

Kizimbayeva A.*

c.e.s., acting associate professor
NAO Caspian University of Technologies and Engineering after
S. Yessenov
Aktau c., Republic of Kazakhstan
E-mail: kizimbaeva@mail.ru
ORCID ID:0000-0002-2582-3156

Manqibayeva D.

c.e.s., acting associate professor
NAO Caspian University of Technologies
and Engineering after S.Yessenov
Aktau c., Republic of Kazakhstan
e-mail: kizimbaeva@mail.ru
ORCID ID:0000-0002-2712-1510

Mombekova G.

PhD, associate professor
H.A.Yassawi International Kazakh-Turkish
University
Turkestan, Kazakhstan
e-mail: gulmira.mombekova@ayu.edu.kz
ORCID: 0000-0002-8175-5987

GLOBAL PRACTICE OF DIVERSIFICATION OF THE OIL AND GAS SECTOR OF THE ECONOMY

Abstract. *The article considers global trends in the development of the oil and gas sector of the economy. It aims to study the world experience in oil and gas industry diversification and adapt it to the context of Kazakhstan.*

Methodology: the work uses statistical, monographic, abstract-logical, and other methods.

The originality/value of the study is to consider the experience of foreign countries in the development of diversification of the oil and gas sector of the economy.

Results: the main directions of diversification in the oil and gas sector were determined.

Keywords: *diversification, oil and gas sector, production, investments, investment projects.*

■ INTRODUCTION

Enterprises of the oil and gas complex of Kazakhstan economy, as well as the whole oil and gas industry in general, are currently implementing programs of diversification of the production process, looking for new ways to improve the competitiveness of products, stability in the industry markets, choosing a strategy for their further development. Currently, oil and gas-producing enterprises and large companies to diversify their activities are expanding the range of commodity products, quickly responding to emerging changes in the industry markets, and looking for new ways to improve performance.

The change in the structure of production diversification of oil and gas-producing enterprises has a significant impact on their development and ensures the sustainability and stability of production activities.

Any diversification is associated with attracting investments and choosing the direction of its development. The diversification of the oil and gas complex is a rather resource-intensive process that requires a comprehensive economic analysis and evaluation of the selected investment project solution for diversification of production.

In the conditions of global economic challenges, assessing the diversification efficiency of oil and gas-producing enterprises is of particular importance since diversification will have a certain impact on the regional economic development where the oil and gas company is territorially located.

■ Literature review

Diversification of the oil and gas complex of Kazakhstan is aimed at increasing the complexity of production, introducing innovative technologies, and expanding the range of commodity products with added value.

Issues of research of the category of diversification of production are disclosed in the works of some authors: Ansoff I., Rudyk N.B., Yudin A. S., Nemchenko G., Donetskaya S., Dyakonov S.S., Nemchenko G., Donetskaya S., Diakonov K., Baikin A.K.

The development of the oil and gas industry of Kazakhstan is studied by the following scientists: Egorov O.I., Chigarkina O.A., Shalbolova U.J., Egemberdieva S.M., Elpanova M.A., Niyazbekova Sh.U. Their works are devoted to the problems of improving the efficiency of integrated use and proportional development of regions, the development of new large reserves of mineral resources, the formation of a cluster in the oil industry, the formation of priority directions of oil refining, the assessment of diversification and efficiency of investment in the development of the oil and gas sector of the national economy.

■ Materials and Methods

The article considers and analyses the world experience in the oil and gas sector diversification.

The main research methods are analysis, synthesis, comparison, concretization, generalization, formalization, subject modeling, and forecasting.

■ Results and Discussion

Kazakhstan, with its rich raw material resources, is a country with a relatively high dynamic GDP per capita. Kazakhstan has started its structural transformation to expand its share of the manufacturing industry relative to other oil and gas exporting countries relatively recently. At the same time, it relies on the experience of diversification of the oil and gas complex of other oil and gas producing countries, taking into account the availability of its production capacities, resource opportunities, location of productive forces on territorial grounds, human resources, transport accessibility of markets, demand for certain commodity products and other opportunities to organize production for the manufacture and export of products with high added value. In the context of diversification of the oil and gas sector of the national economy, Kazakhstan has an opportunity to move away from dependence on oil and gas prices.

Kazakhstan, in its strategic plans for industrial-innovative development, is largely based on the practice of diversification of the world's leading resource-rich economies. Considering the experience of the "Dutch disease" [1], many countries exporting energy resources have accumulated experience and practice of diversification of their oil and gas sector.

Let us consider the practice of diversification of the oil and gas sector of the world's leading countries producing and exporting oil and gas products.

United States of America. The United States of America is the country that achieved in 2021 the highest figures in terms of oil production (more than 747 million tonnes). More than 70% of oil reserves are explored and produced in the territories of six states: Texas, North Dakota, New Mexico, Alaska, and California. The largest oil and gas producing companies are Chevron, ExxonMobil, EOG Resources, ConocoPhillips, Anadarko Petroleum, and BP (20 major companies in total). The 15 largest oil refineries produce commodity products with added value, 10 of which belong to oil and gas-producing enterprises of the USA [2].

As of 2021, the refineries have a capacity of over 15 million tonnes of primary crude oil processing. Mexico, Canada, Japan, Brazil, the Netherlands, China, South Korea, and Singapore are the main countries consuming USA petroleum products.

The COVID-19 pandemic in April 2022 affected the level of demand for US petroleum products, reducing it by 30%, the main consumption of jet fuel declined by 72%, and motor gasoline by 46%. Although by the end of the year, the consumption of petroleum products (petrol and diesel) increased by 40-45% on average, experts forecast a decline in the consumption of petroleum products by about 10% [9]. In addition, the decline in shale oil prices forced about 40 oil and gas production companies developing hydrocarbons in the northern territories of the United States to declare bankruptcy [3].

Russian Federation. The Russian Federation produced more than 562 tonnes of oil in 2023, up 5,2 million tonnes from 2021. There are 292 oil and gas production enterprises operating in Russia, of which 105 are part of the structure of 11 VINK. The share of hydrocarbon production by the structures of the vertically integrated oil and gas companies in Russia exceeds 84% of all oil and gas produced in the country [4]. The main world-famous oil and gas-producing companies in Russia are Gazprom, LUKoil, TNK, Rosneft, and Surgutneftegaz.

Currently, diversification at oil and gas-producing companies is aimed at improving technologies and infrastructure and implementing investment projects to expand the range of petroleum products and petrochemicals. There is a small share of oil companies in the diversification of their assets for RES development.

Russian oil companies today do not show great interest in investing in the development of RES on the territory of the Russian Federation due to the imperfection of the domestic market and low profitability. The adoption of the Energy Strategy by the Russian Government and price volatility in the world markets will contribute to the revision of the investment portfolio and the growth of diversification of Russian oil and gas companies of the expansion of RES products.

Global climate programs will lead to increased demand for green oil and gas, and there will be a growing trend towards low-carbon energy through the expansion of renewable energy sources. Diversification of the oil and gas sector will focus on the re-injection of hydrocarbons and increased investment in unconventional or alternative energy sources in the fields.

Russia is widely implementing diversification into oil refining, not only domestically but also abroad. LUKoil has refineries in Bulgaria, Romania, and Italy and a 45 percent stake in the Zeeland refinery in the Netherlands. Rosneft has the Ukrainian ZAO Lunnik on its balance sheet. Russian vertically integrated oil companies have bought out 141 Ukrainian petrol stations and oil depots, some of which are now for sale [5].

To meet demand in the polymer product markets, the Russian oil and gas complex, through diversification of production, introduced additional capacity in the first quarter of 2024 and increased output and sales of Russian petrochemical products compared to the analyzed period of 2023 (Figure 1).

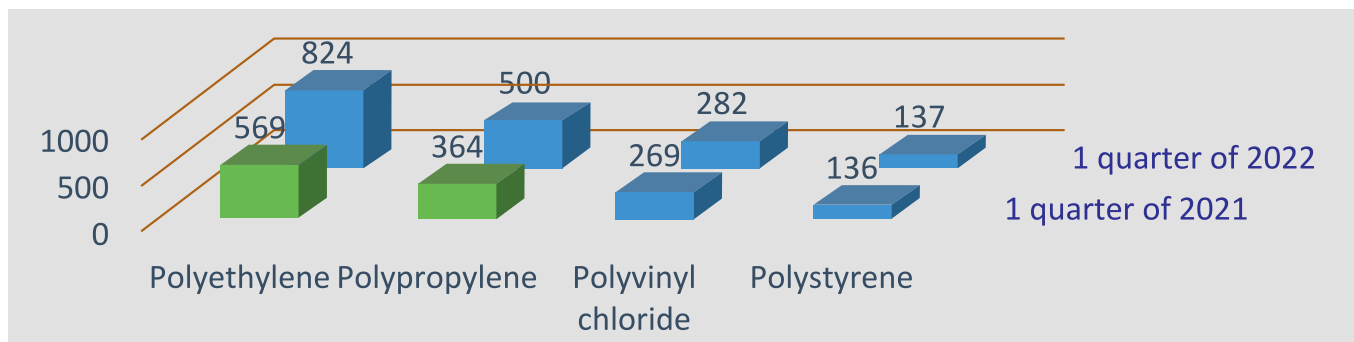


Figure 1. Volume of polymer output in Russia by types of commercial products (comparative analysis), thousand tonnes

Note - compiled by the author according to the source [6].

The main refining companies in the Russian oil and gas sector are the integrated petrochemical company Sibur, the Taif Group (Kazan), the chemical company Kazanorgsintez, and the oil and gas production companies Rosneft, Gazprom, and Lukoil. Of the 6 largest producers of petroleum products and petrochemicals operating in Russia, 3 belong to oil and gas-producing companies. Thus, Rosneft has diversified its refining production in 5 refineries, Gazprom – in 6 refineries, LUKOIL – in 2 refineries, which produce more than 11 types of petrochemical products of high conversion.

Saudi Arabia. Saudi Arabia tops the list of OPEC member countries in the production and export of hydrocarbon products, having 20% of the world's oil reserves, second only to Venezuela. The annual production of crude oil in the country is over 550 thousand tonnes. The cost of oil production in Saudi Arabia is the lowest in the world, as more than 60% of oil is light and ultra-light hydrocarbons.

The largest oil company, Saudi Aramco, controls 98 percent of all state oil production and has more than 100 hydrocarbon fields. The largest field, Al-Ghawar, with oil reserves of 4.8 billion tonnes, produces about 50% of the country's oil annually.

Saudi Arabia's oil and gas complex has diversified into three of the world's largest terminals: Ras Tapura (3.4 million bpd), Ju'aymah (3.12 million bpd) and Ju'aymah LPG (6.6 million bpd).

"Saudi Aramco has a network of 90 oil transportation pipelines with a total length of more than 19,000 kilometers. The oil company has an offshore fleet of 80 oil tankers (vessels).

Saudi Arabia's oil and gas sector is implementing a program to diversify into renewable energy to produce low-carbon energy.

The leading oil company Saudi-Aramco is diversifying production to reduce emissions to achieve high environmental performance. Following the global oil price crash in 2014, Saudi Arabia has adopted programs to diversify the country's economy beyond the oil sector, with plans to increase investment in renewable energy development to US\$30-50 billion by 2030. About 5 percent of shares of "Saudi Aramco" were put on IPO, and the proceeds are invested in the development of solar energy. "Saudi Aramco is investing its resources in scientific research on renewable energy. The company plans to spend 200 billion US dollars on green energy deals by 2025 to develop diversification of production [7].

Canada. Canada is one of the largest oil and gas developers in the world and is one of the top six hydrocarbon-producing and exporting countries. In the oil reserves, Canada is third after Venezuela and Saudi Arabia. Almost all oil produced in Canada is located in three provinces - Alberta (80% of all Canadian produced), Saskatchewan (13%), Newfoundland and Labrador (4%). Manitoba and British Columbia account for about 1% of Canadian oil production [8].

Canada has moved away from diversifying its oil and gas sector in the last decade due to the growth in oil exports. In 2022, the country resumed the implementation of diversification processes by oil companies again, as the current low oil prices, lack of developed pipeline infrastructure, and the need to comply with environmental emission standards are forcing Canada's oil and gas industry to focus investment resources on ensuring the sustainability of the national economy.

China. The largest oil companies are CNPC (has control over 70% of all explored Chinese oil reserves), CNOOC Corporation (offshore oil production), Sinopec Corporation (oil refining) with a network of subsidiaries for refining, transportation, services, infrastructure works, and facilities make up China's oil and gas complex.

Chinese oil and gas companies are implementing investment projects for oil and gas development in more than 40 countries, diversifying production in different directions. Chinese companies, with their presence in hydrocarbon deposits in Africa, Central Asia Kazakhstan, and Russia, meet the country's domestic energy needs. A significant portion of oil imports comes from the Persian Gulf countries. China is carrying out large-scale work on export diversification of transport routes, including sea transport of hydrocarbons [9].

One of the areas of diversification of China's oil and gas sector is the construction of new pipelines and diversification into the modernization of existing pipelines from Kazakhstan and Russia, as offshore transport is subject to risks due to political views and disagreements with the US.

■ CONCLUSIONS.

This article has investigated the practical directions of diversification of oil and gas sectors of the economy of such major world oil producers as the United States, Saudi Arabia, Russia, and Canada. The practice of diversification by the world's largest oil and gas-producing companies in facility development for unconventional energy sources has been investigated. The activity of the oil and gas complex of China, the largest importer of oil and gas, is considered.

Diversification of Kazakhstan's oil and gas sector into oil and gas transportation, expansion of export destinations, and expansion of the range of refinery products is mainly carried out at the state level.

REFERENCES

1. Hamfis, Saks, Stiglic. Kak izbezhat' resursnogo prokljatija/ per. s angl. N. Avtonomovoj, I. Fridmana/ pod.red. E. Dobrushinoy i A.Ju. Knobelja/ - M.: Izd. Instituta Gajdara.-2011- 464 s. //https://vk.com/wall-68638203_2476. 17.11.2022.
2. Gromov A. I., Titov A. V. Vlijanie pandemii COVID-19 na mirovoj rynek nefti. // Burenie i neft'. -№ 07.-2022.https://burneft.ru/archive/issues/2022-07/10. 15.10.2022.
3. Ermolenko G. V. Analiz dejatel'nosti vedushhih neftjanyh kompanij v oblasti vozobnovljaemoj jenergetiki. - M.: Institut jenergetiki NIU VShJe, 2017.-57 s.https://energy.hse.ru/data/2017/10/25/1157689079. 27.01.2018.
4. Safonova T. Ju. Razrabotka napravlenij diversifikacii neftjanyh kompanij. - avtoref. dis. na soisk. uchen. step. kand. jekon. nauk (2016) / FGBOU VO Rossijskaja akademija narodnogo hozjajstva i gosudarstvennoj sluzhby pri Prezidente Rossijskoj Federacii. - Moskva, 2016. http://www.dslib.net/economika-xozjajstva/razrabotka-napravlenij-diversifikacii-neftjanyh-kompanij.html. 28.09.2021
5. Rynek Kitaja popal v zavisimost' ot Kitaja, a Kitaj – ot importa nefti. https://nangs.org/news/markets/rynok-nefti-popal-v-zavisimosty-ot-kitaya-a-kitay-ot-importa-nefti. 28.08.2022.
6. Momeni M.A. Budushhee iranskoj nefti i jekonomicheskie posledstviya razvitija otrasli v kontekste rossijsko-iranskogo sotrudnichestva. //Nefyegas. -№8.-2022. https://magazine.neftegaz.ru/articles/makroekonomika/625010-budushchee-iranskoy-nefti-i-ekonomicheskie-posledstviya-razvitiya-otrasli-v-kontekste-rossijsko-iran/. 18.12.2022.
7. Vavina E. Potrebiteli jenerгии prosjat izmenit' mehanizmy podderzhki zelenoj generacii. https://www.vedomosti.ru/business/articles/2021/09/02/810278-mehanizmi-zelenoi-generatsii. 4.12.2022
8. Rabota v neftegazovoj promyshlennosti Kanady. https://immigrant.today/canada/14949-rabota-v-neftegazovoj-promyshlennosti-kanady.htm. 11.04.2022.
9. Neftjanaja i neftepererabatyvajushhaja promyshlennost' Kitaja. https://www.cdu.ru/tek_russia/articles/1/736/. 30.05.2022.

ЭКОНОМИКАНЫҢ МҰНАЙ-ГАЗ СЕКТОРЫН ӘРТАРАПТАНДЫРУДЫҢ ӘЛЕМДІК ТӘЖІРИБЕСІ

Кизимбаева А.

э.ғ.к., қауымдастырылған профессоры м.а.
«Ш.Есенов атындағы Каспий технологиялар және
инжиниринг университеті» КЕАҚ
Ақтау қ. Қазақстан Республикасы
e-mail: kizimbaeva@mail.ru
ORCID ID:0000-0002-2582-3156

Мангибаева Д.

э.ғ.к., қауымдастырылған профессоры м.а.
«Ш.Есенов атындағы Каспий технологиялар және
инжиниринг университеті» КЕАҚ
Ақтау қ. Қазақстан Республикасы
e-mail: kizimbaeva@mail.ru
ORCID ID: 0000-0002-2712-1510

Момбекова Г. Р.

PhD, қауымдастырылған профессор
Қожа Ахмет Ясауи атындағы Халықаралық қазақ-
түрік университеті
Түркістан қ., Қазақстан Республикасы
e-mail: gulmira.mombekova@ayu.edu.kz
ORCID: 0000-0002-8175-5987

Аннотация. Мақалада экономиканың мұнай-газ секторының дамуындағы әлемдік тенденциялар қарастырылған.

Зерттеудің мақсаты: мұнай-газ саласын әртараптандырудың әлемдік тәжірибесін Қазақстан контекстіне бейімдеу мақсатында зерделеу.

Әдістеме: жұмыста статистикалық, монографиялық, дерексіз-логикалық және басқа зерттеу әдістері қолданылады.

Зерттеудің өзіндік ерекшелігі/құндылығы: экономиканың мұнай-газ секторын әртараптандыруды дамытудағы шет елдердің тәжірибесін қарастыру.

Зерттеу нәтижелері: ел экономикасының мұнай-газ секторын әртараптандырудың негізгі бағыттары анықталды.

Түйін сөздер: әртараптандыру, мұнай-газ секторы, өндіріс, инвестициялар, инвестициялық жобалар.

**МИРОВАЯ ПРАКТИКА ДИВЕРСИФИКАЦИИ
НЕФТЕГАЗОВОГО СЕКТОРА ЭКОНОМИКИ**

Кизимбаева А.

к.э.н, и.о. ассоциированного профессора
НАО «Каспийский университет технологий и
инжиниринга им. Ш.Есенова»
г.Актау, Республика Казахстан
E-mail: kizimbaeva@mail.ru
ORCID:0000-0002-2582-3156

Момбекова Г.Р.

PhD, ассоциированный профессор
Международный казахско-турецкий
университет им. Х.А. Ясави
г.Туркестан, Республика Казахстан
E-mail: gulmira.mombekova@ayu.edu.kz
ORCID:0000-0002-8175-5987

Мангибаева Д.

к.э.н, и.о. ассоциированного профессора
НАО «Каспийский университет технологий и
инжиниринга им. Ш.Есенова»
г.Актау, Республика Казахстан
E-mail: kizimbaeva@mail.ru
ORCID ID: 0000-0002-2712-1510

***Аннотация.** В статье рассмотрены мировые тренды развития нефтегазового сектора экономики.*

Целью исследования является изучение мирового опыта диверсификации нефтегазовой отрасли с целью адаптации к контексту Казахстана

Методология: в работе использованы статистические, монографические, абстрактно-логические и другие методы исследования.

Оригинальность/ценность исследования заключается в рассмотрении опыта зарубежных стран в диверсификации нефтегазового сектора экономики.

Результаты исследования: определены основные направления диверсификации нефтегазового сектора экономики страны.

***Ключевые слова:** диверсификация, нефтегазовый сектор, производство, инвестиции, инвестиционные проекты.*