10       |
|   | 205-2 Communication and training about anti-corruption policies and procedures     | p. 15, 16<br>Our approach to stakeholders engagement |               |                         |  | Principles 2,10    |
|   | 205-3 Confirmed incidents of corruption and actions taken                          | p. 16  |               |                         |  | Principle 10       |
| <b>Reserves</b>                               |  |  |               |                         |  |                    |
| <b>GRI 103</b> Management Approach 2016       | 103-1 Explanation of the material topic and its Boundary                           | <a href="#">Annual Report</a>                        |               |                         |  |                    |
|   | 103-2 The management approach and its components                                   | <a href="#">Annual Report</a>                        |               |                         |  |                    |
|   | 103-3 Evaluation of the management approach  | <a href="#">Annual Report</a>                        |               |                         |  |                    |
| <b>O&amp;G Sector Disclosures</b>             | OG-1 - Volume and type of estimated proved reserves and production                 | p. 2   |               |                         |  |                    |
| <b>GRI 300 Environmental topics</b>           |  |  |               |                         |  |                    |
| <b>Energy</b>                                 |  |  |               |                         |  |                    |
| <b>GRI 103</b> Management Approach 2016       | 103-1 Explanation of the material topic and its Boundary                           | p. 23, 81,82   |               |                         |  | Principles 7, 8, 9 |
|   | 103-2 The management approach and its components                                   | p. 43, 48,   |               |                         |  |                    |
|   | 103-3 Evaluation of the management approach  | p. 48, 49, 70, 87                                    |               |                         |  |                    |
| <b>GRI 302</b> Energy 2016                    | 302-1 - 302-1 Energy consumption within the organization                           | p. 48, 85  |               |                         |  | Principle 7        |
|   | 302-2 Energy consumption outside of the organization                               | -  | Not disclosed | Information unavailable | According to the legislation, we keep a record of consumption of energy resources only within the organization |                    |
|   | 302-3 Energy intensity   | p. 49,85   |               |                         |  |                    |
|   | 302-4 Reduction of energy consumption  | p. 48  |               |                         |  | Principles 7, 8, 9 |
|   | 302-5 Reductions in energy requirements of products and services                   | -  | Not disclosed | Information unavailable | No account is taken  |                    |

# GRI STANDARDS CONTENT INDEX

|   |   |   |               |  |   |                |
|---|---|---|---------------|--|---|----------------|
| O&G Sector Disclosures                  | OG2 Total amount invested in renewable energy   | -   | Not disclosed | Not applicable                                     | KMG does not invest in renewable energy sources |                |
| O&G Sector Disclosures                  | OG3 Total amount of renewable energy generated by source  | -   | Not disclosed | Not applicable                                     | KMG does not invest in renewable energy sources |                |
| <b>Water</b>                            |   |   |               |  |   |                |
| <b>GRI 103</b> Management Approach 2016 | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81, 82   |               |  |   |                |
|   | 103-2 The management approach and its components  | p. 18, 43, 50   |               |  |   |                |
|   | 103-3 Evaluation of the management approach   | p. 49, 61, 70, 87   |               |  |   |                |
| <b>GRI 303</b> Water 2016               | 303-1 Water withdrawal by source  | p. 50, 51, 85   |               |  |   | Principle 7    |
|   | 303-2 Water sources significantly affected by withdrawal of water   | p. 50   |               |  |   |                |
|   | 303-3 Water recycled and reused   | p. 50, 51   |               |  |   |                |
| <b>Biodiversity</b>                     |   |   |               |  |   |                |
| <b>GRI 103</b> Management Approach 2016 | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81, 82   |               |  |   |                |
|   | 103-2 The management approach and its components  | p. 18, 43, 51   |               |  |   |                |
|   | 103-3 Evaluation of the management approach   | p. 51, 56, 61, 70, 87   |               |  |   |                |
| <b>GRI 304</b> Biodiversity 2016        | 304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas | p. 53, 55, 86   |               |  |   | Principles 8   |
|   | 304-2 Significant impacts of activities, products, and services on biodiversity   | p. 52, 53   |               |  |   |                |
|   | 304-3 Habitats protected or restored  | p. 52   |               |  |   |                |
|   | 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations                                | p. 54   |               |  |   |                |
|   | O&G Sector Disclosures  | OG4 Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored | p. 52, 54     |  |   |                |
| <b>Emissions</b>                        |   |   |               |  |   |                |
| <b>GRI 103</b> Management Approach 2016 | 103-1 Explanation of the material topic and its Boundary  | p. 23, 44, 81, 82   |               |  |   |                |
|   | 103-2 The management approach and its components  | p. 17, 43, 44   |               |  |   |                |
|   | 103-3 Evaluation of the management approach   | p. 45, 61, 70, 87   |               |  |   |                |
| <b>GRI 305</b> Emissions 2016           | 305-1 Direct (Scope 1) GHG emissions  | p. 44, 85   |               |  |   | Principle 7    |
|   | 305-2 Energy indirect (Scope 2) GHG emissions   | -   | Not disclosed | Current legislation requires only direct emissions | It is planned to start accounting in the future |                |
|   | 305-3 Other indirect (Scope 3) GHG emissions  | -   | Not disclosed | Current legislation requires only direct emissions | It is planned to start accounting in the future |                |
|   | 305-4 GHG emissions intensity   | p. 44, 45, 85   |               |  |   |                |
|   | 305-5 Reduction of GHG emissions  | p. 45   |               |  |   | Principles 8,9 |
|   | 305-6 Emissions of ozone-depleting substances (ODS)   | -   | Not disclosed | Emissions of ODS are not significant               | Periodic monitoring is carried out              |                |
|   | 305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions   | p. 46   |               |  |   | Principle 7    |
| <b>Effluents and Waste</b>              |   |   |               |  |   |                |
| <b>GRI 103</b> Management Approach 2016 | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81-82  |               |  |   |                |
|   | 103-2 The management approach and its components  | p. 17, 43, 50, 55   |               |  |   |                |
|   | 103-3 Evaluation of the management approach   | p. 50, 59, 60, 61, 70, 87   |               |  |   |                |

# GRI STANDARDS CONTENT INDEX

|  |   |                          |  |  |  |                |
|--|---|--------------------------|--|--|--|----------------|
| <b>GRI 306</b> Effluents and Waste 2016            | 306-1 Water discharge by quality and destination  | p. 50, 51, 85            |  |  |  |                |
|  | 306-2 Waste by type and disposal method   | p. 59, 85                |  |  |  |                |
|  | 306-3 Significant spills  | p. 55, 56                |  |  |  |                |
|  | 306-4 Transport of hazardous waste  | p. 60                    |  |  |  |                |
|  | 306-5 Water bodies affected by water discharges and/or runoff   | p. 52, 55                |  |  |  |                |
| O&G Sector Disclosures                             | OG 5 Volume and disposal of formation or produced water   | p. 50, 51                |  |  |  |                |
| O&G Sector Disclosures                             | OG 6 Volume of flared and vented hydrocarbon  | p. 47, 85                |  |  |  | Principles 7,8 |
| O&G Sector Disclosures                             | OG 7 Amount of drilling waste and strategies for treatment and disposal   | p. 60, 85                |  |  |  |                |
| <b>Environmental Compliance</b>                    |   |                          |  |  |  |                |
| <b>GRI 103</b> Management Approach 2016            | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81-82             |  |  |  |                |
|  | 103-2 The management approach and its components  | p. 43, 61                |  |  |  |                |
|  | 103-3 Evaluation of the management approach   | p. 61                    |  |  |  |                |
| <b>GRI 307</b> Environmental Compliance 2016       | 307-1 Non-compliance with environmental laws and regulations  | p. 61, 70                |  |  |  | Principle 8    |
| <b>GRI 400 Social topics</b>                       |   |                          |  |  |  |                |
| <b>Employment</b>                                  |   |                          |  |  |  |                |
| <b>GRI 103</b> Management Approach 2016            | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81, 82            |  |  |  |                |
|  | 103-2 The management approach and its components  | p. 28, 22, 83-84         |  |  |  |                |
|  | 103-3 Evaluation of the management approach   | p. 14                    |  |  |  |                |
| <b>GRI 401</b> Employment 2016                     | 401-1 New employee hires and employee turnover  | p. 28                    |  |  |  | Principle 6    |
|  | 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees                            | p. 35                    |  |  |  |                |
|  | 401-3 Parental leave  | p. 35                    |  |  |  | Principle 6    |
| <b>Labor/Management Relations</b>                  |   |                          |  |  |  |                |
| <b>GRI 103</b> Management Approach 2016            | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81, 82            |  |  |  | Principle 3    |
|  | 103-2 The management approach and its components  | p. 30, 22, 83-84         |  |  |  |                |
|  | 103-3 Evaluation of the management approach   | p. 14                    |  |  |  |                |
| <b>GRI 402</b> Labor/Management Relations 2016     | 402-1 Minimum notice periods regarding operational changes  | p. 28, 38                |  |  |  | Principle 3    |
| <b>Occupational Health and Safety</b>              |   |                          |  |  |  |                |
| <b>GRI 103</b> Management Approach 2016            | 103-1 Explanation of the material topic and its Boundary  | p. 23, 81-82             |  |  |  |                |
|  | 103-2 The management approach and its components  | p. 22, 30, 33, 83-84     |  |  |  |                |
|  | 103-3 Evaluation of the management approach   | p. 26, 31, 33            |  |  |  |                |
| <b>GRI 403</b> Occupational Health and Safety 2016 | 403-1 Workers representation in formal joint management-worker health and safety committees   | p. 11, 32                |  |  |  |                |
|  | 403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities | p. 30, 31, 33            |  |  |  |                |
|  | 403-3 Workers with high incidence or high risk of diseases related to their occupation  | p. 33                    |  |  |  |                |
|  | 403-4 Health and safety topics covered in formal agreements with trade unions   | p. 33                    |  |  |  |                |
| <b>Training and Education</b>                      |   |                          |  |  |  |                |
| <b>GRI 103</b> Management Approach 2016            | 103-1 Explanation of the material topic and its Boundary  | p. 23, 35, 81, 82        |  |  |  |                |
|  | 103-2 The management approach and its components  | p. 22, 35, 37, 38, 83-84 |  |  |  |                |
|  | 103-3 Evaluation of the management approach   | p. 35, 39, 70            |  |  |  |                |

# GRI STANDARDS CONTENT INDEX

|   |  |                          |  |  |  |             |
|---|--|--------------------------|--|--|--|-------------|
| GRI 404 Training and Education 2016                     | 404-1 Average hours of training per year per employee  | p. 2                     |  |  |  | Principle 6 |
|   | 404-2 Programs for upgrading employee skills and transition assistance programs                                      | p. 36, 37                |  |  |  |             |
|   | 404-3 Percentage of employees receiving regular performance and career development reviews                           | p. 40                    |  |  |  | Principle 6 |
| <b>Diversity and Equal Opportunity</b>                  |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81, 82            |  |  |  | Principle 6 |
|   | 103-2 The management approach and its components   | p. 22, 28, 38, 41, 83-84 |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 14                    |  |  |  |             |
| GRI 405 Diversity and Equal Opportunity 2016            | 405-1 Diversity of governance bodies and employees   | p. 10, 28                |  |  |  | Principle 6 |
|   | 405-2 Ratio of basic salary and remuneration of women to men   | p. 36, 38                |  |  |  | Principle 6 |
| <b>Non-discrimination</b>                               |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81-82             |  |  |  | Principle 6 |
|   | 103-2 The management approach and its components   | p. 22, 38, 41, 83-84     |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 14                    |  |  |  |             |
| GRI 406 Non-discrimination 2016                         | 406-1 Incidents of discrimination and corrective actions taken   | p. 41                    |  |  |  | Principle 6 |
| <b>Freedom of Association and Collective Bargaining</b> |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81, 82            |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 22, 41, 83-84         |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 14                    |  |  |  |             |
| GRI 408 Child Labor 2016                                | 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk | p. 41                    |  |  |  | Principle 3 |
| <b>Child Labor</b>                                      |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81-82             |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 22, 41, 83-84         |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | -                        |  |  |  |             |
| GRI 408 Child Labor 2016                                | 408-1 Operations and suppliers at significant risk for incidents of child labor                                      | p. 41                    |  |  |  | Principle 5 |
| <b>Forced or Compulsory Labor</b>                       |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81-82             |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 22, 41, 83-84         |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | -                        |  |  |  |             |
| GRI 409 Forced or Compulsory Labor 2016                 | 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor                       | p. 41                    |  |  |  | Principle 4 |
| <b>Security Practices</b>                               |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81, 82            |  |  |  | Principle 1 |
|   | 103-2 The management approach and its components   | p. 14, 15, 22, 83-84     |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 14, 15, 16,           |  |  |  |             |
| GRI 410 Security Practices 2016                         | 410-1 Security personnel trained in human rights policies or procedures  | p. 15, 16                |  |  |  | Principle 1 |
| <b>Local Communities</b>                                |  |                          |  |  |  |             |
| GRI 103 Management Approach 2016                        | 103-1 Explanation of the material topic and its Boundary   | p. 23, 81-82             |  |  |  | Principle 1 |
|   | 103-2 The management approach and its components   | p. 22, 63, 83-84         |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 14, 70                |  |  |  |             |

# GRI STANDARDS CONTENT INDEX

|   |  |  |  |  |  |             |
|---|--|--|--|--|--|-------------|
| GRI 413 Local Communities 2016                    | 413-1 Operations with local community engagement, impact assessments, and development programs | p. 22, 63, 83-84   |  |  |  | Principle 1 |
|   | 413-2 Operations with significant actual and potential negative impacts on local communities   | p. 53  |  |  |  | Principle 1 |
| <b>Emergency response preparedness</b>            |  |  |  |  |  |             |
| GRI 103 Management Approach 2016                  | 103-1 Explanation of the material topic and its Boundary                                       | p. 23, 81-82   |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 18, 22, 43, 55, 57, 83-84   |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 56, 61, 70  |  |  |  |             |
| <b>Industrial safety and integrity management</b> |  |  |  |  |  |             |
| GRI 103 Management Approach 2016                  | 103-1 Explanation of the material topic and its Boundary                                       | p. 23, 81, 82  |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 22, 43, 57, 83-84   |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 56, 58, 61, 70  |  |  |  |             |
| O&G Sector Disclosures                            | OG13 Number of process safety events, by business activity                                     | p. 57, 85  |  |  |  |             |
| <b>Marketing and Labeling</b>                     |  |  |  |  |  |             |
| GRI 103 Management Approach 2016                  | 103-1 Explanation of the material topic and its Boundary                                       | p. 23, 81-82   |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 6, 22, 45, 67, 83-84  |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 67, 70  |  |  |  |             |
| GRI 417 Marketing and Labeling 2016               | 417-1 Requirements for product and service information and labeling                            | p. 67  |  |  |  |             |
|   | 417-2 Incidents of non-compliance concerning product and service information and labeling      | p. 67  |  |  |  |             |
|   | 417-3 Incidents of non-compliance concerning marketing communications                          | During the reporting year, there were no cases of noncompliance with regulations and voluntary codes concerning marketing communications |  |  |  |             |
| <b>Socio-economic Compliance</b>                  |  |  |  |  |  |             |
| GRI 103 Management Approach 2016                  | 103-1 Explanation of the material topic and its Boundary                                       | p. 23, 81, 82  |  |  |  |             |
|   | 103-2 The management approach and its components   | p. 22, 14, 83-84   |  |  |  |             |
|   | 103-3 Evaluation of the management approach  | p. 70  |  |  |  |             |
| GRI 419 Socio-economic Compliance 2016            | 419-1 Non-compliance with laws and regulations in the social and economic area                 | p. 70  |  |  |  |             |





APPENDICES

# ABBREVIATIONS

|                             |  |
|-----------------------------|--|
| <b>ANS</b>                  | "Aktaunefteservice" LLC  |
| <b>BBS</b>                  | Behavioral Based Safety Program                                      |
| <b>BoD</b>                  | Board of Director  |
| <b>CNG filling stations</b> | Compressed Natural Gas filling stations                              |
| <b>CNPC</b>                 | Chinese National Oil and Gas Corporation                             |
| <b>EIA</b>                  | Environmental Impact Assessment                                      |
| <b>EMG</b>                  | "EmbaMunayGas" JSC   |
| <b>ENU</b>                  | Gumilyov Eurasian National University                                |
| <b>FAR</b>                  | Fatality Accident Rate   |
| <b>FAR</b>                  | Fatality Accident Rate   |
| <b>GMI</b>                  | The Global Methane Initiative  |
| <b>GRI</b>                  | Global Reporting Initiative  |
| <b>HSE</b>                  | Health, Safety and Environment                                       |
| <b>IAOT</b>                 | International Association of Oil Transporters                        |
| <b>ICA</b>                  | "IntergasCentralAsia" JSC  |
| <b>ILAC</b>                 | International Laboratory Accreditation Cooperation                   |
| <b>IOGP</b>                 | International Association of Oil and Gas Producers                   |
| <b>JSC</b>                  | Joint stock company  |
| <b>KazGPZ</b>               | "Kazakh gas refining plant" LPP                                      |
| <b>KBTU</b>                 | Kazakh-British Technical University                                  |
| <b>KIMEP</b>                | Kazakhstan Institute of Management, Economics and Strategic Research |
| <b>KMG</b>                  | "KazMynayGas NC" JSC   |
| <b>KMG E&amp;P</b>          | "KazMunayGas Exploration and Production" JSC                         |
| <b>KMG RM</b>               | "KazMunayGas refining-marketing" JSC                                 |
| <b>KOA</b>                  | "Kazakhoil Aktobe" LLP   |

|                           |  |
|---------------------------|--|
| <b>KPI</b>                | Key performance indicators                             |
| <b>KZT</b>                | Kazakhstan national currency - tenge                   |
| <b>LLC</b>                | Limited Liability Company                              |
| <b>LTI</b>                | Lost-time Injury                                       |
| <b>LTIR</b>               | Lost-time Injury Rate                                  |
| <b>mln</b>                | Millions(s)  |
| <b>MMG</b>                | "Mangistaumunaygas" JSC                                |
| <b>MTC</b>                | Medical Treatment Case                                 |
| <b>MVCR</b>               | Motor Vehicle Crash Rate                               |
| <b>NC</b>                 | National company                                       |
| <b>OECD</b>               | Organisation for Economic Co-operation and Development |
| <b>OMG</b>                | "OzenMunayGas" JSC                                     |
| <b>OSC</b>                | "Oil Construction Company" LLC                         |
| <b>OSR</b>                | Oil Spill Response                                     |
| <b>OSRL</b>               | Oil Spill Response Limited                             |
| <b>PJSC</b>               | Public Joint Stock Corporation                         |
| <b>RoK</b>                | Republic of Kazakhstan                                 |
| <b>Samruk-Kazyna Fund</b> | "Sovereign Samruk Kazyna Wealth Fund" JSC              |
| <b>SD</b>                 | Sustainable Development                                |
| <b>SDR</b>                | Sustainable Development Report                         |
| <b>TRIR</b>               | Total Recordable Incidents Rate                        |
| <b>ULRS</b>               | Unified Labor Remuneration System                      |
| <b>UN</b>                 | United Nations   |
| <b>USD, \$</b>            | United States dollar                                   |
| <b>OSRL</b>               | Oil Spill Response Limited                             |

## THE REPORTING BOUNDARIES

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The Report discloses information about the Group's activities for the 2016 calendar year. The report is released annually, our previous Sustainable Development report was published on July 15.

Due to the diversity of our operations, the range of activities, and the size of the Group (over 200 member companies), defining simple and transparent boundaries for sustainability reporting is in itself a complex task. We strive to be consistent and transparent about variations in boundaries.

We did not include the indicators of the European subsidiary – KMG International, since they operate under EU legislation standards and published independent stand-alone sustainability report.

The non-financial performance data provided includes information from subsidiaries and JVs with more than 50% of KMG shares unless otherwise stated. We employ this approach as a best industry practice, and because it is data that we can directly manage and influence. The review of KMG's assets can be found on our corporate website and in our annual report [www.kmg.kz](http://www.kmg.kz).

- We report health and safety incident data for our operated assets, facilities and vehicles of member-companies, including subsidiaries, regardless of KMG share (KPO, TCO, NCOC are not included)
- We report environmental data for our operated assets and facilities. Environmental data represent our direct emissions, discharges, consumption

etc. unless otherwise stated. Biodiversity indicators illustrate impacts to our operated assets and facilities inside environmental sensitive areas.

- We collect social performance data from assets under our operational control.
- Our HR data covers employees under our direct employment. Temporary employees are not included.
- With regard to ethics, human rights, anti-corruption our policies and requirements apply within the organization and outside its borders, being applicable to contractors and to all stakeholders in a direct or indirect relation with KMG NC. However, the quantitative indicators are provided for the Group, unless otherwise stated.
- We report production and economic data include Group's consolidated data on an equity basis, unless otherwise stated, and prepared in compliance with IFRS.
- The onshore and offshore projects data for some indicators are disclosed separately.
- To comply with the principle of comparability, the financial data are provided both in the national currency – KZT (tenge), and in US dollars. The indicators are presented for the last 3 years, unless otherwise stated. All amounts are presented in US dollars according to the following exchange rate: for 2016 – 341.74 KZT per US dollar; for 2015 – 221.73 KZT per US dollar; for 2014 – 179.19 KZT per US dollar.

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- 102-46
- 102-50
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## THE REPORTING BOUNDARIES

| Material Topic                                | Boundaries   | Material Topic                                   | Boundaries                                 |
|---|--|--|--|
| Economic Performance                          | Group  | Asset integrity & process safety                 | Production, local communities              |
| Market Presence                               | Group  | Employment                                       | Group                                      |
| Indirect economic impacts                     | Operations, local communities                                  | Labour/Management Relations                      | Group                                      |
| Anti-corruption                               | Group, all stakeholders  | Occupational Health and Safety                   | Group                                      |
| Reserves                                      | Group  | Training and Education                           | Group                                      |
| Energy  | Operations   | Equal remuneration for women and men             | Operations (excl. EP)                      |
| Water management                              | Operations   | Non-discrimination                               | Group                                      |
| Biodiversity                                  | Operations in environmental sensitive areas, local communities | Freedom of association and collective bargaining | Group                                      |
| Emissions                                     | Operations   | Child & Forced/compulsory Labor                  | Group, all stakeholders                    |
| Waste management                              | Operations, contractors  | Local communities                                | Operations                                 |
| Compliance                                    | Operations   | Security practices                               | Group                                      |
| Produced water utilization                    | Operations   | Indirect socio-economic impacts                  | Operations                                 |
| Volume of burned hydrocarbons and leaks       | Operations (Upstream)  | Marketing Communications                         | Operations (Refining & Marketing), clients |
| Oil spill prevention & emergency preparedness | Operations, local communities                                  |  |  |

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- 103-1

## OUR APPROACH TO STAKEHOLDERS ENGAGEMENT

| Our key Stakeholders                    | Expectations, interest on following themes   |
|---|--|
| Employees, officials                    | <ul style="list-style-type: none"> <li>• Development of the scientific sphere, implementation of new technologies;</li> <li>• Corporate management system and strategy realization;</li> <li>• Gender policy;</li> <li>• Occupational health and safety;</li> <li>• HSE best practices exchange;</li> <li>• Training of middle line managers on risk management at hazardous operational sites, including behavioral audits;</li> <li>• Statistics of accidents and analysis of the most common cases;</li> <li>• Process and fire safety;</li> <li>• Transport safety and improvement of vehicle services;</li> <li>• Best practices in reducing greenhouse gas emissions and emissions, energy efficiency;</li> <li>• Usage of ozone-depleting substances (ODS);</li> <li>• Waste management implemented technologies;</li> <li>• Recultivation and amenity planting ;</li> <li>• Caspian Sea shoreland safety;</li> <li>• Environmental action plan.</li> </ul> |
| Shareholders                            | <ul style="list-style-type: none"> <li>• Acting in accordance with Corporate Governance Code of the Fund;</li> <li>• Raising the corporate governance rating;</li> <li>• Integration of sustainable development as part of the Group's corporate governance.</li> </ul>  |
| Subsidiaries                            | <ul style="list-style-type: none"> <li>• Social support of employees;</li> <li>• Collective Agreements;</li> <li>• Expansion program of the retail network under the brand "KazMunayGas";</li> <li>• Prevention of oil spills on the Caspian Sea;</li> <li>• Implementation of own sustainability reporting system in subsidiaries;</li> <li>• Training;</li> <li>• Feedback.</li> </ul>   |
| Local communities, public organizations | <ul style="list-style-type: none"> <li>• Timely release of the Report;</li> <li>• Benchmarking</li> <li>• Implement new indicators of the Green Economy;</li> <li>• To highlight the results of the creation and operation of public councils.</li> </ul>  |
| Government, state authorities           | <ul style="list-style-type: none"> <li>• Emissions of pollutants and greenhouse gases;</li> <li>• Compliance;</li> <li>• Water discharges and waste disposal.</li> </ul>   |
| Suppliers                               | <ul style="list-style-type: none"> <li>• Reliable market;</li> <li>• Business solvency of the permanent client;</li> <li>• Compliance with contractual obligations;</li> <li>• Increase of industrial and ecological safety.</li> </ul>  |

● 102-40  
 ● 102-42  
 ● 102-43  
 ● 102-44  
 ● 103-2  
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## OUR APPROACH TO STAKEHOLDERS ENGAGEMENT

|                           |   |   |
|---------------------------|---|---|
| Labor unions              | <ul style="list-style-type: none"> <li>• Respect for the rights of employees;</li> <li>• Safe working conditions;</li> <li>• Social guarantees, benefits and compensation.</li> </ul>   | <ul style="list-style-type: none"> <li>● 102-40</li> <li>● 102-42</li> </ul>                  |
| Clients                   | <ul style="list-style-type: none"> <li>• Create and sustain long-term relationship with the customer;</li> <li>• Identify areas for future improvement in customer service;</li> <li>• High-quality goods and services at an affordable price.</li> </ul> | <ul style="list-style-type: none"> <li>● 102-43</li> <li>● 102-44</li> <li>● 103-2</li> </ul> |
| Associations              | <ul style="list-style-type: none"> <li>• To highlight social issues of sustainable development;</li> <li>• Implementation of development programs and associated gas processing.</li> </ul>   | <ul style="list-style-type: none"> <li>● 102-21</li> <li>● 413-1</li> </ul>                   |
| Partners, other companies | <ul style="list-style-type: none"> <li>• Publish an activity map in the report;</li> <li>• To include hyperlinks to the GRI Index table;</li> <li>• Describe the approach to the definition of meaningful topics.</li> </ul>                              | <ul style="list-style-type: none"> <li>● 102-29</li> <li>● 102-15</li> </ul>                  |

## ENVIRONMENTAL DATA

|  | Upstream |      |      | Midstream |      |      | Downsrteam |      |      |
|--|----------|------|------|-----------|------|------|------------|------|------|
|  | 2014     | 2015 | 2016 | 2014      | 2015 | 2016 | 2014       | 2015 | 2016 |
| <b>Greenhouse gas emissions (GHGs)</b>   |          |      |      |           |      |      |            |      |      |
| Direct GHGs (Carbon dioxide (CO <sub>2</sub> ), million tons)                                | 2.4      | 2.9  | 2.8  | 0.8       | 0.6  | 0.7  | 2.6        | 2.6  | 3.1  |
| GHG intensity (ton CO <sub>2</sub> per 1000 tons of hydrocarbon production)                  | 110      | 120  | 115  | -         | -    | -    | 181        | 181  | 219  |
| <b>Flaring</b>   |          |      |      |           |      |      |            |      |      |
| Flaring (million tons CO <sub>2</sub> )  | 0.5      | 0.7  | 0.7  | -         | -    | -    | -          | -    | -    |
| Flared gas per unit of hydrocarbon production ( ton per 1000 tons of hydrocarbon production) | 9.0      | 12.0 | 12.0 | -         | -    | -    | -          | -    | -    |
| Flaring (million tons of hydrocarbon flared)   | 0.2      | 0.3  | 0.3  | -         | -    | -    | -          | -    | -    |
| <b>Energy intensity</b>  |          |      |      |           |      |      |            |      |      |
| Energy consumption (mln Gj)  | 24.6     | 26.9 | 26.1 | 48.4      | 34.1 | 32.3 | 51.7       | 50.8 | 49.3 |
| Energy intensity index (Gj per ton of production)  | 1.5      | 1.57 | 1.5  | -         | -    | -    | 3.5        | 3.55 | 3.5  |
| <b>Acid gases</b>  |          |      |      |           |      |      |            |      |      |
| Sulphur oxides (SO <sub>x</sub> ) (thousand tons SO <sub>2</sub> )                           | 4.8      | 7.0  | 9.0  | 0.4       | 0.3  | 0.4  | 8.7        | 9.4  | 7.5  |
| Nitrogen oxides (NO <sub>x</sub> ) (thousand tons NO <sub>2</sub> )                          | 3.7      | 5.5  | 6.1  | 3.3       | 2.7  | 3.2  | 6.1        | 5.0  | 3.5  |
| <b>Spills and discharges</b>   |          |      |      |           |      |      |            |      |      |
| Sabotage spills – volume (thousand tons)   |          |      |      |           |      |      |            |      |      |
| Sabotage spills – number   |          |      |      | -         | 7    | 1    |            |      |      |
| Operational spills – volume (onshore) (thousand tons)  | -        | 4.5  | 1.5  |           |      |      |            |      |      |
| <b>Water</b>   |          |      |      |           |      |      |            |      |      |
| Total water withdrawal (million cubic meters)  | 49.1     | 50.6 | 49.6 | 28.6      | 29.1 | 29.2 | 8.9        | 10.6 | 10.7 |
| Water discharge volume (million cubic meters)  | 0.9      | 0.8  | 0.8  | 1.2       | 1.02 | 1.1  | 6.0        | 6.28 | 6.8  |
| <b>Waste disposal</b>  |          |      |      |           |      |      |            |      |      |
| Hazardous (thousand tons)  | 82       | 221  | 195  | 7.3       | 6.8  | 8.8  | 52         | 119  | 38   |
| Non-hazardous (thousand tons)  | 20       | 9.1  | 6.7  | 8.1       | 6.4  | 6.6  | 20         | 12   | 11   |
| Total waste (thousand tons)  | 103      | 230  | 202  | 15        | 13   | 15   | 72         | 132  | 49   |
| Waste generation intensity (ton per ton of production)                                       | 4.5      | 9.7  | 8.5  | 0.1       | 0.1  | 0.1  | 4.3        | 8.8  | 3.3  |
| Drilling waste, onshore (thousand tons)  | 284      | 353  | 151  | 0         | 0    | 0    | 0          | 0    | 0    |
| Drilling waste, offshore (thousand tons)   | 2.0      | 2    | 0    | 0         | 0    | 0    | 0          | 0    | 0    |

● 302-1  
 ● 302-3  
 ● 303-1  
 ● 305-1  
 ● 305-4  
 ● 305-7  
 ● 306-1  
 ● 306-2  
 ● OG6  
 ● OG7  
 ● OG13

## LOCATION AND SCALE OF PRODUCTION UNITS IN RELATION TO NATURAL RESERVES

| Site                    | Location  | Key biodiversity zones (KBZ)  | Location in relation to KBZ                                    | Contract area (km <sup>2</sup> ) | How we plan to reduce exposure  |
|-------------------------|---|---|--|----------------------------------|---|
| Kansu                   | Karakiya district of Mangistau region                 | Kenderli-Kayasan State Reserve Zone and Ustyurt Nature Reserve  | Located in a protected area and located nearby the reserve     | 4,374.6                          | Biological monitoring   |
| Urikhtau                | Mugaljar district of Aktobe region                    | "Kokzhide-Kumzhagan" State natural reserve zone   | Includes part of the territory                                 | 239.9                            | Hydrogeological monitoring  |
| Alibekmola and Kozhasay | Mugaljar district of Aktobe region                    | Kokzhide sands и Kokzhide groundwater field   | Located nearby   | 156.5                            | Hydrogeological monitoring  |
| Zhambyl                 | Kazakhstan sector of the Caspian Sea<br>Atyrau region | Special ecologically sensi-tive zone of Kazakhstan sector of the Caspian Sea, Novinsky state reserve area | Located in a protected area and Includes part of the territory | 1,935.2                          | Regular environmental monitoring, restrictions during conducting of offshore oil operations |
| Satpayev                | Kazakhstan sector of the Caspian Sea<br>Atyrau region | Special ecologically sensi-tive zone of Kazakhstan sector of the Caspian Sea                              | Located in a protected area                                    | 1,481                            | Regular environmental monitoring, restrictions during conducting of offshore oil operations |

● 304-1

## EXPENSES FOR ENVIRONMENTAL PROTECTION

|     | Expenses   | 2014     |        | 2015    |        | 2016    |        |
|-----|--|----------|--------|---------|--------|---------|--------|
|     |  | mln KZT  | \$ mln | mln KZT | \$ mln | mln KZT | \$ mln |
| 1   | <b>The costs of waste management, the purification of emissions and discharges, total</b>  | 10,996.7 | 61.4   | 7,661.7 | 34.6   | 14185.8 | 41.5   |
| 1.1 | Waste processing and disposal  | 4,793.3  | 26.7   | 1,858.1 | 8.4    | 2,330.6 | 6.8    |
| 1.2 | Emission and discharge purification  | 2,304.9  | 12.9   | 2,515.1 | 11.3   | 3,778.3 | 11.0   |
| 1.3 | Costs for the acquisition and use of emission certificates   | 450.8    | 2.5    | 79.9    | 0.4    | 52.6    | 0.15   |
| 1.4 | Depreciation of the relevant equipment, materials and services necessary for its operation and maintenance, personnel costs associated with the related activities | 2,430.7  | 13.6   | 2,942.9 | 13.3   | 7,506.6 | 22     |
| 1.5 | Environmental liability insurance  | 238.0    | 1.3    | 238.0   | 1.0    | 365.5   | 1.1    |
| 1.6 | Costs for the elimination of environmental damage, including the costs of liquidation of spills  | 1,079.1  | 6.0    | 27.8    | 0.1    | 152.1   | 0.45   |
| 2   | <b>Investments in prevention of environmental impact and environmental management, total</b>   | 1,303.4  | 7.3    | 1,354.6 | 6.1    | 1,394.7 | 4.08   |
| 2.1 | Staff training personnel   | 21.7     | 0.1    | 9.7     | 0.04   | 246.3   | 0.7    |
| 2.2 | External services for the environmental management system  | 15.1     | 0.08   | 11.2    | 0.05   | 7.8     | 0.02   |
| 2.3 | External certification of management systems   | 24.9     | 0.1    | 38.8    | 0.2    | 33.5    | 0.09   |
| 2.4 | Personnel for general activities in the field of environmental management  | 5.3      | 0.03   | 4.3     | 0.02   | 2.1     | 0.006  |
| 2.5 | Research and development   | 351.5    | 1.9,   | 376.1   | 1.7    | 263.1   | 0.76   |
| 2.6 | Additional costs for the introduction of cleaner technologies  | 4.2      | 0.02   | 6.5     | 0.03   | 0.0     | 0.0    |
| 2.7 | Additional costs for "green procurement"   | 7.6      | 0.04,  | 5.1     | 0.02   | 6.1     | 0.01   |
| 2.8 | Other costs associated with environmental management   | 873.0    | 4.9    | 903.0   | 4.1    | 835.6   | 2.5    |

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# STAKEHOLDERS FEEDBACK FORM:



Please dedicate a few minutes to fulfill our survey on 2016 Sustainability Report. Your opinion is important to us as we continue to strive to improve our sustainability efforts. Your comments and suggestions would be greatly appreciated.

## In which of the following topics are you interested the most?

- ☐ Environment
- ☐ Occupational health and safety
- ☐ Employee development
- ☐ Community relationships
- ☐ Product responsibility
- ☐ Company's economic impact
- ☐ Corporate Governance & Transparency

## In your opinion what was the level of disclosure of material aspects presented in this report?

- ☐ Detailed
- ☐ Average
- ☐ Not detailed enough

## Please specify any topics you would like to see in the 2017 Sustainability Report?

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Thank you for your cooperation! Your opinion will be taken into account during the preparation for the next Sustainability Report.

## Which of the following groups of stakeholders do you belong to?

- ☐ Employee
- ☐ Local community member
- ☐ Stakeholder
- ☐ NGO
- ☐ Media
- ☐ Supplier
- ☐ Customer
- ☐ Business partner
- ☐ Authority representative
- ☐ Other

## After reading the 2016 Sustainability Report, has your opinion of KMG Group been influenced at all?

- ☐ Positively influenced
- ☐ Not influenced
- ☐ Negatively influenced

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The previous Sustainability Report was published in 2016

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In this report we partly used photographs prepared by the "Strategic Communications Agency SUCCESS K" by order of JSC "NC KazMunayGas" for the photo catalogue "People of Oil" in 2016. Including the portraits of the following employees of JSC NC "KazMunayGas": Besenbay Baiguzhiev – Operator of Oil and Gas Production Department (Introduction), Bolatbek Kanatbayev – head of oil and gas treatment at the Kozhasai field (Our approach to Sustainability), Serykkali Myrzhashev – head of the Mechanical-Energy service of the Oil and Gas Production Department (Our Environmental impact), Vasily Melnikov – oil and gas preparation Lead Engineer, veteran of the oil and gas industry (Our communities), Pavel Metikov – fitter of control and measuring instruments at the Akshabulak field (Our economic input).