



The Role Of Kashkadarya Region In The Development Of The Oil And Gas Industry Of Uzbekistan

Olimova D.A.

Shahrisabz State Pedagogical Institute

ABSTRACT

This article describes the role and development prospects of the Kashkadarya region in the oil and gas industry of Uzbekistan, the main oil and gas fields in the region, their production capacity and economic importance, as well as the development prospects of the oil refining industry and transport infrastructure. In addition, technological, ecological and infrastructure issues necessary to increase the potential of Kashkadarya region in the oil and gas industry, the future prospects of the oil and gas industry development and the need to ensure new technologies, investments and environmental safety in this process have been highlighted.

Keywords:

Oil and gas industry, gas processing, energy resources, natural gas, export potential, environmental security, investments, energy security.

Uzbekistan is a country located in Central Asia and is rich in natural resources. In Uzbekistan, oil and gas resources are one of the main sectors of the country's economy. These resources play an important role in ensuring the country's energy security, increasing export earnings and overall economic development. Uzbekistan differs from Central Asian countries in terms of gas and oil reserves. Uzbekistan is one of the leading countries in Central Asia in terms of natural gas production. It is estimated that there are approximately 1.8 trillion cubic meters of gas reserves in the country. Gas reserves of Uzbekistan are widely distributed in the southern and western regions of the country, especially in Kashkadarya, Bukhara, Surkhandarya and Khorezm regions and the Republic of Karakalpakstan. The largest gas fields include Shurtan, Beshkent, Mubarak and other gas fields. The Shurtan gas field is one of the largest gas fields in Uzbekistan and provides a large part of the country's gas production volume. Although oil resources are relatively small in Uzbekistan, there are a number of oil

fields in the country. Uzbekistan's oil reserves are mainly located in the regions of Kashkadarya, Bukhara and Fergana Valley. The amount of oil extracted from the oil fields of Uzbekistan is relatively low, but the processing and export of these resources is economically important. The country also has an oil refining industry, with oil refineries located mainly in Bukhara and Fergana regions. An effective system of oil production and processing has been introduced in Uzbekistan, which in turn serves to ensure domestic consumption and increase export opportunities.

Kashkadarya region is located in the southern part of Uzbekistan and is one of the regions that plays an important role in the economic development of the country. The region's economic indicators, natural resources and its place in economic sectors have a great impact on the general economic activity of Uzbekistan. Kashkadarya region is an important industrial and agricultural region of Uzbekistan. The economic potential of the region mainly depends on its natural resources, various

branches of industry, agriculture and services sector. Large investments are being attracted to Kashkadarya region, especially in the fields of energy, oil and gas industry and agriculture. Investments are being attracted for the construction of new infrastructure facilities, renovation of industrial enterprises and export development. Various branches of industry, especially oil and gas, chemical, metallurgical and food industries are developing in the region. The importance of manufacturing and processing industries is increasing. About 3.5 million people live in Kashkadarya region. The population is increasing every year, which helps to expand the internal market of the region and ensure the labor force. The economic growth of the region is based on the growth in the industrial and agricultural sectors of the region. Taking into account the general economic growth rates in Uzbekistan, Kashkadarya region continues to increase its economic potential.

Kashkadarya region is rich in natural resources, which greatly affects its economic development. Major oil and gas fields of Uzbekistan are located in Kashkadarya region. In the region, there are especially gas fields such as Shurtan, Beshkent, and Mubarak. These deposits provide a large part of Uzbekistan's gas production volume. Availability of oil and gas resources is an important factor in the development of the energy sector of the region and serves to ensure the country's energy security. Kashkadarya region is rich in mineral resources and contains various minerals. Lime, calcite, gypsum, bentonite clay and other minerals are produced in the region. These resources are mainly used in construction industry, chemical industry and other industries.

The industrial sector of Kashkadarya region is developing, especially in the fields of oil and gas, chemical, metallurgical and food industries. Large industrial enterprises such as Shurtan gas processing plant, Mubarak gas processing plant are operating in the region. Other branches of industry, for example, production of building materials and metal production, are also developing.

Kashkadarya region occupies an important place in the economic map of Uzbekistan. Its natural resources, industrial and agricultural

potential ensure the economic development of the region. The region's oil and gas, chemical and other industrial sectors help to increase the energy potential of Uzbekistan, at the same time, the agricultural and service sectors make the region the main areas of economic development.

Shurtan gas field is one of the largest and strategically important gas fields of Uzbekistan. It is located in the south of Kashkadarya region and occupies an important place in the gas production capacity of the country. Shurtan gas field is located in Guzor district of the region. This field is one of the largest gas production areas in Uzbekistan, and production processes are carried out with high technologies. The total gas reserves of the field are very large and are expected to serve the gas needs of the country for many years. Shurtan gas field is of great importance in increasing the gas production potential of the country. It also plays an important role in gas processing and export together with the Shurtan gas processing plant. The gas extracted from the Shurtan field is used in many industries, including energy, chemical industry and transport. The production capacity of the Shurtan gas field is 4-5 billion cubic meters of natural gas per year. This capacity is sufficient to meet the domestic needs of the country and expands export opportunities.

Beshkent gas field is also one of the major gas sources of Kashkadarya region. This field is different from large gas fields such as Shurtan and Mubarak fields, but it also has a special place in the country's economy. The Beshkent gas field is located mainly in the south of the region and occupies an important place in the gas production network of Uzbekistan. The main part of the gas extracted from the Beshkent mine is used to meet local needs. The production capacity of this mine is close to 2-3 billion cubic meters per year, and it plays an important role in the energy supply of the region. Apart from Beshkent, there are several small gas fields in Kashkadarya region. They are mostly isolated from large deposits and may have relatively low production capacity. However, these small mines also help to improve the energy supply of the region. Effective use of small gas fields and

technological modernization will expand the gas production capabilities of the region.

The production capacity and export potential of gas fields in the Kashkadarya region will have a significant impact on the future development of Uzbekistan in the gas sector. The production capacity of large and small gas fields in the region makes up a large part of the total gas production volume. Large gas fields in Kashkadarya region, especially Shurtan, Mubarak and Beshkent fields, contribute significantly to the annual gas production volume of Uzbekistan. The Shurtan gas field and its processing plant make up a significant part of the country's gas production capacity. The gas production capacity of the region is 15-20 billion cubic meters per year, which seriously affects the total gas production volume of Uzbekistan. Gas fields in Kashkadarya region, especially Shurtan and Mubarak, play an important role in increasing gas export potential of Uzbekistan. Uzbekistan's gas exports are mainly to countries such as Central Asia, Russia and China. Gas export is an impetus to the economic growth of Uzbekistan and expands the possibilities of supplying energy resources with high added value abroad. The growth of gas production in the Kashkadarya region not only helps to meet the domestic needs of the country, but also creates new opportunities for international markets. The region has an infrastructure aimed at gas processing and export, which also serves to increase the export potential.

Natural gas resources of Kashkadarya region play an important role in increasing the country's energy potential, supporting economic growth and expanding export opportunities. The production capacity and technological capabilities of Shurtan, Beshkent and other gas fields are of great importance in the development of the gas sector of Uzbekistan. Effective use of gas fields will serve to strengthen the energy supply of the region and increase the export potential. 92 oil fields of industrial importance have been opened in Uzbekistan, of which 39 are oil fields, 25 are oil-gas and gas-oil fields, and 30 are classified as oil-gas condensate fields, and currently oil is extracted from 65 fields. At the current rate of

oil production, the explored oil reserves should have provided the needs of the republic for more than 30 years. Unfortunately, due to the fact that many of our mines have not been remedied, our production level has decreased. Nevertheless, 14 oil and gas fields from Bukhara-Khiva and Ustyurt regions are being explored, and their total reserve is 185 million tons, and the level of covering the total needs of the republic will increase. Kashkadarya region has been contributing to the development of the country's national economy, first of all, the mining and fuel-energy industry.

Currently, Kashkadarya region is the leader in terms of oil reserves. The diversity of the region's relief justifies the possession of unique natural resources. In particular, the lower part of Kashkadarya has large land areas suitable for agricultural use. At the same time, this place ranks first in our republic in terms of the abundance of oil and natural gas reserves. There are large oil and gas fields such as Kokdumalak, Mubarak, Pamuq, Shortan, Zevarda, Guzor, Southern Pamuq, Qamashi, Alan, Kultak, Kushkuduq oil fields. The largest mines here are Kokdumalak and Shortan. Kokdumaloq oil and gas condensate field is located in Mirishkor district of Kashkadarya region. It is located 12 kilometers west of the city of Karshi. In 1979-1980, the presence of Kokdumaloq structure was determined as a result of the seismic reconnaissance work carried out in the Southern Ortabulok region, and exploration works were started through deep wells. A large amount of gas with condensate was obtained from reef carbonate deposits in the 2nd well tested in 1985. In 1986, industrially important oil belonging to Upper Jurassic carbonate deposits was obtained from the 3rd well. 18 wells have been drilled in the mine, 13 of them are productive wells. The wells in the Kokdumalak mine show the presence of Jurassic, Cretaceous, Paleogene and Neogene-Quaternary deposits here. The depth of the well is up to 3631 meters. Kokdumaloq structure is located among large gas condensate fields such as Alan, Zevardi, Ortabuloq.

Kokdumalok field provides the main part of the oil and condensate obtained on the scale of the republic. On July 14, 1997, a compressor station

for pumping gas at a pressure of 500 atmospheres was put into operation. To process the oil and gas condensate of the Kokdumalak field, a modern Bukhara oil refinery was built in the Bukhara region, which produces 2.5 million tons of product per year. The Gumbulok gas condensate field is located in the Guzor district of the region and was discovered in 1956. Deep wells were drilled in the Gumbulok gas condensate field in 1967. The first well drilled revealed gas in Upper Jurassic limestones. The geological structure of the mine includes Jurassic, Cretaceous, Paleogene, Neogene and Anthropogenic deposits. According to its tectonic structure, the Gumbulok gas condensate field belongs to the Adamtash anticlinal zone. The oil pile in the field is located at a depth of 1350 meters. The gas pile is 10 km long, 2.75 km wide, and 150 meters thick. The mine is one of the productive mines. The gas in the field is methane, low nitrogen, low oil, condensate, condensate methane, light, high gasoline. The amount of gasoline in the condensate is estimated to be 70 percent.

The Zafar gas condensate field is located in the Guzor district of the region, 45 km south-east of the city of Karshi. The Zafar structure was discovered in 1974 as a result of seismic exploration. In 1978, 1 parametric well was drilled (3805 meters). As a result, the effectiveness of Jurassic deposits was known. In 1978-1987, 8 bore wells were dug in the mine, and gas deposits were found in three of the wells. Jurassic, Cretaceous, Paleogene, Neogene and Anthropogenic deposits are involved in the geological structure of Zafar gas condensate field. Tectonically, the Zafar structure is located in the Beshkent fold and is oriented to the northeast along the Jurassic deposits. The structure is 6 km long and 5 km wide. 39 objects were tested in the wells dug in the Zafar field, 12 of them were found to contain gas and one contained gas and oil. The flow of gas is from 67,000 m³/day to 575,000 m³/day. The amount of methane in the gas is 90-92%, hydrogen sulfide 0.05%, nitrogen 1.2%, carbon dioxide 3-5%. Exploration work in the mine has ended. The Zafar gas condensate field is ready for development.

Exploration and development of new deposits In order to develop the oil and gas industry of Kashkadarya region, it is necessary to explore new deposits and use their resources effectively. Introduction of new technologies, improvement of mining efficiency and development of processing networks will increase the energy potential of the region in the coming years. Modernization of technologies Introduction of new, effective technologies is important for the development of oil and gas industry in Kashkadarya region. With the help of modern technologies, it is possible to optimize extraction and processing processes, ensure environmental safety and increase energy efficiency. This not only increases production, but also helps reduce environmental impact. Development of infrastructure and transport systems Transport infrastructure plays an important role in the export of oil and gas products. Development of transport networks, construction of new export pipelines and modernization of existing networks for the export of oil and gas products in Kashkadarya region will expand prospects. Improvements in railways and roads facilitate the export of oil and gas products abroad.

Ensuring ecological safety Ensuring environmental safety is one of the important issues in the development of the oil and gas industry in Kashkadarya region. It is possible to reduce the negative impact on the environment by introducing new technologies and ensuring environmental safety in processing processes. At the same time, the development of environmentally friendly technologies ensures the production of products that meet the requirements of international markets. Investments and state support Investment plays an important role in the oil and gas industry of Kashkadarya region. Attracting private and public investments will help to accelerate the modernization and development of the industry. Government support plays an important role, especially in the areas of infrastructure, environmental security and technological development.

Kashkadarya region, as one of the centers of the oil and gas industry of Uzbekistan, is of great importance in ensuring the country's energy

security. The region's oil and gas reserves, industrial infrastructure, oil refineries and export opportunities contribute to the economic development of Uzbekistan. In the coming years, through exploration of new fields, modernization of technologies and infrastructure development, the oil and gas industry of the region will further expand and will be more successful in providing energy needs of the country and in cooperation with international markets.

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