

## OIL TRANSPORTATION

KMG completed the construction of an oil transportation infrastructure to supply hydrocarbons to export markets. Medium-term priorities:

- Increase existing capacity utilisation by making KMG's oil transportation systems more attractive and competitive
- Improved operating-cost control

The two oil transportation modes at KMG are trunk pipelines and the marine fleet.

### Pipeline infrastructure

Kazakhstan's pipeline infrastructure is owned by JSC KazTransOil – the national oil pipeline operator, its two joint ventures (Kazakhstan–China Pipeline LLP and MunayTas North-West Pipeline Company LLP) and Caspian Pipeline Consortium. The existing pipeline infrastructure in Kazakhstan has adequate potential to support increased oil transportation volumes from promising projects.

**JSC KazTransOil (KTO)** is the national oil pipeline operator of the Republic of Kazakhstan. The company owns an extensive network of trunk oil pipelines with a total length of 5,372 km, to which virtually all oil fields in Kazakhstan are connected. The Company transports oil to Kazakhstan's four major refineries, pumps oil for export via the Atyrau–Samara pipeline, transships oil to the CPC and Atasu–Alashankou export pipelines, and ships oil to tankers in the Port of Aktau and by rail. Oil transportation via trunk oil pipelines is supported by 36 oil pumping stations, 67 heaters, and a tank farm for oil storage with a total capacity of 1.4 mln m<sup>3</sup>. JSC KazTransOil also provides operation and maintenance services for the trunk oil pipelines of Kazakhstan–China Pipeline LLP, MunayTas North-West Pipeline Company LLP, Karachaganak Petroleum Operating B.V., JSC Caspian Pipeline Consortium-K, and JSC Turgai Petroleum, as well as for the trunk water line of Main Waterline LLP.

#### **Kazakhstan–China Pipeline LLP**

is the owner of the Atasu–Alashankou (965 km) and Kenkiyak–Kumkol (794 km) oil pipelines. The company transports Kazakhstan's oil and transit Russian oil to China and to the domestic market.

#### **MunayTas North-West Pipeline Company LLP (MT)**

is the owner of the 449 km Kenkiyak–Atyrau oil trunk pipeline. In 2018, the company started implementing the Kenkiyak–Atyrau pipeline reverse project to support supplies of West Kazakhstan's oil to domestic refineries and to compensate production declines in the Aktobe and Kyzylorda Regions, as well as to support exports to China totalling up to 6 mtpa. The project cost is KZT 30.9 bln. Starting 1 July 2021, reverse transportation of up to 6 mtpa of oil was enabled at the Aman oil pumping station.

#### **Caspian Pipeline Consortium (CPC)**

is an international oil transportation project involving Russia, Kazakhstan and the world's leading industry players. It was established for the construction and operation of a 1,510 km trunk pipeline (452 km are within Kazakhstan). The CPC oil pipeline is a priority export route for Kazakhstan's oil supplies, connecting Kazakhstan's Tengiz oil field with the Yuzhnaya Ozereyevka oil terminal on the Black Sea (near the Port of Novorossiysk).



Indicator	Trunk pipeline transportation				Marine fleet transportation
	KazTransOil (KTO)	Kazakhstan–China Pipeline (KCP)	MunayTas (MT)	Caspian Pipeline Consortium (CPC)	Kazmortransflot (KMTF)
<b>Management company</b>	KazTransOil (KTO)	Kazakhstan–China Pipeline (KCP)	MunayTas (MT)	Caspian Pipeline Consortium (CPC)	Kazmortransflot (KMTF)
<b>Interest</b>	KMG: 90 % <sup>1</sup>	KTO: 50 %	KTO: 51 %	KMG: 20,75 %	KMG: 100 %
<b>Key destinations</b>	Exports to Europe and China, domestic market	Exports to China, domestic market	Exports to China, domestic market	Exports to Europe	Exports to Europe
<b>Key routes</b>	Kazakhstan's refineries Uzen–Atyrau–Samara Port of Aktau Oil transshipment to the CPC and Atasu–Alashankou pipelines	Atasu–Alashankou Kenkiyak–Kumkol	Kenkiyak–Atyrau	Tengiz–Novorossiysk	Black Sea Mediterranean Sea Caspian Sea
<b>Total length, km</b>	5,372	1,759	449	1,510	n/a
<b>Capacity, mtpa</b>	17,5 <sup>2</sup> 5,2 <sup>3</sup>	20	6	67	n/a

### KMG's oil pipeline network



<sup>1</sup> 10% of shares are owned by minority shareholders who acquired them under the People's IPO programme.

<sup>2</sup> Capacity of the Atyrau–Samara section.

<sup>3</sup> Capacity of the Port of Aktau (large-capacity vessel berths, oil loading).

Oil transportation via the CPC pipeline is supported by 15 oil pumping stations, an oil storage tank farm with a total capacity of 1.3 mln m<sup>3</sup> and three single-point moorings.

In view of the anticipated increases in oil production from Tengiz and Kashagan, in 2019 CPC shareholders resolved to launch a debottlenecking project for the pipeline system, which is expected to increase the volume of Kazakhstan's oil transportation to 72.5 mtpa. The project timeframe is 2019–2023, and its cost is USD 600 mln. The project will be financed using CPC's own funds.

### Trunk pipeline oil transportation

In 2021, KMG's share in the consolidated volume of trunk pipeline oil transportation was marginally up by 0.8% to 64,710 ths tonnes. The increase was due to higher domestic transportation to Kazakh refineries in order to ensure necessary refining volumes in the domestic market. At the same time, oil exports were down as subsoil users agreed to limit production as part of the OPEC+ agreement and amid a natural decline in production at mature fields.

### Volume of oil transportation, ths tonnes<sup>1</sup>

Company	2019	2020	2021
<b>KazTransOil (100%)</b>	<b>44,463</b>	<b>42,298</b>	<b>41,224</b>
export	17,567	16,699	14,296
transit	9,979	9,989	9,989
domestic market	16,917	15,610	16,939
<b>Kazakhstan–China Pipeline (100%)</b>	<b>16,200</b>	<b>15,883</b>	<b>17,412</b>
export	859	571	967
transit	9,979	9,979	9,979
domestic market	5,362	5,333	6,465
<b>MunayTas (100%)</b>	<b>3,232</b>	<b>3,321</b>	<b>4,273</b>
export	1,998	1,595	1,572
domestic market	1,234	1,726	2,701
<b>Caspian Pipeline Consortium (100%), export</b>	<b>63,256</b>	<b>59,027</b>	<b>60,728</b>

### Structure of oil transportation by destination in 2021, %

Company	Export	Transit	Domestic market
KazTransOil	35	24	41
Kazakhstan–China Pipeline	6	57	37
MunayTas	37	n/a	63
Caspian Pipeline Consortium	100	n/a	n/a

### Oil transportation turnover, mt\*km

Company	2019	2020	2021
KazTransOil (100%)	37,658	35,899	35,162
Kazakhstan–China Pipeline (100%)	14,590	14,368	15,592
MunayTas (100%)	1,232	1,322	1,725
Caspian Pipeline Consortium (100%)	82,997	77,207	79,446

### Oil transportation turnover (net to KMG), mt\*km

Company	2019	2020	2021
KazTransOil (100%)	37,658	35,899	35,162
Kazakhstan–China Pipeline (50%)	7,296	7,185	7,796
MunayTas (51%)	628	674	879
Caspian Pipeline Consortium (20.75%)	17,222	16,020	16,485

<sup>1</sup> Consolidated volume of oil transported includes the transportation volume of each individual pipeline company, including the operating share of KMG (excluding KTO). Part of the oil volumes can be transported by two or three pipeline companies, and these volumes are accordingly counted more than once in the consolidated volume of oil transportation.

Volume of oil transportation (net to KMG), ths tonnes<sup>2</sup>

Company	2019	2020	2021
KazTransOil (100%) <sup>3</sup>	44,463	42,298	41,224
Kazakhstan–China Pipeline (50%)	8,100	7,942	8,706
MunayTas (51%)	1,648	1,694	2,179
Caspian Pipeline Consortium (20.75%)	13,126	12,248	12,601
<b>Total</b>	<b>67,337</b>	<b>64,181</b>	<b>64,710</b>

## Tariffs for oil transportation to the domestic market, KZT per tonne per 1,000 km

Company	2019	2020	2021
KazTransOil	4,772 (4,717 from 01.09.2019)	4,110	4,356 (4,328 from 01.12.2021)
Kazakhstan–China Pipeline	7,158	6,456 (7,158 from 01.02.2020)	4,323.7
MunayTas	5,724 (5,912 from 01.07.2019)	5,457.3 (5,912 from 25.12.2020)	5,912

## Tariffs for oil transportation for export

Company	2019	2020	2021
KazTransOil, KZT per tonne per 1,000 km	6,399	6,399 (7,359 from 01.03.2020)	7,359
Kazakhstan–China Pipeline, KZT per tonne per 1,000 km	6,799	6,799	6,799
MunayTas, KZT per tonne per 1,000 km	5,912	5,912	5,912
Caspian Pipeline Consortium, USD per tonne	38	38	38

## Tariffs for transit to China, USD per tonne

Company	2019	2020	2021
KazTransOil	4.23	4.23	4.23
Kazakhstan–China Pipeline	10.77	10.77	10.77

## Tariffs for trunk pipeline oil transportation

The tariffs for crude oil transportation to Kazakhstan's domestic market are regulated by the government.

According to Law of the Republic of Kazakhstan No. 204-VI on Natural Monopolies dated 27 December 2018, oil transportation services to support transit via the territory of the Republic of Kazakhstan and exports outside the Republic of Kazakhstan are beyond the scope of natural monopolies.

Oil transportation by sea  
Transportation assets**NMSC Kazmortransflot LLP (KMTF)**

is the National Sea Carrier. Its assets include:

- merchant fleet: owned oil tankers: Astana, Almaty and Aktau, each with a deadweight of 12,000 tonnes; and Aframax oil tankers – Alatau and Altai, each with a deadweight of 115,000 tonnes;
- marine support fleet: 8 barge platforms of KMG series with a capacity of 3,600 tonnes each;
- fleet to support Tengizchevroil's Future Growth Project: 3 Caspian-class barges (MCV) – Barys, Berkut and Sunkar with a capacity of 5,200 tonnes each, and 3 tugboats – Talas, Emba and Irgiz with a bollard pull of 40 tonnes-force each.

The main current routes for oil transportation by sea:

- Routes in the Caspian Sea waters
- Routes in the Black Sea and Mediterranean Sea waters.

<sup>2</sup> Consolidated volume of oil transported includes the transportation volume of each individual pipeline company, including the operating share of KMG (excluding KTO). Part of the oil volumes can be transported by two or three pipeline companies, and these volumes are accordingly counted more than once in the consolidated volume of oil transportation.

<sup>3</sup> Since KTO is fully operated by KMG, transportation volumes are reported as 100%.

### Performance highlights

In 2021, the total volume of transportation by sea increased moderately by 865 ths tonnes year-on-year to 9,855 ths tonnes. The improvement was due to higher transportation volumes in the Mediterranean Sea as a result of the recovery in the market for oil transportation by sea.

In March 2021, the Company completed the conversion of an MCV ship Barys into a container ship. Container cargoes will be shipped along the Aktau–Baku–Aktau feeder line. Also, KMTF signed an agreement with KTZ Express Shipping LLP that will see KMTF obtain the right of ownership to bulk carriers.

In May, KMTF became the owner of two bulk carriers: Beket–Ata and Turkestan.

### Transportation volumes, ths tonnes

Sea	2019	2020	2021
Black Sea and Mediterranean Sea	10,186	8,361	9,318
Caspian Sea	543	629	537
<b>Total</b>	<b>10,729</b>	<b>8,990</b>	<b>9,855</b>

### Oil transportation turnover, mt\*km

Sea	2019	2020	2021
Black Sea and Mediterranean Sea	9,676	7,942	8,852
Caspian Sea	165	197	167
<b>Total</b>	<b>9,841</b>	<b>8,139</b>	<b>9,019</b>

In Q3 2021, all obligations were honoured to Al Hilal Islamic Bank JSC as part of an ijara Mawsufah Fi Al Thima agreement. In addition, a general

agreement on container shipping along the Baku–Turkmenbashi–Baku route was signed between KMTF and ADY Container LLC.

