

GAS TRANSPORTATION AND MARKETING

The Company's key strategic focus in gas transportation and marketing development is on growing gas exports to China, producing high value-added gas products for domestic and export sales, ensuring efficient gas consumption in the domestic market, and enhancing transit capabilities.

KMG prioritises meeting the consumer needs reliably and efficiently while diversifying gas sales markets. The throughput capacity of the gas transportation infrastructure has been aligned with the potential growth in domestic gas production. With timely investments into the gas transportation system, KMG has been able to supply the country's regions with natural gas and grow the potential of export supply routes. JSC KazTransGas, KMG's wholly-owned subsidiary, is the operator of our gas transportation system.

GAS PIPELINE INFRASTRUCTURE

JSC KazTransGas (KTG) is Kazakhstan's national gas and gas supply operator. KTG operates the centralised infrastructure for commercial gas transportation via trunk pipelines and gas distribution networks, supports international transit and marketing of gas on the domestic and foreign markets, as well as designs, finances, builds and operates gas pipelines and gas storage facilities.

KTG operates the largest trunk gas pipeline network in Kazakhstan with a total length of 20,000 km, including 1,900 km of pipeline branches, as well as gas distribution networks with a total length of over 56,000 km. Gas transportation is supported by 42 compressor stations and 238 compressor units.

Intergas Central Asia (ICA) is the national gas pipeline operator and a wholly-owned subsidiary of KTG.

Today, ICA carries out export, internal transportation and transit of natural gas within the territory of Kazakhstan through gas pipelines with a total length of 12,481 km and a 164 bln m³ per year capacity.

ICA operates three underground gas storages (UGS):

- ◆ Bozoyskoye UGS in the Aktobe Region
- ◆ Poltoratskoe UGS in the South Kazakhstan Region
- ◆ Aktyrbinskoye UGS in the Zhambyl Region

Asia Gas Pipeline LLP is a 50/50 joint venture between JSC KazTransGas and Trans-Asia Gas Pipeline Company Ltd. (shareholder – CNODC, a subsidiary of CNPC), launched to finance, build and operate the Kazakhstan–China gas pipeline. The purpose of the project is to facilitate the transit of Turkmen and Uzbek gas to China, exports of Kazakh gas to China, as well as uninterrupted gas supply to southern regions of Kazakhstan. The pipeline comprises three strings: A and B, with a total length of 2,612 km and throughput capacity of 30 bln m³ per year, and the 1,304 km String C with a throughput capacity of 25 bln m³ per year.

Beineu-Shymkent Gas Pipeline LLP is a 50/50 joint venture between JSC KazTransGas and Trans-Asia Gas Pipeline Company Ltd. (shareholder – CNODC, a subsidiary of CNPC). The project is of paramount strategic importance to the Republic of Kazakhstan, as it supplies the natural gas needs of Kazakhstan's southern regions, enables diversification of Kazakhstan's gas exports, ensures energy security of the country, and builds a unified gas transportation system.

Management company	JSC Intergas Central Asia (ICA)	Asia Gas Pipeline LLP	Beineu–Shymkent Gas Pipeline LLP	JSC KazTransGas Aimak (KTGA)
Interest	KTG: 100%	KTG: 50%	KTG: 50%	KTG: 100%
Key destinations	Exports, domestic market and transit	Exports and transit to China, domestic market	Exports to China, domestic market	Trunk pipeline gas transportation to the domestic market, transportation via gas distribution systems
Key routes	Kazakhstan, Russia, Uzbekistan and Turkmenistan	Kazakhstan–China	Beineu–Bozoi–Shymkent	n/a
Total length, km	12,481	3,916	1,450	56,058 – gas distribution systems 975 – trunk pipelines
Capacity, bln m ³ per year	164	55	15	3 – trunk pipelines

The Beineu–Bozoi–Shymkent trunk gas pipeline is the second section of the Kazakhstan–China gas pipeline. The gas pipeline connects the western oil and natural gas fields with the southern regions of the country, as well as with the Bukhara gas-bearing region – Tashkent–Bishkek–Almaty gas pipeline, the Gazli–Shymkent gas pipeline and String C of the Central Asia–China gas pipeline. The actual length of the Beineu–Shymkent gas pipeline is 1,450 km, and its capacity is 15 bln m³ per year.

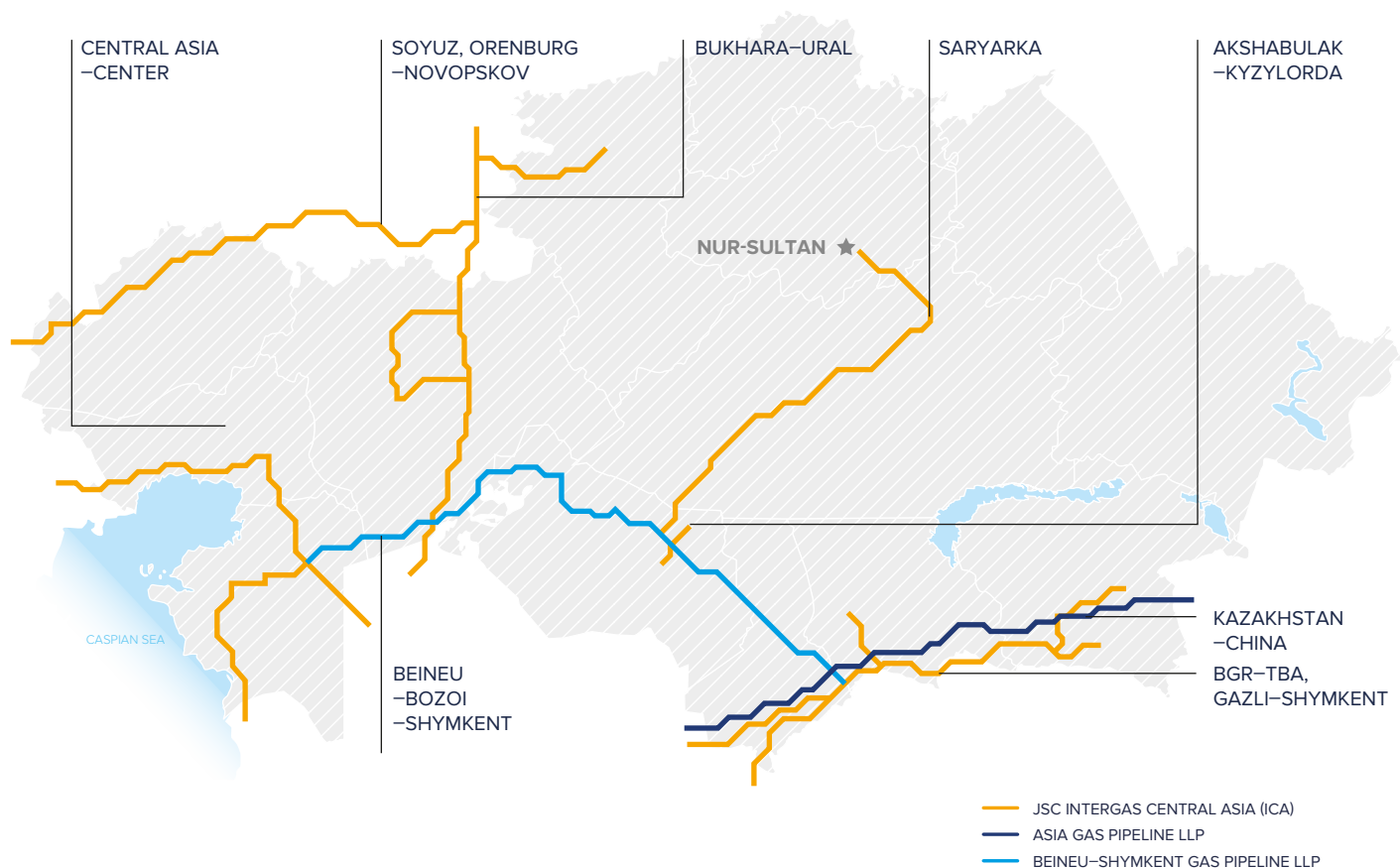
Further project development will be driven its capacity expansion to 15 bln m³ per year. To achieve this ambition, the company commissioned four compressor stations – Aral, Korkyt-Ata, Turkestan and 1A, and is advancing expansion projects for its existing compressor station No. 1 Bozoi and gas metering stations Akbulak and Beineu.

JSC KazTransGas Aimak (KTGA) is the largest gas distributor in Kazakhstan, operating 57,000 km of distribution and trunk gas pipelines across all ten regions and three cities of national significance connected to the gas grid.

KazTransGas Aimak's key objectives:

- ◆ Ensuring commercial gas supplies
- ◆ Transportation of gas via distribution networks
- ◆ Management of gas transportation assets in the regions

Company	Trunk gas pipeline/gas pipeline	Length, km	Capacity, bln m ³ per year
Intergas Central Asia	Soyuz, Orenburg–Novopskov	1,147	68.4
	Central Asia–Center	5,306	50.8
	Bukhara–Ural	2,382	31.5
	BGR–TBA ¹ , Gazli–Shymkent	2,462	10.2
	Akshabulak–Kyzylorda	123	0.4
	Saryarka ²	1,061	2.7 ³
Asia Gas Pipeline	Kazakhstan–China	3,916	55
Beineu–Shymkent Gas Pipeline	Beineu–Bozoi–Shymkent	1,450	15



¹. The Bukhara gas-bearing region – Tashkent–Bishkek–Almaty.

². Saryarka trunk gas pipeline was leased to ICA, but is owned by JSC AstanaGaz KMG, which has JSC Samruk-Kazyna and JSC Baiterek Venture Fund as its shareholders (50%/50%).

³. For the 1st stage of the gas pipeline, the design and actual capacity is 2.2 bln m³ per year.

TRUNK PIPELINE GAS TRANSPORTATION

Volume of gas transportation, mln m³

Company	2018	2019	2020
Intergas Central Asia (100%)	80,134	72,961	57,753
export	18,873	19,069	12,687
transit	47,693	40,229	30,788
domestic market	13,568	13,663	14,278
Asia Gas Pipeline (100%)	49,270	45,870	39,776
export	5,484	7,090	7,011
transit	42,960	38,280	31,878
domestic market	826	500	886
Beineu–Shymkent Gas Pipeline (100%)	8,352	10,087	12,694
export	5,255	7,091	7,011
domestic market	3,097	2,996	5,682
KazTransGas Aimak (100%), domestic market	2,622	2,554	2,603

Gas turnover (commodity transportation volumes), mln m³*km

Company	2018	2019	2020
Intergas Central Asia (100%)	19,543	22,325	16,302
Asia Gas Pipeline (100%)	62,167	57,470	49,337
Beineu–Shymkent Gas Pipeline (100%)	12,146	14,669	17,831

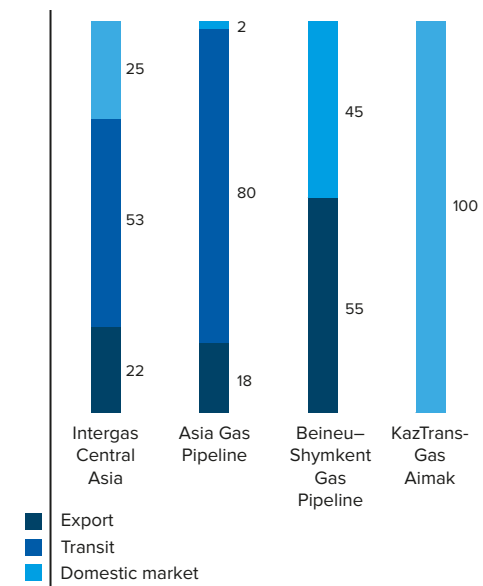
Gas turnover (commodity transportation volumes) (net to KMG), mln m³*km

Company	2018	2019	2020
Intergas Central Asia (100%)	19,543	22,325	16,302
Asia Gas Pipeline (50%)	31,084	28,735	24,669
Beineu–Shymkent Gas Pipeline (50%)	6,073	7,334	8,915

Gas transportation volumes (net to KMG), mln m³

Total trunk pipeline gas transportation	2018	2019	2020
Intergas Central Asia (100%)	80,134	72,961	57,753
Asia Gas Pipeline (50%)	24,635	22,935	19,888
Beineu–Shymkent Gas Pipeline (50%)	4,176	5,044	6,347
KazTransGas Aimak (100%)	2,622	2,554	2,603
TOTAL	111,567	103,494	86,590

Structure of oil transportation by destination in 2020, %



In 2020, volumes of KMG's trunk pipeline gas transportation were down by 16,904 mln m³ to 86,590 mln m³, mainly due to declines in Central Asian gas transit volumes to China, lower Russian transit gas flows transported by Gazprom via Kazakhstan, falling exports of the Karachaganak gas to Russia and lower gas exports from Tengiz due to declines in its production.

GAS DISTRIBUTION AND REGIONAL EXPANSION OF GAS INFRASTRUCTURE

Gas distribution and expansion of gas infrastructure in Kazakhstan's regions

Construction of the Saryarka trunk gas pipeline

Between June and December 2020, as part of preparations for Phase 2 and Phase 3 construction of the Saryarka trunk gas pipeline (the 482.8 km Nur-Sultan–Kokshetau–Petropavlovsk section), the project feasibility study was adjusted, increasing the pipeline's maximum throughput capacity from 3.6 bln m³ to 4.5 bln m³ per year. The Saryarka gas pipeline will ensure a reliable gas supply to the central regions and the capital of Kazakhstan, delivering a multiplier effect for the national economy and significantly improving the overall environmental situation in the country.

Phase 1 facilities (the 1,060.6 km Kyzylorda–Zhezkazgan–Karaganda–Temirtau–Nur-Sultan section), including automated gas distribution stations Zhezkazgan, Karaganda, Temirtau, Astana-1 and Astana-2, were commissioned in December 2019. The pipeline is owned by JSC AstanaGaz KMG, which has JSC Samruk-Kazyna

and JSC Baiterek Venture Fund as its shareholders (50%/50%). In February 2020, the Saryarka gas pipeline was leased out to JSC Intergas Central Asia, the national gas pipeline operator.

Construction of the gas distribution infrastructure for the 1st and 2nd start-up complexes of Phase 2 in Nur-Sultan (residential areas Internatsionalny, Michurino and Kuygenzhar)

Pre-construction design and survey activities are in progress for the 1st and 2nd start-up complexes of Phase 2 under the integrated design and construction services contract. The 1st start-up complex will supply gas from AGDS-2 to the main gas distribution stations Vostok and Yugo-Vostok; the 2nd start-up complex will distribute gas from the Vostok station to residential areas Internatsionalny, Michurino and Kuygenzhar as well as to boiler houses. All works, including construction and installation, are scheduled for completion by 31 August 2021.

Construction of a gas supply pipeline link to five communities (Masanchi, Karakemer, Sortobe, Bular Batyr and Aukhatty) in the Korday District of the Zhambyl Region

In 2020, the construction of the 42 km high-medium pressure gas supply pipeline connecting five communities (Masanchi, Karakemer, Sortobe, Bular Batyr and Aukhatty) to the grid was completed in the Korday District of the Zhambyl Region.

As a result of the project, natural gas is now supplied to 10 locations, with over 62,000 people, 7,177 houses, 29 social infrastructure facilities and 243 SMEs. Plans for the future include expanding gas infrastructure to seven locations more.

GAS MARKETING

As the national gas and gas supply operator, KazTransGas exercises the government's preemptive right to purchase raw and/or commercial gas from subsoil users/suppliers.

In accordance with the law, subsoil users send commercial proposals to the national operator, indicating the volumes, price and delivery point for the proposed supply of raw and/or commercial gas. The national operator uses its own judgement to decide whether to exercise or waive the government's preemptive right.

Gas resources, mln m³

Indicator	2018	2019	2020
Gas purchase volumes	23,297	24,200	23,313
Kazakh subsoil users/suppliers	17,209	16,435	19,879
Companies with KMG participation	10,195	9,537	14,113
Third parties	7,014	6,898	5,766
Gas imports	6,088	7,765	3,434
Russia	3,216	5,054	3,434
Uzbekistan	2,872	2,710	0

Currently, the national operator exercises the government's preemptive right to acquire gas from the following companies with KMG interest:

- ◆ JSC Embamunaigas (100%)
- ◆ JV Kazgermunai LLP (50%)
- ◆ Kazakhoil Aktobe LLP (50%)
- ◆ Kazakhturkmunay LLP (100%)
- ◆ KazMunayTeniz LLP (100%).

The gas supplied by the above companies is marketed in the domestic market.

Companies with a KMG interest that are exempt from the government's preemptive right to acquire gas:

- ◆ Amangeldy Gas LLP (100%)
- ◆ KazGPZ LLP (100%)
- ◆ Tengizchevroil LLP (20%)
- ◆ Karachaganak Petroleum Operating B.V. (10%)
- ◆ North Caspian Operating Company N.V. (8.44%)

The above companies all sell gas domestically and for export.

Commercial gas sales volumes in 2020 were down by 0.5% to 22.7 bln m³, mainly due to reduced commercial gas exports to Russia and Uzbekistan. Gas exports totalled 7.9 bln m³, of which about 89% were sent to China.

Sales of commercial gas by KazTransGas, mln m³

Indicator	2018	2019	2020
Export	8,917	8,806	7,852
Russia	2,350	1,000	560
Kyrgyzstan	275	264	281
Uzbekistan	807	452	0
China	5,484	7,091	7,011
Domestic market	13,999	14,028	14,811
Total	22,915	22,834	22,663