



CONTRIBUTION OF JSC NC “KAZMUNAYGAS” IN ACHIEVING THE UN SUSTAINABLE DEVELOPMENT GOALS

ON THE SUSTAINABLE DEVELOPMENT GOALS

KMG's approach to sustainable development issues is based on the consistency of the Company's interests and plans with the basic principles of the UN, universal human values, global trends and development priorities of Kazakhstan.

The company adheres to all 17 UN Sustainable Development Goals.

Taking into account the strategic goals and priority objectives for the Company, KMG discloses information on its contribution to the achievement of **6 priority UN SDGs and 14 objectives.**

The goals and objectives are combined with strategic and business initiatives that are implemented in KMG.





GOOD HEALTH AND WELL-BEING



OUR PRIORITY

Ensure healthy lives and promote well-being for all at all ages



TARGETS

3.6. Reduce deaths and the trauma caused by road accidents

3.8. Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.9. substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



OUR RESULTS

✓ Embamunaigas JSC completed the implementation of a pilot project to introduce the automated vehicle monitoring system "Trip Management":

- ✓ The number of speeding violations decreased by 62%
- ✓ 591 road signs were installed/updated to limit speed limits on the roads of EMG production divisions
- ✓ The rating of drivers based on their driving style and recorded violations has been introduced
- ✓ an up-to-date electronic map of field and unpaved roads and coordinates of EMG field facilities was drawn
- ✓ New functionality has been implemented (trip sheets, deviations from the route, online notifications)

✓ 100% of KMG employees are covered by the health insurance program

OUR INITIATIVES

The "Train Management" project

In order to improve the level of transport safety and create a culture of safe driving, it is planned to replicate the "Train Management" project in stages to other subsidiaries of KMG.

Next steps:

- diagnosis of the maturity of processes in subsidiaries and affiliates, taking into account the level of automation, equipment with GPS trackers;
- preparation of individual programs for the development of transport management processes for each subsidiaries and affiliates;
- phased implementation of the transportation management system with a focus on traffic safety.

Personnel health management

KMG has approved a personnel health management program.

The main directions of the program:

- prevention of occupational diseases;
- development of minimum standards of medical care and medical assistance for employees of production facilities;
- systematic monitoring of the health of employees of the KMG group;
- improving the quality of medical care and motivating employees to a healthy lifestyle.

Medical health insurance

Medical examinations and vaccinations for employees are carried out on a regular basis.

10 Steps to Wellness Initiative

The health and well-being of KazMunayGas NC JSC employees are priorities that are of paramount importance when it comes to labor productivity, competitiveness and stability of enterprises. "10 Steps to Wellness" is primarily aimed at increasing physical activity and eliminating unhealthy eating habits, and is effective in improving employee health-related results.

Leadership Initiatives

A Code of Leadership and Employee Commitment to Health, Safety and Environmental Compliance is implemented and enforced.

«Korgau» Map

A program is implemented to identify and report unsafe conditions/unsafe behaviors/unsafe behaviors/hazards





AFFORDABLE AND CLEAN ENERGY



OUR PRIORITY

- Ensure access to affordable, reliable, sustainable and modern energy for all.
- Increasing the energy efficiency of production
- Increasing the share of clean energy available



TARGETS

- 7.1.** Ensure universal access to affordable, reliable and modern energy services
- 7.b.** Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all



OUR RESULTS

On May 31, 2022, the Action Plan for Implementation of the Low-Carbon Development Program until 2031 was approved:

Realization of an energy efficiency potential of 541,029 t.c.e. through:

- ✓ savings 426,421 kWh of electricity,
292,541 Gcal of thermal energy
439,246 t.c.e. of fuel resources
- ✓ production of at least 60,978 thousand kWh of green electricity from own low-power RES at the subsidiaries and affiliates

2031

- ✓ 100% coverage of subsidiaries and affiliates by energy management services
- ✓ implementation of renewable energy projects of at least 300 MW
- ✓ 15% - share of RES in the balance of KMG's electricity consumption

OUR INITIATIVES

The main strategic areas of the Group's energy saving and energy efficiency development are modernization of process equipment, introduction of energy-saving technologies, optimization of heat generation and consumption, and development of own generation sources, including those using renewable energy sources.

The Low-Carbon Development Program through 2031 was confirmed, and priority areas of activity were identified



To increase energy efficiency:

- implementation of the best available technologies (BAT);
- Modernization of boiler and furnace equipment;
- modernization of technological installations that consume thermal energy;
- Modernization of mechanical equipment;
- implementation of management programs aimed at optimizing the mechanical stock and pumping equipment with the introduction of VFDs;
- thermal insulation of the main and auxiliary equipment;
- optimization of transportation equipment;
- Introduction of automated fuel and energy accounting and management systems;
- creation of energy management services.



On the development of RES projects:

- 1 GW of wind power together with Total Eren,
- 120 MW hybrid power plant together with Eni
- 50 MW WPS in Astana jointly with Eni,
- Small capacity SPS at SACs with total capacity of 6.9 MW,
- purchase of at least 15% green electricity by 2031,
- purchase of green certificates of the international standard I-REC to confirm the consumption of electricity from RES generation sources.





DECENT WORK AND ECONOMIC GROWTH



OUR PRIORITY

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



TARGETS

- 8.5. Achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value
- 8.6. Substantially reduce the proportion of youth not in employment, education or training
- 8.8. Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment



OUR RESULTS

- ✓ KMG employs over 44,000 people, including 82% of men and 18% of women
- ✓ Programs to attract and develop young specialists in production: Zhas Maman, Dual Training

OUR INITIATIVES



Programs for the development and attraction of young professionals in production

Zhas Maman is a program to attract and develop young specialists in ANPZ and PNHZ.

From 2019 to 2021 23 people study and work at ANPZ, 9 of them are employed, 14 people at PNHZ, 10 of them are employed.

Dual training is a program including training, internship and further employment in KMG group of companies. Thus, in the period from 2019 to 2021, 2 out of 114 people trained under this program were employed at EMG; 7 out of 56 people were employed at ANPZ; 41 out of 57 people were employed at PNHZ.



Model rules of social support

Social support of employees of KMG subsidiaries and affiliates is defined in their collective agreements and rules of social support. In order to unify the types and norms of social support for all enterprises of KMG group of companies, the Model Rules for Social Support of Employees of KMG subsidiaries and affiliates were adopted.



INDUSTRY, INNOVATION AND INFRASTRUCTURE



OUR PRIORITY

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



TARGETS

- 9.1. Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- 9.4. Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities



OUR RESULTS

Five ABAI modules ("Database", "Visualization Center", "Complication Monitoring", "Process Mode", "Depth Pumping Equipment Selection") were implemented. Achieved effects:

- ✓ additional production was obtained due to a more efficient technological mode at Kazgermunai;
- ✓ reduced the number of underground well workovers due to reduced failures of downhole pumping equipment at Mangistaumunaigas;
- ✓ Improved the accuracy of chemical dosing, taking into account the actual rate of corrosion at Ozenmunaigas;
- ✓ 12 types of reporting were automated (oil production measurements, dynamics of well production indicators, etc.).

2031

- ✓ 100% coverage of subsidiaries and affiliates with energy management
- ✓ services reduction of energy intensity by 10% of the level of 2019

OUR INITIATIVES

The Low-Carbon Development Program until 2031 was confirmed, and priority areas for energy efficiency activities were identified:

- Optimization of energy management and creation of energy management services,
- Introduction of automated fuel and energy accounting and management systems
- Determining the applicability of breakthrough projects to the assets of specific subsidiaries and affiliates
- implementing the best available technologies (BAT),
- upgrading the Company's machinery stock, and optimizing and modernizing the composition of transport vehicles.



KMG's digital transformation program promotes scientific research, improving the technological capabilities of industrial sectors. KMG is investing heavily in scientific research and building local capacity in this area. The development of domestic technological capabilities to ensure industrial diversification will also have a positive impact on the climate situation in the country.



"ABAI IS Development" project

provides for centralization of all production information of the KMG group in a single database on the Big Data platform, as well as its processing and analysis using artificial intelligence and machine learning.

ABAI information system - 17 autonomous modules, each aimed at solving specific production problems.



CLIMATE ACTION



OUR PRIORITY

Take urgent action to combat climate change and its impacts



TARGETS

- 13.2.** Integrate climate change measures into national policies, strategies and planning
- 13.3.** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning



OUR RESULTS

Approved Environmental Policy

- ✓ The Action Plan for implementation of the Low-Carbon Development Program for the period 2022-2031 has been developed and approved
- ✓ KMG's greenhouse gas reduction potential of 2,893,460 tons of CO₂, including direct emissions of 2,189,483 tons of CO₂ and indirect emissions of 703,977 tons of CO₂-eq. which is 27% of 2019 emissions
- ✓ Low-carbon development department established
- ✓ Hydrogen energy competence center established on the basis of KMG Engineering LLP
- ✓ As part of a pilot project to capture and store carbon dioxide (CCUS) and determine the potential of CO₂ injection to increase the oil recovery of depleted oil reservoirs, CO₂ emission sources have been screened, fields are currently being screened to select a suitable reservoir for CO₂ injection

OUR INITIATIVES

Corporate methodology for quantifying greenhouse gas emissions

To standardize approaches to inventory, monitoring and reporting on greenhouse gas emissions and provide a unified methodological basis for calculating greenhouse gas emissions, a corporate methodology for quantitative assessment of greenhouse gas emissions is currently being developed

The concept of domestic carbon pricing

In order to create an additional incentive to reduce greenhouse gas emissions of subsidiaries and affiliates, as well as to fully consider the impact of carbon regulation on financial and economic indicators, the concept of internal carbon pricing of JSC NC "KazMunayGas" group of companies is being developed

Carbon Disclosure Project

The company calculates its carbon footprint and posts the Climate Questionnaire on the Carbon Disclosure Project site.

Task Force on Climate-related Financial Disclosures (TCFD)

Disclosure of climate risks in accordance with the recommendations of TCFD, the working group on financial disclosures related to climate change.

Green Office

The corporate "green" direction is being actively developed and the principles of "green office", such as the introduction of separate waste collection, water and energy saving in the office premises, etc., are being gradually implemented.





LIFE ON LAND



OUR PRIORITY

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



TARGETS

- 15.3.** Combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
- 15.5.** Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species



OUR RESULTS

TAZALYQ:

- ✓ 10% reduction in water withdrawal from the Ural River, 15% reuse of treated plant effluent at the plant. In 2021, areas of evaporation fields occupied by wastewater from Sections 1 and 2 are drained
- ✓ 2024: Complete elimination of the Company's historical wastes, 2.1 mln tons of oil waste treated in 2019-2022
- ✓ 2031: Implementation of forest-climatic projects on an area of 2,000 hectares.

OUR INITIATIVES

KMG implements projects and measures aimed at reducing pollutant discharges and water intake from natural sources:



Carbon Disclosure Project

The company calculates the water footprint and posts a water safety questionnaire on the Carbon Disclosure Project site.



TAZALYQ

The Atyrau Refinery is actively implementing a large-scale environmental project, TAZALYQ, designed to improve the environment in Atyrau.



Construction of desalination plants

Formation water desalination plant is a unique project in solving the issue of water supply in Mangistau region. The plant will release at least 6.2 million m³/year of Volga water for the development of the region.



A desalination plant in the Kenderly Recreation Area Mangistau region. The expected capacity will be 50 thousand cubic meters of water per day.



Land Restoration

The Company is working to restore "historical" oil waste and clean up oil-contaminated land.



Forest-climatic projects

As part of KMG's Low-Carbon Development Program until 2031, it is planned to implement forest-climatic projects that will have a beneficial effect on the conservation of terrestrial ecosystems.



Hierarchy of biodiversity mitigation measures

The Company applies a hierarchy of mitigation measures for impacts on biodiversity when planning and implementing its operations, taking into account four key actions: preventing, minimizing, restoring, and compensating for potential significant direct impacts.

FURTHER CONTRIBUTIONS OF KMG TO THE UNITED NATIONS SDGs



5.1. End all forms of discrimination against all women and girls everywhere

5.5. Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life



10.2. By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.4. Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality



16.5. Substantially reduce corruption and bribery in all their forms

16.7. Ensure responsive, inclusive, participatory and representative decision-making at all levels



6.b. Support and strengthen the participation of local communities in improving water and sanitation management



11.3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries



12.6. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle



14.c. Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want