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The Importance of the World Oil and Gas Industry in The Economy of Countries

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Abstract: The oil and gas industry is a cornerstone of the global economy, driving energy production, industrial development, and international trade. This study explores the industry's critical role in economic growth, its production trends, resource reserves, and challenges. The research methodology includes a review of foreign literature and an analysis of official statistical data through comparative and logical reasoning techniques. Results highlight the significant contributions of oil and gas to energy generation, the chemical industry, and economic stability, with over 50% of global energy needs met by these resources. However, challenges such as environmental impacts, finite reserves, and competition from renewable energy sources pose risks to sustainability. Innovative technologies, environmental reforms, and strategic geopolitical actions are identified as solutions to ensure the industry's future. This study underscores the need for global collaboration and innovation to balance resource utilization with environmental stewardship. The article investigates the oil and gas industry, which is considered one of the priority sectors for the country's economy, its problems, innovations, production trends, resource reserves, etc. In particular, the role of the oil and gas industry in the economies of countries, the economic potential and the process of increasing the efficiency of resource use are analyzed.

Keywords: Oil and Gas Industry, Trends, Resource Reserves, Economic Potential, Efficiency, Problems, Solutions to Existing Problems

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1. Introduction

The oil and gas industry is one of the sectors that plays an important role in the world economy and has a great influence on economic and political relations between countries. Oil and gas are natural resources, which are the main source of energy supply. This industry plays an important role not only in energy production, but also in the production of various chemical products, plastics, bottles, synthetic materials. These resources cover various areas of use in energy, chemistry, transport and production. In addition, products derived from oil and gas occupy an important place in the world economy, making them one of the main drivers of national economic development.

Literature Review

Based on the theory of R. Auity, the American scientist J. Sachs relied on his views on the idea that "natural resources, in comparison with their benefits for the economy and peace of the country, perform the function of an attractor, leading to ruthless political

games for resources" in the 80s of the 19th century, citing countries such as the United Arab Emirates, Japan, and China as examples. A country's wealth in natural resources cannot always be its advantage.

The English economist E. Reinert, in his treatise "How Developed Countries Developed and the Poor Remain Poor," noted that "even in countries with large resources, most poverty is based on the monopolization of production resources in production."

2. Materials and Methods

This article studies various foreign literature on the subject. In practical analysis, official statistical data and methods such as statistical observation, comparative analysis, logical reasoning, statistical tables and graphs, comparative analysis were used.

3. Result and Discussion

Oil and gas are important resources for electricity generation, transport and industry in the modern world. They are used for the following purposes:

- In energy: Oil and gas provide more than 50% of the world's energy resources.
- In the chemical industry: Various plastics, fuels and other products are produced from oil.
- In economic development: The oil and gas industry brings foreign exchange to many countries through exports.

Today, the oil and gas market is highly competitive, and several important processes are observed in it:

- The introduction of new technologies in the industry, such as shale gas extraction technology, offshore wells and hydrocarbon processing methods are giving impetus to the development of the industry.
- Reforms related to reducing the risk of environmental factors, i.e. reducing the carbon footprint and developing renewable energy sources are gaining importance.
- Geopolitical influences: Oil and gas prices are often influenced by international political developments, which can cause significant fluctuations in the global market.

The world's major oil and gas producers and exporters are:

- Saudi Arabia: The world's largest oil producer and exporter.
- Russia: One of the world's leading suppliers of gas to the European market. The United States is a leading innovator in gas and oil production. China is also the world's largest consumer and investor in almost every sector.

Global oil demand is expected to reach 102.9 million barrels per day by the end of 2024. Demand is expected to grow in India and Southeast Asia in particular. The United States and Saudi Arabia remain the world's largest producers [6]. By 2025, production is expected to reach 105 million barrels per day, with the United States, Brazil, and Canada among the main drivers [1].

In 2024, oil prices are expected to average around \$82/barrel, or even decline. Energy policies and sanctions in some countries are having a significant impact on this market [5].

Oil reserves in the Organization for Economic Cooperation and Development countries fell to 2.733 billion barrels in February 2024, 105 million barrels less than the average for the previous 5 years [4]. The table below shows the production and consumption figures for the global oil and gas industry in between 2019 AND 2023. Table 1.

Production and consumption figures for the global oil and gas industry (2019–2023) [2]

Year	Oil production (million barrels/day)	Oil consumption (million barrels/day)	Gas production (trillion m ³)	Gas consumption (trillion m ³)
2019	100.3	99.7	4.0	3.9
2020	91.7	91.3	3.8	3.6
2021	96.5	96.4	4.1	3.9
2022	99.8	99.6	4.2	4.0
2023	102.3	102.2	4.3	4.2

Based on the data in the table, a decrease was observed in 2020. This was due to a sharp reduce in demand for oil and gas as a result of the COVID-19 pandemic. This also went down production volumes. Since 2021, the production process in the oil and gas industry has begun to recover [16]. As a result of liquefied natural gas (LNG) projects, production has increased in countries such as the United States and Qatar.

It is important to note that this industry, along with its advantages in the development of countries around the world, also poses global problems [17].

Problems and prospects

There are a number of problems in the development of the oil and gas industry:

- Limited natural resources: The decline in reserves as a result of oil and gas extraction may lead to energy shortages in the future.
- Impact on the environment: The increasing share of the extraction process is one of the main problems of the industry, which is associated with pollution and climate change.
- Competition from renewable energy sources: There is growing interest in alternative energy sources such as solar and wind energy.

4. Conclusion

The global oil and gas industry plays an cardinal role in energy supply, economic development and international relations. The introduction of new technologies and solving environmental problems are vital for the future of this industry. The development of innovations and strategies in this industry affects not only the industry itself, but also the entire global economy [18].

Problems

Oil and gas reserves are limited and there is a risk of energy shortages in the future. As a solution to this:

- Transition to renewable energy sources: this can be lead to allocate investments in the development of alternative energy technologies such as solar, wind and hydropower.
- Optimization of energy consumption by modernizing infrastructure and technologies.
- Diversification of the supply chain: strengthening international cooperation and searching for new sources [19].

Impact on the environment

Problem

Oil and gas production and processing cause significant damage to the environment. Solutions include:

- Carbon footprint reduction: Implementation of carbon pricing and quota systems, as well as the use of SO₂ capture technologies
- Green technology: Use of new technologies and biotechnology to reduce pollution.

- Enforcement: Strengthening environmental standards and regulations at the national and international levels.
- Geopolitical risks. The industry is overly dependent on political conflicts, which leads to disruptions in oil and gas supplies [20].

Solutions include:

- Energy security policies: Diversification of reserves and development of national energy security strategies.
- Strengthening cooperation: Strategic cooperation with international organizations in the field.
- Use of digital technologies: Supply chain management through centralized control systems.
- Supply and demand imbalance. Volatility in oil and gas demand causes sharp fluctuations in market prices. As a solution to this:
- Diversifying energy markets: entering new markets and strengthening the system of subsidies for domestic markets.
- Creating special reserves: organizing strategic reserves at the national and international levels.
- Forecasting demand in advance: accurate analysis of demand using new information technologies.
- Innovation and personnel issues. There is a shortage of highly qualified specialists in the oil and gas industry and difficulties in adapting to technological changes. As a solution to this:
- Training specialists: reinforcing cooperation between higher education institutions and the private sector.
- Investing in innovations: intensifying cooperation between the state and the private sector for scientific research and development of new technologies.
- Introducing digital technologies: widespread use of artificial intelligence and modern technologies in industry.

These proposals can be modified in accordance with the individual strategy of each country and company. In the global economy, efficient and sustainable management of energy resources is a common interest of all countries in the world.

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