

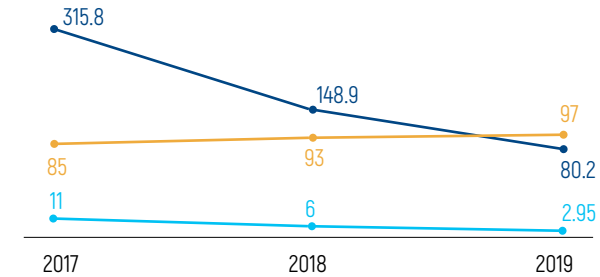


INCREASING APG UTILISATION RATES

In reducing our GHG footprint, we focus on increasing APG utilisation while minimising flaring. In 2019, APG utilisation rate was 97%, with flaring at 2.95 tonnes per 1,000 tonnes of produced hydrocarbons (11 tonnes in 2017, and 6 tonnes in 2018), which is down almost 51% year-on-year and also lower than the IOGP level by 10.5%.

We aim to minimise our raw gas flaring. In 2015, KMG supported the World Bank’s Zero Routine Flaring by 2030 initiative. Flaring reports under the Initiative are submitted on an annual basis.

RAW GAS FLARING



- Total raw gas flaring, mln m³
- Raw gas utilisation, %
- Raw gas flaring rate, tonnes per 1,000 tonnes of produced hydrocarbons



For more details see our Sustainability Report.



WASTE MANAGEMENT

We keep record of waste generated across our contracted areas, including all waste produced by our contractors. We also monitor our contractors for compliance with the requirements for safe transportation, disposal and recycling of waste. Compliance with waste management laws is a top priority for the Company. To this end, the Company develops and implements waste management programmes and allocates significant financial resources to address waste generation and land contamination issues across its operations.

In line with the environmental laws of the Republic of Kazakhstan, hazardous waste that cannot be neutralised, recycled or disposed of at our facilities is transported to special landfill sites.

Historical pollution and oil-contaminated soils are currently a primary focus for KMG’s remediation efforts, including research carried out to take stock of historical pollution sites, and plans developed to address all types of historical pollution considering the profile of specific field, region, and climate. The

Memorandum of Cooperation in Environmental Protection was signed between the Ministry of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan and KMG on 6 August 2019 to support disposal/recycling of waste at unorganised sludge dumps (Ozenmunaigas JSC) and remediation of oil contaminated soils within the areas contracted by Mangistaumunaigaz JSC, Ozenmunaigas JSC and Karazhanbasmunai JSC.



For more details see our Sustainability Report.



WATER PROTECTION

KMG's core business is concentrated in Central Asia, a region where water is a precious and scarce resource. We recognise our responsibility to society and the environment and are making every effort to ensure efficient use of water resources.

On 1 July 2019, KMG made an official commitment to contribute to water conservation efforts in Kazakhstan. At an HSE forum held for CEOs of KMG Group companies, Alik Aidarbayev, Chairman of KMG's Management Board, signed a personal Statement of Commitment to efficient water management (KMG's eight water-related principles). His initiative was backed up by the CEOs of KMG subsidiaries, who signed similar statements of commitment on behalf of their respective companies. These signed statements have been made available on the official websites of KMG Group companies.

THE EIGHT WATER-RELATED PRINCIPLES

1. We see water as an essential and extremely valuable resource for human life and health, for society, and for our operations, and we fully recognise the importance of a lean and responsible approach to our national water resources.
2. We seek not only to comply with the relevant laws of the Republic of Kazakhstan but also to meet international standards and best practices, and listen to all stakeholders across our operating regions.
3. We embed fresh water conservation and efficient use into managerial decision-making and operations.
4. We fully understand and carefully examine our primary water sources, whether accessed directly or through intermediaries.
5. We do not use drinking water for industrial purposes.
6. We seek to introduce a 100% metering of our water withdrawal and disposal.
7. We seek to minimise our fresh water withdrawal by introducing water reuse and water saving technologies, by reducing the amount of wastewater, and by improving our water treatment standards to maximise water reuse.
8. We build up our capabilities through our membership of industry associations and by joining international water initiatives to understand best practices and continuously improve our water management system.

Under these commitments, KMG subsidiaries develop five-year plans for efficient use of water, adopt water-saving technology, and increase water reuse.

We improve our water efficiency by introducing water reuse systems. Our main water risks are concentrated in our upstream business. All our production assets are located in Kazakhstan's regions experiencing water scarcity, whereas the annual demand for fresh water is rising both in the industrial sector and in municipalities. Within KMG Group, Karazhanbasmunai JSC is the biggest fresh water user, withdrawing water for steam injection technology. The Karazhanbas field desalination plant project will enable KMG to reduce fresh water consumption and place us in the top quartile of IOGP members by fresh water withdrawn from environment. In September 2019, CEL commenced construction works at the site, scheduled for completion in 2021.

In 2019, Atyrau Refinery launched the Tazalyq project to design and construct new water treatment facilities at the refinery. Water treatment facilities will be upgraded in two stages:

1. upgrade and retrofit of the mechanical wastewater treatment facility (2019 -2021)
2. retrofit of the biological wastewater treatment facility and construction of an advanced treatment facility (2019 - 2023).

The upgrade will also include building new underground wastewater treatment facilities equipped with the best technology. The project will allow the refinery to phase out evaporation fields and prevent further negative impact on Atyrau's groundwater, flora, fauna, and air. The sites of the Tukhlaya Balka evaporation fields will be reclaimed. The project will also significantly reduce fresh water withdrawal from the Ural River, as the refinery will use a multi-stage wastewater treatment system that allows the facility to multiply the volume of its water reuse. The project is expected to be completed in the late 2023 and is currently at the pre-construction design and survey stage. A memorandum of understanding was signed between the Atyrau Region Akimat and Atyrau Refinery for the water treatment complex in the left-bank part of Atyrau to accept standard treated wastewater from Atyrau Refinery after the completion of its water treatment project (2023).



For more details on KMG Group's water management system and water-related projects see our Sustainability Report.