SERVICE PROJECTS

KMG runs comprehensive initiatives aimed at developing infrastructure, enhancing the performance of oilfield services, and modernising assets. The key strategic priorities include ensuring sustainable water supply, restructuring oilfield service assets, increasing their profitability, renewing the vehicle fleet, and modernising production assets.

The infrastructure of KMG's oilfield service projects covers key production facilities, including equipment repair and maintenance sites, logistics hubs, and specialised machinery and transport. We pay close attention to automating business processes, implementing international certification standards (API Specification Q2 – American Petroleum Institute's quality management standard of for oilfield service companies), and upgrading existing facilities.

1 Desalination plant construction

The purpose of the project is to supply drinking water to the city of Zhanaozen and reduce the load on the Astrakhan–Mangyshlak water pipeline.

- Design capacity: 50 thous. m^3 per day
- Status: EPC contracts concluded, construction and installation works completed.
- The plant is expected to become operational at the design capacity in 1H 2025.

2 Building oilfield services portfolio and asset restructuring

- In 2024, a pilot project was launched to transfer oilfield service subsidiaries and associates to Ozenmunaigas and Mangistaumunaigaz, to be implemented in two phases (transfer of KMG's share and transfer of personnel).
- Plans for 2025: completion of activities to transfer assets in Zhanaozen and Aktau.

3 Bringing oilfield service assets to a break-even point

- Initiatives include: automation of business processes, implementation of segregated accounting, and API Specification Q2 certification.
- Status: in 2024, MEM (MangistauEnergoMunay, an oilfield services division) received the first API Spec Q2 certificate in Kazakhstan. Applications for certification of other assets are scheduled for 2025.

4 Renewal of vehicle and equipment fleets

- 2024 results: a total of 95 vehicles delivered. Leasing agreements with suppliers concluded.
- Plans for 2024–2026: renewal of 408 vehicles at Kalamkas and Zhetybai fields.

5 Construction and modernisation of production assets

- Zhetybai field: Design documents for the construction of a new production facility developed and approved.
  - Status: Tender and the launch of construction and installation works are slated for 1Q 2025.
- Production site of OzenMunayService:
  - Completion of concrete and installation works is expected by the end of January 2025.
  - Landscaping and site improvement will be completed in 1Q 2025.

Fleet renewal of KMG's subsidiaries and associates

Company	2024	2025	2026
	Actual	Target	Target
Oil Transport Corporation, units	186	155	96
Oil Services Company, units	0	10	25
OzenMunayService, units	0	0	5

INNOVATIVE TECHNOLOGY DEVELOPMENT

Exploration

Introduction of wireless sensors

Wireless sensors for seismic surveys helped bring down survey times and increase coverage, leading to faster data acquisition and improved data quality. Pilot seismic surveys employing a unique equipment configuration successfully investigated depths of up to 20 km in the Caspian sedimentary basin, opening up new hydrocarbon exploration opportunities.

Investment in innovation

Between 2020 and 2024, KMG invested KZT 250.8 bln, including KZT 98.2 bln allocated to high-technology projects, thus strengthening the Company's competitive edge. In 2024, increases in oil reserves were achieved through a comprehensive approach integrating 3D seismic surveys, laboratory analysis of core samples, and re-interpretation of well logging data, highlighting the importance of integrating diverse research methods.

New technologies and partnerships

In 2024, collaboration with international companies flourished. At the Berezovsky block, bids from Sinopec, LUKOIL, and Chevron are being reviewed to leverage advanced exploration technologies and incorporate best global practices. At the Mugodzhar block, our partnership with Shell and Chevron will allow for the testing of deep drilling technologies that offer substantial expansion potential. As part of the Zhylyoi project, KMG agreed key terms with CNOOC for the joint implementation of digital twins to enhance production planning and monitoring.

Implementation of new technologies and process optimisation

2024 trials confirmed the effectiveness of wireless sensors. Their planned deployment across other sites will improve data acquisition efficiency. Artificial intelligence and machine learning in seismic data processing helped enhance interpretation accuracy and speed, enabling proactive planning. R&D activities include testing technologies at the Gran field to optimise survey times and cover larger areas, reducing costs and improving efficiency.

Comparative study of STRYDE cable-free nodal seismic acquisition against conventional cable systems

Results from the CDPM[1]-3D project utilising STRYDE technology demonstrate:

- cost reduction: total project cost went down by 20% to USD 6.5 mln (from a planned USD 8.2 mln);
- time savings: work completed in 58 days instead of 75 days (a 33% reduction);
- personnel optimisation: field crew size decreased fourfold (from 15 to 4 people), with overall headcount reduced by 60% (from 77 to 32);
- efficiency gains: seismic crew productivity increased by 35% (1,278 operations vs 828), and the amount of data acquired rose by 20% (1,278 vs 1,026);
- environmental benefits: reduced equipment and transportation led to a 44% decrease in vehicle mileage (531 km vs 945 km), bringing down emissions.

The project confirmed that modern technology and process optimisation deliver significant improvements with reduced costs and environmental impact.

Trials of the impulse sources have commenced in environmentally sensitive areas of the Caspian Sea.

Seismic survey digitalisation

Field seismic surveying of 2,669 and 613 linear km was completed at Mugodzhary and Bolashak, respectively. The use of machine learning techniques in data processing speeds up interpretation of results and increases the precision of prospective target identification. KMG Barlau and Sinopec have partnered on an agreement for using geological data on the Berezovsky block, with the integration of blockchain technologies for data protection, ensuring the security and transparency of information sharing.

[1] Common Depth Point (CDP) Method.