



«TÜRKMENGAZ» DÖWLET KONSERNI

THE STATE CONCERN
“TURKMENGAS”

ГОСУДАРСТВЕННЫЙ
КОНЦЕРН «ТУРКМЕНГАЗ»



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THE STATE CONCERN “TURKMENGAS”



The State concern “TurkmenGas”, being one of the largest energy enterprises in the world, carries out exploration, production, preparation, transportation and processing of natural gas.

Turkmenistan ranks fourth in the world in terms of natural gas reserves. With enormous energy potential, our country is consistently building a multi-vector infrastructure for the export of clean fuel to world markets. Projects implemented in this area play large role in ensuring regional and global energy security.

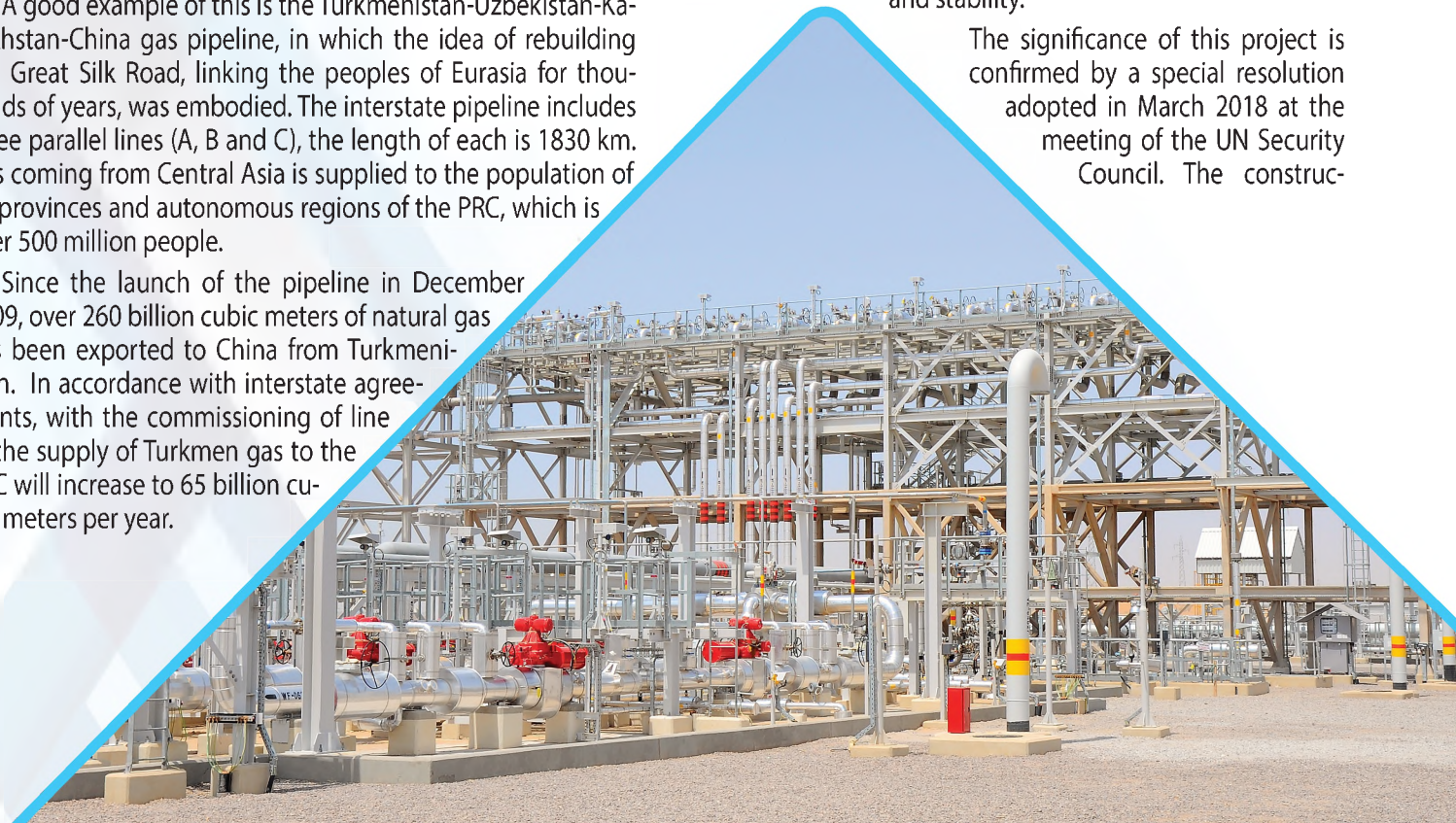
A good example of this is the Turkmenistan-Uzbekistan-Kazakhstan-China gas pipeline, in which the idea of rebuilding the Great Silk Road, linking the peoples of Eurasia for thousands of years, was embodied. The interstate pipeline includes three parallel lines (A, B and C), the length of each is 1830 km. Gas coming from Central Asia is supplied to the population of 22 provinces and autonomous regions of the PRC, which is over 500 million people.

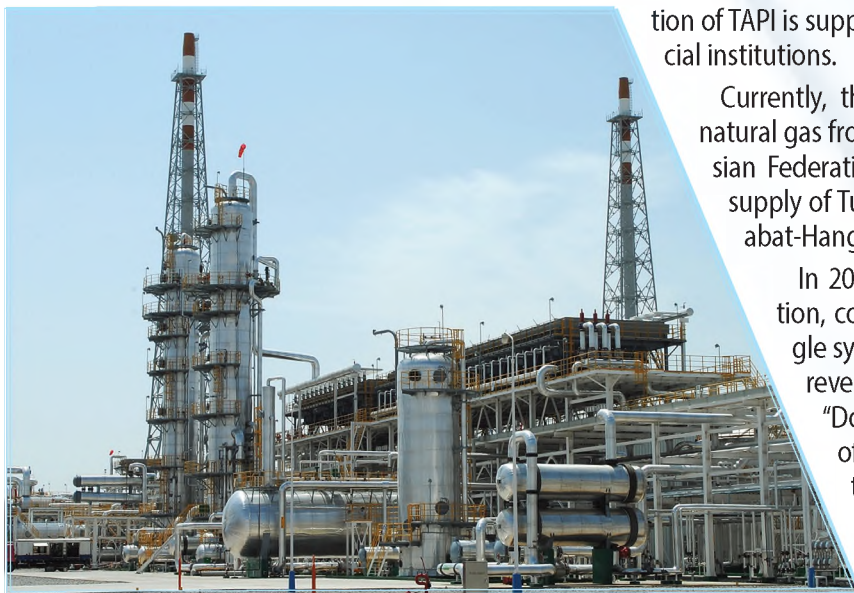
Since the launch of the pipeline in December 2009, over 260 billion cubic meters of natural gas has been exported to China from Turkmenistan. In accordance with interstate agreements, with the commissioning of line D, the supply of Turkmen gas to the PRC will increase to 65 billion cubic meters per year.

Another strategically important initiative is the construction of the Turkmenistan–Afghanistan–Pakistan–India (TAPI) gas pipeline, with a total length of over 1840 kilometers and a throughput capacity of 33 billion cubic meters of gas per year.

As the President of Turkmenistan Gurbanguly Berdimuhamedov emphasizes, the new energy route through which long-term deliveries of natural gas to the largest countries of Southeast Asia will be provided, will give a powerful impetus to the economic development of the region, will contribute to solving social and humanitarian issues, strengthening peace and stability.

The significance of this project is confirmed by a special resolution adopted in March 2018 at the meeting of the UN Security Council. The construc-





tion of TAPI is supported by many states, as well as international financial institutions.

Currently, the State concern "Turkmengas" supplies Turkmen natural gas from the Dovletabat-Deryalyk gas pipeline to the Russian Federation. There are also technical opportunities for the supply of Turkmen gas from the Korpėje-Gurtguyy and Dovletabat-Hangeran gas pipelines in a southerly direction.

In 2015, the East-West gas pipeline was put into operation, connecting all the country's gas pipelines into a single system. Thanks to this, it became possible to carry out reverse deliveries of gas from large natural gas fields "Dovletabat", "Yashlar", "Galkynysh" located in the east of Turkmenistan to the velayat province. In addition, the East-West gas pipeline can be used to export Turkmen energy to international markets through the Caspian Sea.

The Trans-Caspian gas pipeline project is not removed from the agenda either. After signing the Convention on the legal status of the Caspian Sea, work in this direction was intensified in order to develop a mechanism to ensure the supply of Turkmen "blue fuel" to European markets.

The industrial development of the world's largest gas field, the Galkynysh, is underway at an intensive pace, the reserves of which, together with the Yashlar and Garakel fields, are estimated at almost 27 trillion cubic meters. Earlier, three gas processing complexes with a total capacity of 30 billion cubic meters of "blue fuel" were commissioned here. At the moment, the production fund of the field, which area is more than 4 thousand square kilometers, the flow rate of each well is on average equal to 2 million cubic meters of gas per day.

In addition, a contract was concluded with the Japanese company Mitsubishi Corporation for the preliminary technical design of a plant for the production of 10 billion cubic meters of market-

able gas per year, which is planned to be built as part of the next stage of development of Galkynysh.

Fruitful cooperation has been established with the China National Petroleum Corporation (CNPC), which, under the terms of the Production Sharing Agreement, develops fields in the Bagtyarlyk contract area, that has become one of the sources of raw materials for the Central Asia-China transnational gas pipeline. Seismic surveys conducted on the right bank of the Amyderya River, drilling exploration and production wells made it possible to identify large gas deposits here.

Great prospects are associated with the development of deposits in the Turkmen sector of the Caspian Sea. Today, experts estimate its reserves at 12.1 billion tons of oil and condensate, as well as 6.1 trillion cubic meters of gas.

Today, the partner of the State concern "Turkmengas", "PETRONAS Carigali (Turkmenistan) Sdn Bhd" (Malaysia)

actively works here and carries out the development of hydrocarbons in the contract area "Block-1". The total investment is about \$11 billion. Currently, the Magtymguly and Diyarbekir fields are intensively producing oil, gas and condensate. Drilling is also underway in the western part of the Garagol Deniz field.

Among the priority areas for the further development of the gas industry of Turkmenistan is the creation of large polymer production facilities, which are the main component for the production of hundreds of types of products used in industry, construction, transport, agriculture, as well as a wide range of household goods.

In October 2018, a polymer plant was commissioned in the village of Gyyanly, the Balkan velayat, built by order of the State concern "Turkmengas" by Hyundai Engineering Co., Ltd and LG International Corp (Republic of Korea) with the participation of TOYO Engineering Corporation (Japan).

The production facilities of the complex allow to process 5 billion cubic meters of natural gas per year and, due to this, produce 386 thousand tons of high density polyethylene, 81 thousand tons of polypropylene. The technology of the companies "TOYO Engineering Corporation" (Japan) "Lummus Technology INC" (USA), "Ineos Sales (UK) Limited" (Great Britain), "Grace Technologies, INC" (USA) is applied.

The innovativeness of the project and environmental safety are confirmed by Certificates of reputable international organizations - the Julius Kun Institute (Germany), the Paul Scherrer Institute (Switzerland) and the Healthy Environment Foundation (USA).

The plant has mastered the production of seven types of polyethylene and five types of polypropylene, from which an extremely wide range of products for technical and domestic purposes is produced. These products are sold through the State Commodity and Raw Materials Exchange of Turkmenistan to dozens of countries.



A significant event was the commissioning in June 2019 in the Ahal velayat of the world's first plant, where synthetic gasoline from natural gas is produced on an industrial scale. The ultramodern industrial complex was built jointly by the State Concern "Turkmengas" and a consortium of Kawasaki Heavy Industries Ltd. (Japan) and Rönesans Endüstri Tesisleri İnşaat Sanayi ve Ticaret A.Ş. (Turkey).

Annually, 1 billion 410 million cubic meters of "blue fuel" will be processed here and 600 thousand tons of ECO-93 gasoline meeting the highest environmental requirements, as well as 115 thousand tons of liquefied gas, will be produced.

The industrial complex is included in the Guinness Book of Records as "The First-ever Plant for the Production of Gasoline from Natural Gas", and is also awarded the Innovation Technologies Certificates of the Swiss Federal Institute of Technology and the Ecological Clean Fund of the Environmental Protection Fund (USA).

The GTG project (gas to gasoline) is based on the TIGAS technology developed by the Danish company Haldor Topsoe, which allows, in combination with high-performance catalysts, to produce high-quality gasoline with the lowest energy consumption and minimal environmental impact. This technology received the international IChemE Global Awards 2019, established by the Institute of Chemical Engineers (UK), in the Oil and Gas nomination.

When using ECO-93 fuel in automobile exhaust, the content of sulfur oxides is reduced by 50 times, nitrogen oxides - by 5 times, carbon monoxide - by 2 times and hydrocarbons - by 20 percent, which can significantly reduce the level of harmful gas emissions into the atmosphere. In addition, the carbon deposits formed in the car engine are reduced, this extends the technical service life by 2 times.

Thus, the plant in Ahal velayat is one of the most innovative production facilities in the world. Based on this, it is planned to carry out the construction of another similar complex. The corresponding Memorandum between the State Concern "Turkmengas" and the Kawasaki Heavy Industries Ltd. and Sojitz Corporation group of companies was signed as part of the working visit of the President of Turkmenistan Gurbanguly Berdimuhamedov to Japan in October 2019.

In the future, it is planned to build new gas-chemical complexes in each velayat of the country, including the production of polyethylene and polypropylene, rubber and polystyrene, polyvinyl acetate, methanol, etc.

Thus, having made a priority for deeper and more comprehensive processing of natural gas, Turkmenistan will not only strengthen its position in the world energy market as the largest energy carrier, but will also qualitatively change the nature of its presence there by diversifying the commodity structure of energy exports and actively developing new forms international cooperation.

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