ENSURING GREEN GROWTH THROUGH INCREASING EFFICIENCY IN THE INDUSTRIAL SECTOR

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Currently, the processes of economic development are rapidly accelerating on a global scale. The principles of digital transformation, innovative technologies, and the rational use of resources are deeply penetrating all sectors of the economy, particularly the industrial sector. In particular, the widespread use of information and communication technologies in production processes allows the practical implementation of the "green growth" concept by improving efficiency, ensuring energy saving, and reducing waste.

At the same time, the consequences of the recent pandemic, global climate change, and geopolitical instability have had certain negative effects on industrial development. However, these factors have further emphasized the need to accelerate new approaches in the economy - such as ensuring environmental safety, reusing resources, and reducing the carbon footprint - under the strategy of the "green economy".

Today, ensuring environmental sustainability alongside improving production efficiency in industrial sectors has become an urgent issue. The introduction of the "green growth" model makes it possible not only to achieve economic effectiveness but also to maintain a balance between social and environmental stability. Therefore, the widespread implementation of energy-saving technologies, the creation of waste-free production systems, and the development of sustainable innovation management mechanisms are among the key requirements of modern industry.

It is well known that achieving sustainable and high economic growth in any country depends on its economic policy. The economic policies pursued by President Shavkat Mirziyoyev clearly demonstrate this. The Presidential Decree of the Republic of Uzbekistan dated January 28, 2022, No. PF-60 "On the Development Strategy of New Uzbekistan for 2022–2026" serves as the legal foundation for such economic reforms.

The main direction of this strategy, "Rapid Development of the National Economy and Ensuring High Growth Rates," aims to achieve sustainable high growth rates in the economy over the next five years by increasing GDP per capita by 1.6 times and continuing industrial policy to strengthen economic stability and increase the share of industry in GDP by 1.4 times. This highlights the relevance of the research topic.

According to international experience, the industrial sector plays a decisive role in ensuring high and stable economic growth. Indeed, the industrial sector, as the "driver" of the economy, is not only a creator of high added value but also the main sector ensuring competitiveness

through the production of high-tech goods. The development of modern industry requires innovative technologies, resource-saving mechanisms, and principles of green transformation aimed at maintaining ecological balance.

The development of the industrial sector directly affects GDP growth, export capacity expansion, and the strengthening of economic independence. Therefore, many studies by economists around the world recognize sustainable industrial growth as a key factor in a country's long-term development. For instance, within the framework of the European Union's "Green Deal" strategy, reducing carbon emissions, increasing energy efficiency, and introducing renewable energy sources in industrial production are considered priority areas.

Similarly, for developing countries, including Uzbekistan, developing a green growth model based on improving efficiency in the industrial sector is extremely important. This requires the widespread use of energy-saving technologies, the introduction of waste-free technologies, and the improvement of management systems based on ecological standards. This ensures not only economic efficiency but also environmental safety and social well-being.

As a result, the development of industrial sectors - closely linked with science, education, services, and innovative infrastructure - contributes to the creation of an integrated green economic system that ensures sustainable economic growth of the country.

According to Conrado Diego, the economic development of any country depends on the economic policy pursued by the state, particularly industrial policy, investment in the sector, and the efficiency of its use.

Hermas Abudu, Xiangyu Cai, and Boqiang Lin argue that the oil industry plays a crucial role in fueling all sectors of the economy, and the industrial sector itself is the main sector driving economic growth and development.

The impact of natural resources on economic growth is significant - the more abundant and efficiently used natural resources are, the greater the guarantee of high economic growth. The utilization of natural resources is largely based on industrial development.

Overall, the industrial sector is one of the key branches of Uzbekistan's economy. It differs fundamentally from other sectors due to its capacity to create added value, satisfy public needs, and serve as a high-level production locomotive. The development of the industrial sector leads to stable national economic growth. Processing all extracted and cultivated resources, producing new products, and expanding the assortment and nomenclature enhance diversification processes.

According to data, the GDP of Uzbekistan in January–September 2025 amounted to 1,303.7 trillion soums, with a growth rate of 7.6%. Within this growth, the industrial sector accounted for 26.1%, achieving a real growth of 6.8% compared to the previous year.

These figures show that Uzbekistan's industrial sector remains the main driver of overall economic growth. At the same time, the manufacturing industry grew by 7.5%, and waste

collection and recycling sectors increased by 8.0% practical signs of moving closer to "green economy" principles.

The increasing share of processing in the industrial sector indicates rising production efficiency. Furthermore, sustainable growth can be ensured through the introduction of energy-saving technologies, resource recycling, and waste-free production systems.

By the end of 2025, the industrial deflator stood at 113.3%, indicating that price growth was accompanied by an expansion of production volumes. Therefore, it is necessary to strengthen mechanisms for increasing energy efficiency and reducing carbon emissions in industry, as resource consumption continues to rise alongside economic growth.

Although the share of the services sector in Uzbekistan's GDP reached 49.4%, the growth rate of industry continues steadily. This demonstrates that industry remains a highly resource-intensive sector. Therefore, "green industrial transformation" that is, the wide use of environmentally friendly technologies, recycling, energy-efficient systems, and the transition to the "smart industry" concept - is considered a crucial factor.

According to nine-month data for 2025, the shadow economy accounted for 33.3% of GDP, of which 10.2% was related to industrial activities. This indicates challenges such as hidden production, processes beyond environmental monitoring, and the neglect of waste accounting.

In Uzbekistan's current stage of economic development, achieving high and stable growth rates depends directly on the efficient functioning of the industrial sector. Therefore, accelerating ongoing socio-economic reforms, creating broad opportunities for leading industries, and supporting underdeveloped sectors are of decisive importance within the framework of the "green growth model."

Sustainable industrial growth ensures not only economic stability but also ecological and social stability through the rational use of resources, reducing negative environmental impacts, and creating new "green" jobs. From this perspective, the following areas should be prioritized in developing future strategies:

- Sustainable "green industry" is the main factor making the economy competitive. Therefore, it is necessary to introduce "green finance" mechanisms for industrial entities by increasing investment attractiveness, expanding tax and credit incentives. For foreign investors, the transfer of green technologies, implementation of carbon compensation projects, and application of ESG standards are of particular importance. This helps create additional jobs, reduce production costs, and enhance environmental safety;
- In developed countries, "industrial clusters" are considered effective models for resource sharing, innovative solutions, and waste recycling. Establishing green clusters in Uzbekistan based on metallurgy, chemistry, textiles, and IT services will contribute to increasing employment and income levels. In this process, increasing the share of environmentally

friendly products through public procurement ("green procurement") will accelerate the overall green transformation of the economy;

- To improve efficiency in industrial enterprises, it is necessary to liberalize the real sector, strengthen dialogue between the state and business, and eliminate regulatory-bureaucratic barriers hindering sectoral development. Introducing a "green audit" system - i.e., continuous monitoring of energy consumption, waste volume, and water usage at enterprises - is crucial. This approach ensures not only economic efficiency but also environmental sustainability;

- Future investment policy should be directed toward the most promising, environmentally safe, and energy-efficient sectors to expand industrial capacity. For example, renewable energy, smart manufacturing, zero-waste technologies, and water recycling systems should be priority areas. Such an approach aligns with the "Uzbekistan–2030" strategy and enhances the global competitiveness of the industry.

In conclusion, GDP indicators for 2025 show that Uzbekistan's industrial sector remains the main locomotive of economic growth - with its share around 26% of GDP and a growth rate of 6.8%. At the same time, the expansion of manufacturing, waste recycling, and ICT services indicates that the economy is entering the stage of "green transformation".

Hence, forming a sustainable and efficient industrial policy requires scientifically based analysis, green investments, innovative technologies, and resource-saving management systems. Thus, the green growth model based on efficiency ensures not only economic stability but also environmental safety and social well-being - serving as a key principle on Uzbekistan's strategic development path until 2030.

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