

## PROBLEMS IN THE OIL AND GAS INDUSTRY: SOLUTIONS AND ANALYSIS

**Akhmedova Nargiza Alimdjanova\*; Botirova Nargiza Utkurovna\*\***

\*Senior Teacher,  
Tashkent State Technical University,  
Tashkent City, UZBEKISTAN

\*\*Senior Teacher,  
Tashkent State Technical University,  
Tashkent City, UZBEKISTAN

**DOI: 10.5958/2249-7323.2022.00009.8**

---

### ABSTRACT

*The oil and gas industry is one of the largest sectors in the world in terms of dollar value, generating an estimated \$3.3 trillion in revenue annually. This industry is one of the most important indicators in assessing the economy around the world. According to economists, it is expected that in the next decade it will remain such an important sector. In this article you can see some of the problems facing the oil and gas industry and their solutions, as well as a general analysis of the situation.*

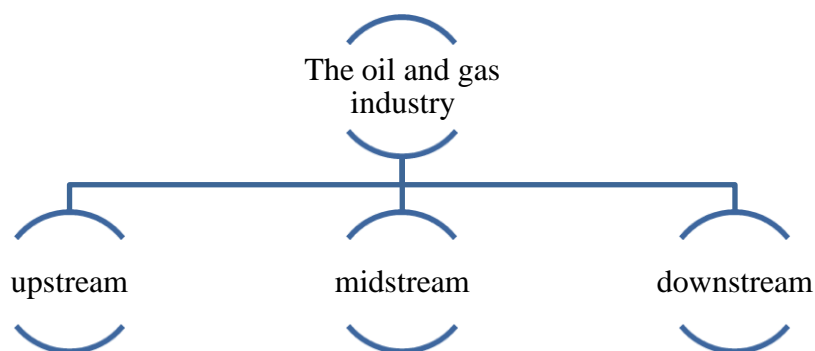
**KEYWORDS:** *Sectors Of The Economy, Upstream, Midstream, Downstream, Climate Change, Chemical Industry, Petrochemicals, Purpose-Driven, Tech-Enabled, Human-Powered.*

---

### 1. INTRODUCTION

Oil and gas are a priceless gift of nature. They are the most important resources in human life. Therefore, the oil and gas industry is one of the most important sectors of the economy. Oil is crucial to the global economic framework, especially for its largest producers: the United States, Saudi Arabia, Russia, Canada, and China. Considered being the biggest sector in the world in terms of dollar value, the oil and gas sector is a global powerhouse using hundreds of thousands of workers worldwide and generating hundreds of billions of dollars globally each year. In regions which house the major NOCs, these oil and gas companies are so vital they often contribute a significant amount towards national GDP. [1]

Upstream is E&P (exploration and exploration). This involves the search for underwater and underground natural gas fields or crude oil fields and the drilling of exploration wells and drilling into established wells to recover oil and gas. Midstream entails the transportation, storage, and processing of oil and gas. Once resources are recovered, it has to be transported to a refinery, which is often in a completely different geographic region compared to the oil and gas reserves. Transportation can include anything from tanker ships to pipelines and trucking fleets. Downstream refers to the filtering of the raw materials obtained during the upstream phase. This means refining crude oil and purifying natural gas. The marketing and commercial distribution of these products to consumers and end users in a number of forms including natural gas, diesel oil, petrol, gasoline, lubricants, kerosene, jet fuel, asphalt, heating oil, LPG (liquefied petroleum gas) as well as a number of other types of petrochemicals. [2]



**FIGURE1. THE OIL AND GAS INDUSTRIES IS BROKEN DOWN INTO THREE SEGMENTS.**

The oil and gas industry has rebounded strongly throughout 2021, with oil prices reaching their highest levels in six years. While the industry’s recovery is better than expected, uncertainty remains over market dynamics in the coming year. Our 2022 outlook explores five trends that will shape the path forward for oil and gas companies.

As we move into 2022, many oil and gas (O&G) companies are looking to reinvent themselves by practicing capital discipline, focusing on financial health, committing to climate change, and transforming business models. The positivity of such changes is reflected in our survey, where nearly two-thirds of O&G executives state they are highly positive about strategic changes made by their organizations.

“The journey of transformation has just begun for the industry, and simply managing or riding oil price cycles aren’t options anymore. Over the next 12 to 18 months, O&G strategists should:

- 1) Streamline and optimize their resource portfolios
- 2) Embrace and develop smart goals for the energy transition
- 3) Attract, train, and retain employees in a tight labor market
- 4) Come to terms with additional environmental, social, and governance (ESG) requirements”

Purpose-driven, tech-enabled, and human-powered organizations with smart interim goals and progressive communication and disclosure strategies can make it happen. Our 2022 oil and gas industry outlook explores five trends, from M&A activity to fuel retailing, that will likely influence the direction of the industry over the next 12 months.

In the oil and gas industry, Uzbekistan is also undergoing various reforms. Numerous oil and gas fields discovered in the territory of the Republic are the national wealth of our people. The oil and gas industry is one of the most important sectors of the economy, and its development is one of the areas that determine the economic potential of our country. Oil and gas are not only an important part of the fuel and energy complex, but also a valuable raw material for the modern chemical industry. In recent years, Uzbekistan's oil and gas industry has developed rapidly. In return, the volume of oil and gas production in the Republic has increased significantly, and Uzbekistan has achieved oil independence. The natural gas produced in the country is exported to foreign countries along with meeting the gas demand of the population. [3]

The contribution of the fuel and energy complex to the development of the national economy and

the supply of all industrial enterprises is invaluable. The fuel and energy complex is based on the oil and gas industry. The oil and gas industry of the Republic of Uzbekistan has the most modern, advanced equipment, devices and facilities, the main task of which is to increase the rate of oil and gas production, reduce production costs and bring products into line with world standards. At present, oil and gas production technology encourages the use of a variety of equipment and the continuous improvement of technological processes. Extraction of oil and gas from the reservoir requires the use of many complex equipment and facilities.

Despite the fact that the oil and gas industry is such an important and necessary sector, it has an impact on the economy and the environment. For instance, hydrocarbon systems in the form of oil, its refined products, as well as gas condensates have a very negative impact on the human environment, especially water, soil and air. Currently, the enterprises of the Russian fuel and energy complex, including enterprises specializing in oil extraction and refining, are the largest sources of industrial pollution. More than 48% of the total emissions, 30% of solid waste, 27% of polluted water and more than 70% of total greenhouse gases account for the total volume of emissions. Polluting environment, fuel and energy enterprises are suffering huge financial losses.

According to experts, currently the amount of oil products in megacities is 9-15 times higher than the permissible concentration, and in rural areas thousands of hectares of land are completely or partially removed every year. Economic turnover for an indefinite period. [4]

In this regard, the issue of cleaning the soil cover from oil contamination and their subsequent replacement is a priority of early resolution. Unfortunately, at present, experts do not have certified methods for determining the level of oil and products, its variation in the soil, as well as standards for the permissible content of these products in the soil. different types. In particular, the standards of their residual composition after reclamation works on soils of different economic purposes, which in turn greatly affect the relationship between the enterprises of the fuel and energy complex and environmental services. leads to the formation of problems and misunderstandings. in the difficulty of planning and carrying out reclamation works with subsequent acquisition of land.

The problem of emissions and dust is also not relevant, as the result of this phenomenon is pollution of the environment in the form of an increase in gas and dust. As an example, in modern reality, more than 1,050,000 tons of harmful pollutants are released into the atmosphere through the operation of oil refineries, with the percentage of capture in special filters not exceeding 47% of the total.

Currently, the environmental problems of oil refining include the problem of pollution of the hydrosphere with oil and oil products, which means the risk of complete pollution of the planet's watershed from small rivers and reservoirs to the World Ocean. In the same list there is a problem of contamination of groundwater with oil and petroleum products, because the wastewater of oil refineries releases large amounts of harmful substances into water bodies - chlorides, sulfites, phenols, suspended solids, petroleum products in the form of heavy substances will bring. [5]

From the above data, it is clear that the oil and gas industry is always in demand. At the same time, it contributes to the pollution of nature. It can be concluded that improving the oil and gas industry, reducing its losses through the use of new equipment, technologies and innovations, is a necessary and effective, reliable way for the development of countries.

## REFERENCES:

1. Neft va gaz qazib olish texnikasi va texnologiyasi. fanidan amaliy mashg`ulot uchun metodik ko`rsatma, Toshkent. TDTU, 1999.

2. Максимов ММ. Геологические основы разработки нефти, Moscow; Недра, 1978.
3. Sunnatov ZU, Ikromov A. Neftvagazsanoatikimyoviytexnologiyalariningdolzarbmualammolari. Ilmiy-amaliykonferensiyalar to'plami. 2009. 84p.
4. Muspratt A. Introduction to Oil and Gas Industry. 2019. Available at: <https://www.oilandgasiq.com/strategy-management-and-information/articles/oil-gas-industry-an-introduction>