

Exports of the republican gas amounted to 17.3 bcm or 126.3% against the level of 2016. In 2017, Kazakhs gas was exported for the first time to China. The volume of supplies amounted to 1.1 bcm. In 2018, it is planned to expand economic cooperation between Kazakhstan and China and increase gas exports to 10 bcm.

Kazakhstan produced 2.9 million tons of liquefied gas (108.2% to 2016) and 31.6 bcm of commercial gas (110.9% to 2016).

Operating results

Oil production

EMG has eight contracts for oil exploration and production at 43 fields, of which 33 oil and gas fields are at the development stage and nine fields are yet to be developed (Tazhigali, Iskine, Dossor, Makat, Tyulyus, Komsomolsky, Sagiz, Bek-Beke, Tanatar), one field is under the pilot development.

The operating well stock as of January 1, 2018 amounted to 2,237 wells, including 2,107 operating wells, 65 non-operating wells, 60 wells waiting for physical abandonment and five wells at the stage of development. The operating injection well stock as of January 1, 2018 was composed of 455 wells, including 410 operating wells, 37 non-operating wells and eight wells waiting for physical abandonment.

The plan provides for the commissioning of 45 new oil wells. In fact, 41 oil wells were put into operation in full. As of January 1, 2018, two wells were under development (No. 534, No. 538 named after S. Nurzhanov), two wells were completed by drilling. Oil production at new wells for 2017 amounted to 51.96 thousand tons with a plan of 69.175 thousand tons. Non-fulfillment of the plan was due to the late start of operations and prolongation of the period of well development.

286 wells were overhauled. Well heads of 54 wells were re-equipped.

Most of the Company's fields are at a late stage of development, and a share of hard-to-recover deposit reserves is constantly growing. Stabilization of the oil production level in recent years has been achieved through the use of a set of measures: new well drilling, overhaul and current repair of wells, systemic operation of the well stock, increasing the operating factor, increasing a well workover interval, introduction of advanced technologies and optimization of the field development system.

Today, in order to increase the oil recovery factor, Embamunaygas JSC, along with traditional methods of increasing oil recovery, applies new technologies with the involvement of leading Kazakhstan research institutes. New technologies are actively introduced to increase a well workover interval.

Oil production within Embamunaygas JSC was planned for 2017 in the amount of 2,840,000 tons, and the actual production reached the level of 2,840,015 thousand tons (100% fulfillment). 0.015 thousand tons of oil were produced above the plan. At the same time, an average daily oil production rate amounted to 7.780 thousand tons/day. Oil delivery for 2017 was fulfilled by 100%: 2,805,867 tons of oil were delivered with the plan of 2,805,850 thousand tons. 0.017 thousand tons of oil were delivered above the plan.



Oil production in Embamunaygas JSC, thousand tons

Transfer and acceptance point	2015	2016	2017		
	Fact	Fact	Plan	Fact	Deviation
Embamunaygas JSC	2,823.04	2,832,008	2,840.00	2,840.02	0.015
Including oil and gas production departments:					
Zhaiymunaygas	960,335	954,171	955.8	953,679	-2.121
Zhylyoimunaygas	962.6	989.14	1 029.20	1,034.93	5.725
Dossormunaygas	411.75	404,283	376	371,531	-4.469
Kainarmunaygas	488,355	484,414	479	479.88	0.877

As you can see from the Table above, the oil production plan for Zhaiymunaygas OGPD (S. Balgimbayev, South-East Kamyshtoviy, Zhanatalap) and Dossormunaygas OGPD (V. Makat and Botakhan fields) was not fulfilled. The main deviation was caused by the excess of the fall in the base production rate and the delay in the schedule for implementing geological and technical measures due to the late performance of tender procedures and late commencement of drilling operations.

Associated gas production

Associated gas production is carried out at 25 fields of Embamunaygas JSC.

Associated gas production, bcm

Indicator	2015	2016	2017		
	Fact	Fact	Plan	Fact	Deviation
Associated gas production	187,916	191,649	199,737	199,755	0.18

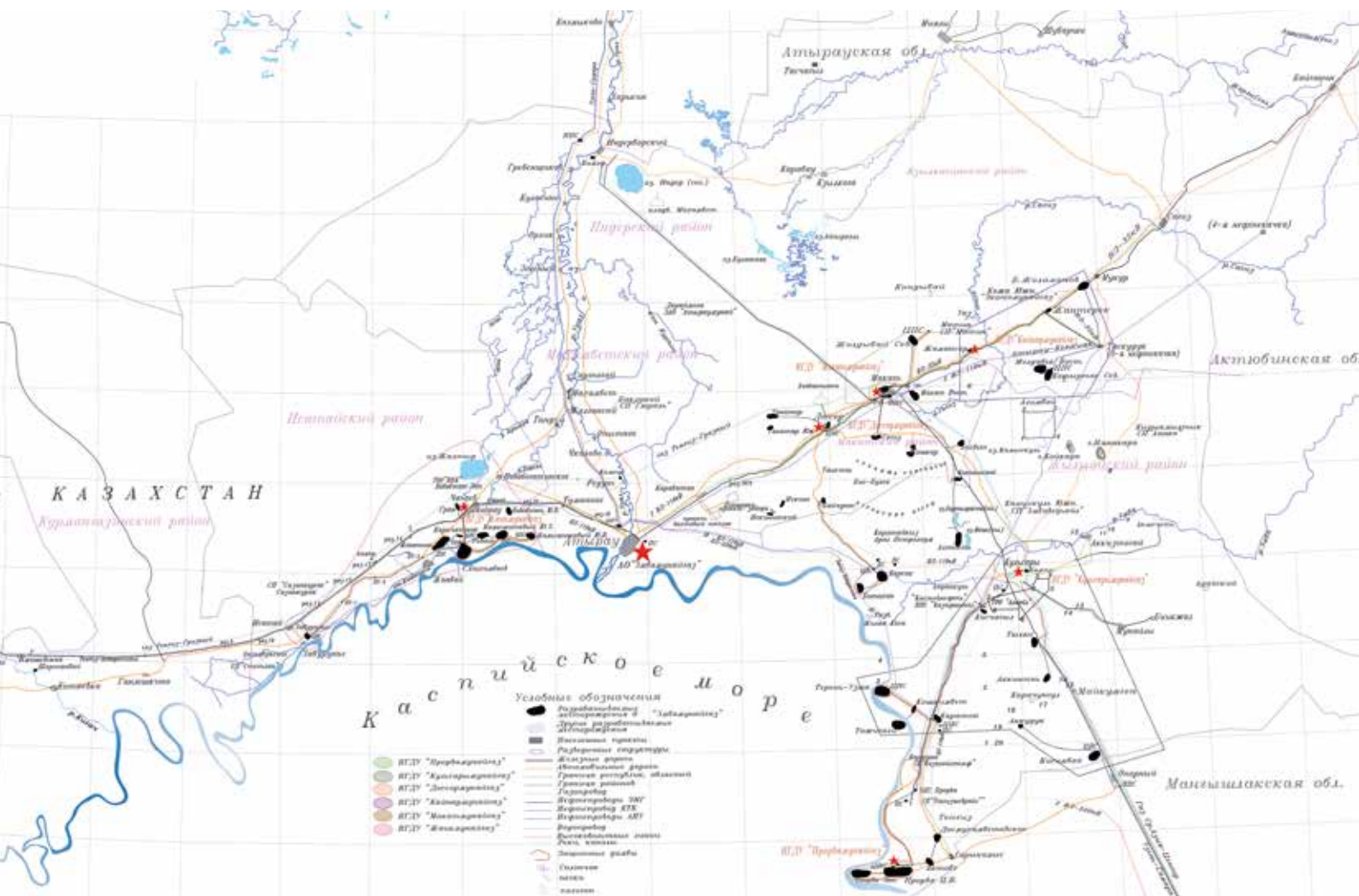
Geological exploration

Currently, the basic area of activities for EMG JSC is to strengthen the resource base through geological exploration. The Company works on a systematic basis to analyze data for the performance of geological exploration operations at promising above-salt and sub-salt sites.

In the reporting year, the Company continued performing geological exploration on the licensed areas of Taisoigan, Liman, Karaton-Sarkamys, which revealed a number of promising structures for prospecting and exploratory drilling for the purpose of searching for hydrocarbon deposits in Cretaceous, Jurassic, Triassic and deep sub-salt sediments. Also, supplementary exploration operations are being performed at existing fields with the aim to expand oil-bearing contours based on 3D seismic and well drilling data, identify overlooked horizons based on GIS data, as well as transfer hydrocarbon reserves from C2 category to C1 category.

Area of operations of Embamunaygas JSC

In the course of its activities, EMG JSC actively applies new technologies, uses advanced developments in the field of geology and geophysics (seismic data processing using Multifocusing technology, ES360, a complex of geological and geophysical studies, geochemical studies, etc.). The use of innovative technologies increases the efficiency of geological exploration operations. Today, with the help of new computer technologies, geological models are created for well planning (design), estimation of hydrocarbon reserves, evaluation of uncertainties and risks, and preparation of a basis for hydrodynamic modeling.



In the reporting year, EMG drilled 13 exploratory wells with a total interval of 28,354 meters. As a result of drilling U-23 and U-26 wells, the oil-bearing capacity of the Middle Triassic deposits on the northeastern wing of Taisoigan structure was established. When testing 1025-1028, 1003-1005 and 984-986-meter intervals of U-23 well and 943-945-meter interval of U-26 well, water-free oil and gas flow to surface was received.

In 2016, the oil-bearing capacity of Triassic deposits on the northwestern wing of S. Nurzhanov field was established by drilling a directional exploratory well of NSV-1 block of Karaton-Sarkamys area: an oil flow to surface at the rate of 132 m³/day with a 7-mm choke was obtained from the 3291-3304 m interval (T-II-A horizon).

In 2017, the NSV-2 block was drilled, in which an oil flow to surface from the 3258-3269 m interval (T-II-A) was also obtained. Following the results of work performed, an operational evaluation of hydrocarbon reserves was carried out and the deposit was put into trial operation.

Two deposits were discovered on Liman contract area: Novobogat South-East and Central Novobogatinskoye. Hydrocarbon reserves of these deposits have been included in the State Register of Mineral Reserves. The deposits are in trial operation.

Overview of capital expenditures

In 2017, capital expenditures of EMG JSC exceeded 38 billion tenge. More than 30% of investments were spent on construction work in connection with the implementation of strategic projects. Approximately 20% of expenditures were accounted for each of the following activities: operational drilling, procurement of fixed and intangible assets as well as prospecting and exploration.

Capital expenditures, million tenge

Expenditure item	2013	2014	2015	2016	2017
Construction work	13,749	12,333	10,685	30,989	12,618
Operational drilling	13,232	13,279	9,213	8,253	8,632
Procurement of fixed and intangible assets	5,004	4,556	5,564	3,536	8,375
Prospecting and exploratory drilling	3,792	3,225	2,163	4,620	8,118
Other	740	15,606	549	1,271	304
Total CAPEX	36,518	48,999	28,174	48,669	38,047

In the period of 2014–2017, a major investment project was implemented – construction of a complex facility for treatment of associated petroleum gas from Prorva group of fields with a capacity of 150 million m³ of gas per year, totaling to 35 billion tenge.

The constructed facility is intended for associated gas utilization at Prorva group of fields (S. Nurzhanov field, West Prorva, Aktobe, Dosmukhambetovskoye fields) in Zhylyoi district of Atyrau region.

This project has allowed the Company to completely eliminate gas flaring and increase oil production of Zhylyoimunaygas OGPD at Prorva cluster.

Commercial gas is transported through the field gas pipeline of Tolkyngas treatment plant – gas gathering station; stable gas condensate is used for own needs.

More than 500 temporary jobs were created during the construction of the gas treatment plant. After the plant was put into operation, Embamunaygas JSC created a new gas treatment and sulphur production shop of the Production Department for the development of Prorva group of fields of Zhylyoimunaygas OGPD with a staff number of more than 100 new permanent jobs.