MODERN TRENDS IN THE DEVELOPMENT OF UZBEKISTAN'S CHEMICAL INDUSTRY

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Abstract. The article provides an in-depth analysis of enterprises within the "Uzkimyosanoat" JSC system and large independent chemical enterprises; the growing global demand for chemical products; technological modernization; the increasing share of innovative products; the scale of chemical resource utilization in industrial sectors; the dynamics of total industrial and chemical production volumes in the Republic of Uzbekistan for 2010–2024; the operation of enterprises in the form of state, private, and joint ventures; as well as investment activity, modernization processes, and institutional conditions for strengthening the competitive environment in the industry.

Keywords: industrial products, industrial sectors, chemical products, industrial system, industrial composition, industrial centers.

The chemical industry is one of the strategic sectors of the national economy and is directly linked to the production chains of agriculture, energy, construction materials, pharmaceuticals, textiles, automotive, and export-oriented industries. Therefore, assessing the transformational development of Uzbekistan's chemical industry is not a simple sectoral analysis, but a scientific and practical issue that must be considered at the intersection of industrial policy, investment activity, technological modernization, environmental sustainability, and export competitiveness.

In recent years, the institutional foundations for the comprehensive reform of the chemical industry in Uzbekistan have been established. Specifically, the Chemical

Industry Development Program for 2019–2030 defines tasks for the implementation of 31 investment projects totaling 12.1 billion US dollars, the improvement of corporate governance, the modernization of existing production facilities, and the attraction of foreign investment [1]. This document served as an important legal and regulatory framework for the industry's transition from a model based on raw material exports to an industrial model aimed at creating high added value.

At the next stage, special attention was paid to the strategic development of the chemical and gas-chemical industries. Resolution of the President No. PP-388, dated October 10, 2022, established specific accountability mechanisms for the development of the chemical and gas-chemical industries, the effective organization of chemical cluster activities, and increasing the economic and financial efficiency of industry enterprises [2]. This approach indicates that the problems in the industry lie not only in insufficient production volumes but also in the quality of management, production costs, return on investment, and the lack of sufficient depth in technological chains.

The relevance of the topic is also linked to changes in international industrial policy. UNIDO's 2024 "Industrial Development Report" emphasizes that industrial policy in the new era is closely linked to sustainable technologies, innovative production, green transformation, and the formation of competitive value chains [3]. Thus, the competitive advantage of Uzbekistan's chemical industry is determined not only by cheap raw materials or natural gas resources but also by energy-saving technologies, research and development, industrial cooperation, and the manufacturing of products tailored to export markets.

The chemical industry is one of the strategic sectors of the global economy, providing raw materials and semi-finished products to sectors such as agriculture, pharmaceuticals, construction, energy, automotive, and consumer goods manufacturing. In this regard, analyzing the growth trend of the global chemical industry is of great importance in assessing the industry's sustainable development potential.



Figure 1. Dynamics of the global chemical industry volume ($ trillion)

As the data in the figure shows, the volume of the global chemical industry amounted to $3.9 trillion in 2020 and reached $6.6 trillion by 2025. During this period, the industry's volume increased by $2.7 trillion, or nearly 1.7 times. Growth rates were particularly high between 2020 and 2022, with a steady growth trend maintained in subsequent years. This can be explained by the increase in global demand for chemical products, technological modernization, a growing share of innovative products, and the expanded use of chemical resources in industrial sectors.

The chemical industry is considered one of the strategic sectors generating high added value in global production chains, and its territorial structure is directly linked to the industrial potential, raw material base, technological capabilities, and export competitiveness of countries. In this regard, analyzing the share of leading regions in the global chemical industry allows for the assessment of structural shifts in the sector, changes in market centers, and sustainable development trends.

According to the data in Figure 2, China's share in the global chemical industry increased from 40% to 45% between 2020 and 2025. This trend is explained by the expansion of chemical production capacities in China, high domestic demand, and increased export potential. During this same period, Europe's share decreased from 16% to 13%, while the US's share fell from 14% to 12%. This is due to stricter environmental requirements in developed countries, higher production costs, and the

relocation of certain production capacities to the Asian region. The fact that the share of the "Others" category remained steady at 30 percent indicates that while China's leadership in the chemical industry is strengthening, there is still a certain degree of stable production potential in other regions as well.

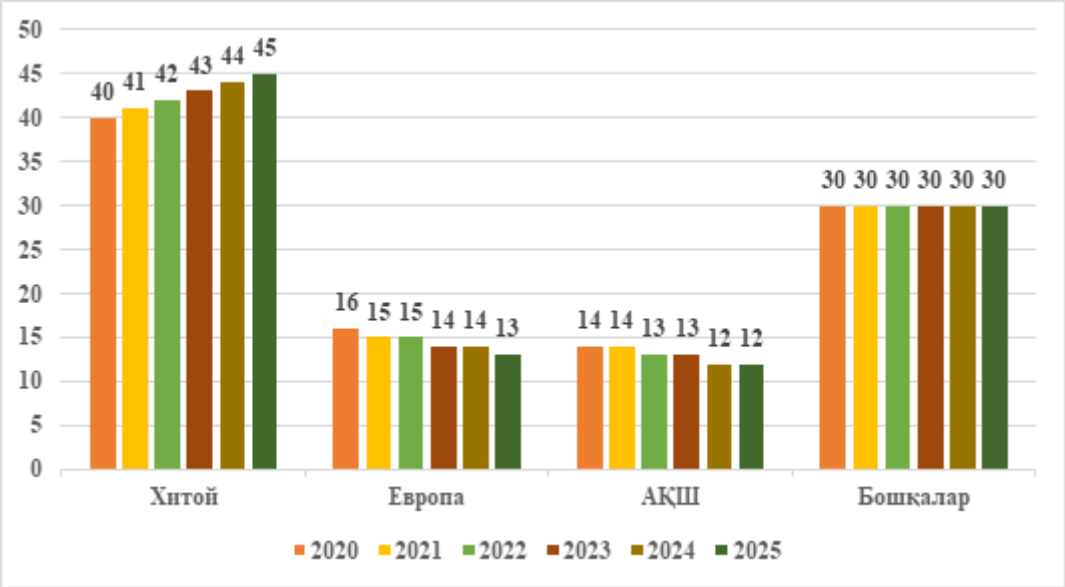


Figure 2. Share of leading regions in the global chemical industry (%)

The chemical industry of the Republic of Uzbekistan is one of the strategic sectors of the economy, playing an important role in the sustainable development of agriculture, energy, construction, pharmaceuticals, and other industries. As a result of the structural reforms and modernization processes implemented in the sector in recent years, production volumes and export potential have increased significantly. In particular, in 2024, the volume of production in the chemical industry reached 3.1 billion US dollars, growing by 91.5 percent compared to 2020.

The country's chemical industry mainly consists of enterprises within the JSC Uzkimyosanoat system and large, independently operating chemical enterprises. Consistent reforms are being carried out in the industry to improve the corporate governance system, increase investment attractiveness, and introduce energy- and resource-saving technologies.

To further develop the chemical industry and increase its export potential, a target has been set to increase the export of mineral fertilizers to 720 million US dollars by 2026. Achieving these goals further reinforces the need to ensure the sustainable development of industry enterprises, enhance resource efficiency, and introduce modern management mechanisms.

Table 2

List of major enterprises operating in the chemical industry of Uzbekistan

№	Business name	Location	Form of organization	Main products
1	JSC "Navoiyazot"	Navoi city	A large production enterprise within the system of JSC "Uzkimyosanoat"	Ammonia, urea, PVC, caustic soda, and other chemical products
2	Indorama Corporation (JSC "Ferganaazot")	Fergana city	A joint-stock company within Indorama Corporation	Ammonia nitrate, urea, nitrogen fertilizers, and defoliants
3	JSC "Maxam-Chirchiq"	Chirchik city	Production enterprise within the system of JSC "Uzkimyosanoat"	Ammonia nitrate, urea, ammonium sulfate, and other chemical products
4	JSC "Ammofos-Maxam"	Almalyk city	Production enterprise within the system of JSC "Uzkimyosanoat"	Nitrogen-phosphorus fertilizers, NPK and phosphorus fertilizers
5	Asian Chemical Group LLC (JSC "Dehkanabad Potash	Kashkadarya Region, Dehkanabad	Mineral fertilizer production enterprise	Potassium chloride and other potassium mineral fertilizers

№	Business name	Location	Form of organization	Main products
	Plant")	District		
6	JSC "Elektrokimyozavod"	Chirchik city	An enterprise operating in the Chirchik chemical-industrial zone	Chlorine, caustic soda and electrochemicals
7	Indorama Kokand Fertilizers	Kokand city	Chemical industry enterprise with private sector participation	SSP, ASP, NPK, SOP, and sulfuric acid
8	NCV International DMCC (JV LLC "Kungrad Soda Plant")	Republic of Karakalpakstan, Kungrad district	Joint venture	Calcinated soda, hydrochloric acid, and other chemical products
9	JSC "Jizzakh Plastics"	Jizzakh city	Polymer product manufacturing enterprise	Polymer products and plastic products

As can be seen from the data in Table 2, Uzbekistan's chemical industry enterprises are located in industrial centers such as Navoi, Fergana, Chirchik, Almalyk, Kokand, Kungrad, Jizzakh, and Dehkanabad.

The following table reflects the dynamics and growth rates of the production volumes of both total industrial output and chemical products in the Republic of Uzbekistan for 2010–2024, as well as the share of chemical products in the overall industrial structure. These indicators serve as an important analytical basis for assessing the role of the chemical industry in the country's industrial system, production activity in the sector, and opportunities for sustainable development.

Table 3

Dynamics of chemical production indicators in the Republic of Uzbekistan

Indicators	Volume of industrial production, billion soums	Growth in industrial production volume, %	Production of chemicals, billion soums	Growth in chemical production volume, %	Share of chemical products in industrial output, %
2010	38119	105,9	1960	108,5	6,8
2011	47587,1	104,4	2594,7	107,1	7
2012	57552,5	105,7	2924,7	102,9	6,6
2013	70634,8	107,5	3350,1	103,7	6
2014	84011,6	104,5	4130,1	104,8	6,1
2015	97598,2	105,3	4993,7	107,5	6,4
2016	111869,4	105,4	7378,9	132,7	8,1
2017	148816	105,2	9893,8	94	8,2
2018	235340,7	110,8	15078,4	97,2	8
2019	322535,8	105	18974,3	102,3	7,4
2020	368740,2	100,9	21213,5	107,6	6,9
2021	456056,1	108,7	27577,9	105,7	7,4
2022	553265	121,3	28956,7	105,2	5,2
2023	658991,7	119,1	28377,6	98,1	4,3
2024	885800	106,8	40621,2	103,4	4,6
In 2024 compared to 2023	134,4	-12,3	143,1	5,3	0,3

This situation indicates that the regional specialization of the industry is closely

linked to the raw material base, transport and logistics capabilities, and production infrastructure. The high share of nitrogen, phosphorus, and potassium fertilizers, polymer products, soda, and electrochemical products in the output of these enterprises increases the importance of the chemical industry. At the same time, the fact that enterprises operate as public, private, and joint ventures means that an institutional basis is being formed in the industry to strengthen investment activity, modernization processes, and the competitive environment.

According to Table 3, between 2010 and 2024, the volume of chemical production increased from 1,960 billion UZS to 40,621.2 billion UZS, significantly expanding the scale of nominal production in the industry. In 2024, the volume of chemical production reached 143.1 percent of the 2023 level, outperforming the growth of total industrial output (134.4 percent). Moreover, the share of chemical products in total industrial output increased from 4.3 percent in 2023 to 4.6 percent in 2024. This trend demonstrates the growing economic significance of the chemical industry within the overall industrial structure.

REFERENCES

1. Resolution of the President of the Republic of Uzbekistan No. PP-4265 dated April 3, 2019, "On measures to further reform the chemical industry and increase its investment attractiveness."
2. Resolution of the President of the Republic of Uzbekistan No. PP-388 dated October 10, 2022, "On Approval of the Targeted Program for the Strategic Development of the Chemical and Gas Chemical Industry."
3. UNIDO. Industrial Development Report 2024: Turning Challenges into Sustainable Solutions - The New Era of Industrial Policy. Vienna, 2024.
4. World Bank Group. Uzbekistan Country Climate and Development Report. Washington, DC, 2023.

5. Official website of the President of the Republic of Uzbekistan. "Plans for the development of the chemical industry presented," December 3, 2025.
6. Rodrik D. Industrial Policy for the Twenty-First Century. Harvard University, John F. Kennedy School of Government Working Paper, Cambridge, USA. – 57 p.
7. Lin J.Y., Yeong C. Growth Identification and Facilitation: The Role of the State in the Dynamics of Structural Change. World Bank Policy Research Working Paper No. 5313, Washington DC, 2011. – 42 p.
8. Porter M. The Competitive Advantage of Nations. New York: Free Press. – 896 p.
9. UNCTAD. Trade and Development Report 2022: Development Prospects in a Fractured World. United Nations Publications, Geneva, 2022. – 198 p.
10. Aghion P., Howitt P. Endogenous Growth Theory. Cambridge: MIT Press. – 694 p.
11. Hausmann R., Hidalgo C. The Atlas of Economic Complexity: Mapping Paths to Prosperity. Massachusetts: MIT Press. – 364 p.
12. Glazev S.Yu. Theory of Long-Term Technical and Economic Development. Moscow: Vladar, 1993. – 310 p.
13. Khakimov K. Industrial Economics and Problems of Structural Transformation. - Тошкент: Иқтисодиёт, 2021. – 284 p.
14. Berkinov B.B. Issues of Industrial Policy and Investment Development of Uzbekistan. Tashkent: Science and Technology, 2020. – 256 p.
15. Yuldashev N. Industrial Clusters and Chemical Industry Development in Uzbekistan. Journal of Regional Economic Studies, Vol. 12, No. 3, 2023. – pp. 44-58.