

## SUSTAINABLE ECONOMIC EXPANSION: UNLOCKING UZBEKISTAN'S GREEN ECONOMY POTENTIAL AND NAVIGATING INFLUENCING FACTORS

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### Abstract:

This study explores the prospects for sustainable economic expansion in Uzbekistan through the lens of developing a green economy and identifies the influential factors shaping this trajectory. By embracing the principles of sustainability and environmental stewardship, Uzbekistan aims to unlock its green economy potential as a driver of long-term prosperity. Through a comprehensive analysis of key economic, environmental, and policy factors, this paper provides insights into the pathways for sustainable growth. It examines the role of renewable energy, green infrastructure, sustainable agriculture, and eco-friendly industries in fostering economic development while mitigating environmental impact. Additionally, it investigates the policy frameworks, institutional capacities, and socio-economic dynamics influencing the transition towards a green economy. By addressing these factors, Uzbekistan can chart a course towards sustainable economic expansion while balancing environmental preservation and socio-economic progress.

**Keywords:** Green economy, Sustainable economic growth, Renewable energy, Resource efficiency, Environmental stewardship, Policy frameworks, Institutional capacity, Socio-economic dynamics, Climate change adaptation, Economic Development, Environmental preservation, green innovation, Decoupling economic growth, Water usage optimization, Green infrastructure, Eco-friendly industries, Market dynamics, International cooperation.

### Introduction

In recent years, the imperative of sustainable development has become increasingly prominent on the global agenda, with nations worldwide recognizing the urgency of balancing economic growth with environmental conservation. In Uzbekistan, a country endowed with rich natural resources yet facing pressing socio-economic and environmental challenges, the pursuit of sustainable economic expansion has emerged as a pivotal objective. Central to this endeavour is the concept of developing a green economy—a model that prioritizes resource efficiency, environmental sustainability, and social inclusivity in driving economic growth.

Against the backdrop of Uzbekistan's ambitious development goals and its commitment to international sustainability frameworks, such as the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement, the transition towards a green economy holds profound significance. This transition encompasses a multifaceted approach, encompassing the adoption of renewable energy sources, the optimization of water usage in agriculture, the modernization of



infrastructure for enhanced energy efficiency, and the promotion of green innovation across industries.

However, the realization of a green economy in Uzbekistan is beset by a myriad of challenges. Institutional barriers, policy constraints, technological limitations, and socio-economic disparities pose formidable obstacles to the widespread adoption of sustainable practices. Moreover, the global context, characterized by evolving market dynamics, shifting geopolitical landscapes, and the imperatives of climate change adaptation, exerts significant influence on Uzbekistan's green economy agenda.

This paper seeks to delve into the intricacies of Uzbekistan's journey towards a green economy and explore the factors shaping its trajectory. Through a comprehensive analysis of economic, environmental, and policy dimensions, it aims to elucidate the pathways for sustainable economic expansion in the country. By identifying key opportunities and challenges, as well as assessing the efficacy of existing policy frameworks and institutional capacities, this paper endeavours to provide actionable insights for policymakers, businesses, and civil society stakeholders invested in driving Uzbekistan's sustainable development agenda forward.

Against this backdrop, the following sections will delve into the nuanced dynamics of Uzbekistan's green economy transition, examining the interplay of economic imperatives, environmental imperatives, and socio-political realities. Through this exploration, it is hoped that a clearer understanding of Uzbekistan's green economy potential and the strategies required to unlock it will emerge, paving the way for a more sustainable and prosperous future for the nation and its people.

### Literature review

According to A. Olmasov and A. Vakhobov: "Economic growth is the development of the economy, that is, the increase in the production of goods and services that are life benefits" [1]. According to A.SH. Bekmurodov and U.V. Gafurov, "Economic growth is expressed directly in the increase of the amount of gross domestic product in absolute terms and per capita and at the expense of a unit of economic resource costs, as well as in the improvement of its quality and composition" [2]. According to the economist A. Mominov: Economic growth means an increase in the gross domestic product (GDP) and its value per capita. If the goal is to assess the economic potential of the country, then the figures for GDP growth are used [3].

Definitions of the concept of "Sustainable economic growth" are also given in the literature. In particular, the concept of "Sustainable economic growth" should represent such a state of the national economy, in which real variable criteria and indicators, which may be negative or equal to zero, should grow at a continuous proportional rate [4]. Accelerating the development of the "green economy" is one of the urgent problems of significant scientific and practical importance in researching the processes of reforming social and economic relations and implementing structural changes in the country.

Theoretical and practical aspects of ensuring sustainable economic growth based on "green economy" local economist-scientists Vahabov A.V., Khajibakiyev Sh.Kh. [5], Makhmudov N.M., Hakimov H.A. [6], Djorayeva S.Q. [7], Bozorov E.Q., Khatamov O.Q., Avliyakov A. [8], Isayev F.I., Kurbanov Z.N. [9] have researched.



## Methodology

Today, it is no secret that the development of the economy aimed at increasing the share of highly processed finished products with high added value in the structure of national production and export is considered an important factor for ensuring long-term sustainable economic growth.

Developing a long-term strategy of structural changes in the economy of Uzbekistan requires taking into account not only domestic but also global processes and problems. From this point of view, the transition of sustainable economic development to a new, innovative economy based on the efficient use of resources is one of the most effective means of implementing consistent structural changes and sustainable development.

The problems of ensuring sustainable economic growth, innovative approach to "clean technologies", and formation of a "green economy" are regularly discussed in international economic, environmental and investment forums.

According to the State Statistics Committee, foreign trade turnover in Uzbekistan in January-March 2018 amounted to 7.9 billion US dollars, including exports of 4.1 billion US dollars and imports of 3.8 billion US dollars.

The balance of foreign trade turnover was minus 249.4 million US dollars. As part of exports, energy sources and oil products increased by 91.4% compared to the same period last year, due to the increase of natural gas by 2.3 times. Machinery and equipment increased by 35.4%, of which boilers, equipment and mechanical devices and their parts increased by 24.6%, transformers and accumulators by 68.6%, and monitors and projectors by 3.3 times.

Compared to the same period last year, the growth of wheat exports by 21.6% and fruit and vegetable products by 51.7% led to a 49.9% increase in the volume of food exports [10].

There is a certain logic in the opinions of some scientists who have concluded the analysis of the causes of global economic crises that are repeated from time to time. That is, finding a way out of the catastrophic crisis will lead the world community to adopt a fundamentally new generation of modern technologies, in other words, to a new stage of scientific and technical development that will ensure more rapid and economic growth of production.

Today, important reforms are being implemented to stabilize the economy of our country. Necessary conditions and opportunities for production and export of competitive products are being created. However, it is clear that until now no organization has analyzed the import of products entering our country, and control in this area has been left to its own devices.

At this point, we are talking about one of the main reasons preventing the recovery of the economy of developing countries today - the unreasonably high price of traditional energy resources, first of all, oil. The mass introduction of economically efficient photoelectric energy sources will allow optimization of oil prices in the future. The widespread introduction of "green" technology, which is a factor in production and resource-saving in Uzbekistan, creates a basis for the export of our products to foreign markets and ensures the stability of the competitiveness of our country's export potential. For this purpose, attracting local and foreign investments, many promising projects are being implemented. This will be an incentive for the rapid development of developing countries, which are forced to spend their limited foreign exchange reserves on foreign purchases of hydrocarbon raw materials. Therefore, solar energy can be one of the factors that will act as a locomotive to get out of the crisis.

Factors requiring the expansion of the scope and practical directions of solar energy use for energy



purposes in Uzbekistan: stable high growth rates are ensured in our country, as well as the implemented structural fundamentals changes, diversification and modernization of the economy, rapid industrial development, formation of a modern and powerful gas-chemical complex equipped with the most advanced technologies for deep processing of oil and gas and other raw materials.

In this regard, despite the negative impact of the global financial and economic crisis, it should be noted that during the last 10 years, the annual growth rate of the gross domestic product in Uzbekistan has been in the range of 7-8.5 per cent. From 2000-2013, this indicator increased by 3.8 times, and the gross product per capita increased by 3.2 times. According to estimates of international financial institutions, such high growth rates of Uzbekistan's economy will be maintained shortly.

Taking into account the task of halving the energy capacity of the gross domestic product by 2030 compared to 2016, there is a need to set clear target parameters for reducing energy consumption for enterprises and organizations.

Taking into account these important tasks, the decision of the President of the Republic of Uzbekistan in 2017-2021 is aimed at further reducing the energy capacity of the gross domestic product, reducing the cost of products and expanding the use of energy from renewable sources.

It is assumed that the economy will be provided with energy resources by solving two tasks. First, there may be an opportunity to diversify the fuel balance through the extensive use of renewable energy resources. It is intended to reduce their contribution to the production of electricity and thermal energy due to the replacement of traditional fuel types with renewable energy types. Secondly, it is achieved by implementing a long-term program of reducing the energy capacity of production in economic sectors and improving the environmental condition of industrial activity areas.

Soon, reducing the energy and resource capacity of the economy, widely introducing energy-saving technologies in production, expanding the use of renewable energy sources, and increasing labour efficiency are considered priority tasks.

The implementation of comprehensive measures on the accelerated use of renewable energy sources is aimed at ensuring the receipt of industrial types of energy such as heat and electricity, which replace hydrocarbons and convert them into highly liquid products, in particular, polymers, allowing direct the production of synthetic types of fuel. At the same time, Uzbekistan has very favourable opportunities for this due to its geographical location and climatic conditions. In Uzbekistan, the weather is clear more than 300 days a year, and our country has an advantage over most regions of the world in terms of the number of sunny days throughout the year. According to the conclusions of the Asian Development Bank and the World Bank, the gross potential of solar energy in Uzbekistan is more than 51 billion tons of oil equivalent.

Based on these resources, according to experts' calculations, it is possible to produce 40 times more electricity than the electricity consumed in our country this year.

In the 1980s of the last century, research in the field of solar energy in our country developed rapidly after the establishment of the scientific-experimental centre of the scientific-production association "Physics-Sun", which is the only one in the Asian region and whose scientific developments are famous even outside our country. started

Today, Uzbekistan has a huge potential in terms of scientific and technical personnel, conducting





experiments, and has accumulated a large amount of design and technological developments in the design and use of solar energy in our country.

Most of the electricity consumed in Uzbekistan (87%) is produced in thermal power stations. Oil and gas resources form the core of the energy consumption structure.

125 mln. aimed at improving energy efficiency in the industry at the expense of loans from the World Bank Group in our country. investment projects equal to USD are being implemented. Investments directed to this area are used to renew energy systems, modernize production facilities, and develop renewable energy sources. According to estimates, the system of measures aimed at increasing energy efficiency in the traditional electric power sector of Uzbekistan by 2030 will cost 6.85 mln. allows to save natural resources equal to a ton of oil equivalent.

With the honour of independence, the mechanisms of guaranteeing ecological stability in the conditions of market economy relations were effectively implemented. About thirty laws and about 150 by-laws have been adopted. Also, Uzbekistan has established active cooperation with the United Nations and other influential international organizations in the field of environmental protection.

In particular, Uzbekistan signed the Rio Declaration, the Kyoto Protocol the Hadley Convention on Climate Change, the UN Convention on Combating Desertification, the Convention on Biological Diversity, Basel, Bonn and The Ramsar Conventions have joined many international environmental agreements, such as the Convention on the Protection of the World Cultural and Natural Heritage. Significant results have been achieved in terms of fulfilling the obligations imposed by these conventions. In areas with a high level of danger to human health, the environment has improved and the ecosystem has stabilized. In addition, efforts to improve the ecological situation in the Orolbayi region are being carried out effectively. The emission of pollutants into the atmosphere, and toxic wastewater has decreased several times. Instead of cotton, the amount of grain, legumes, vegetables, rice and potato crops has increased. The activities of the national reserve, park, private reserve and ecological centres have been developed. It is worth noting that a lot of attention is being paid to the use of renewable energy sources in our country. Five priority areas of development of the Republic of Uzbekistan in 2017-2021

Expanding the use of renewable energy sources, reducing the energy capacity of production, improving the supply of electricity to the population based on scientific and technical developments, the construction of new power generation facilities and the modernization of existing ones, low-voltage power networks and transformers, as defined in the action strategy Updating points, as well as improving the supply of the population with other fuel and energy resources and implementing the important directions set for the purposeful implementation of tested international energy-saving advanced technology research into practice, both externally and internally in our country creates an opportunity to create a stable national energy system.

Today, the public is widely involved in environmental protection and finding solutions to existing environmental problems in our country. In particular, the ecological movement of Uzbekistan seeks to direct all the efforts of the society to deepen the reforms aimed at further improving nature protection and proper use of its resources. This movement brought together more than 200 non-governmental non-commercial organizations operating in the same direction.

It is worth noting that the members of the group of deputies of the environmental movement of Uzbekistan take their place in all the committees of the lower chamber and carry out law-making



and control-analysis activities. Based on their legislative initiative, work is being carried out on the further improvement of several legal documents of the Republic of Uzbekistan aimed at the preservation of natural resources.

In general, improvement of the organizational and legal framework aimed at guaranteeing ecological stability, protection of all sets of natural resources and ensuring their rational use is an important factor in the healthy and dignified life of the population. After all, at a time when ecological stability in the world is becoming a matter of life and death not only for nature, but also for humanity, it is necessary to look at the improvement of environmental protection as an urgent task, and not to forget that we are also responsible for the fate of our future generations.

Consistent institutional and organizational measures are being taken to ensure environmental safety in Uzbekistan. It should be said that a legal framework has been created aimed at the rational use of natural resources and the protection of public health, as well as following relevant international norms. Our country has ratified the most important conventions of the UN in the field of environmental protection and sustainable development and other international documents and is fulfilling all its obligations. A mechanism for the implementation of legislation on nature protection has been developed, and targeted state programs and national action plans are being implemented. Public organizations are actively participating in these good works, which are an important part of the reforms implemented in Uzbekistan.

The UN Environment Program (UNEP) noted that only 4 of the 90 points of the plan have been implemented. This showed that the Plan had failed. Climate change has not been stopped according to the plan, and the alkalinity level of seawater has not decreased, on the contrary, it has increased, destroying animals in it, and the loss of biological diversity, and deforestation have increased 4 times. was noted that fast [11]. To solve these problems and move to sustainable development, it is necessary to use the ecological potential of the biosphere in a planned manner without harming it. Today, the scope of use of the biosphere covers not only national territories but also international space.

The main reason for the ecological decline is economic growth and increased consumer potential of the society. Another problem is that the international community has not yet determined the legal status of the use of the global biosphere. A unified mechanism for the rational use of nature, which is the commonwealth of mankind, has not been developed. There is no accurate accounting of the use of the earth's reserves. Only the most developed countries are using the earth's biosphere shell. Western countries and the United States have not given up their high share in the use of global ecological potential. It is time to develop the rights, freedoms and obligations of using land resources. This leads to their degradation and looting. If you look around, the world is moving in the opposite direction to sustainable development. Increasing human well-being at the expense of the ecological crisis is sure to show its negative consequences shortly. The only way is to switch to ecological economy or "Green economy". This was noted by UNEP several times in its reports. "Green economy" means the production of energy-saving products, the use of alternative energy, the use of electric vehicles that do not emit toxic gases into the atmosphere, the use of water, the use of chemical substances to improve soil fertility, etc. According to experts, if today's existing eco-technologies are effectively used, it is possible to double the electric power, and by 2025, the fuel burned by cars can be increased by 50% [12-15].



## Conclusions

A comprehensive analysis of the problems of the development of the "Green Economy" based on the modernization of the national economy makes it possible to make several conclusions:

- The main problem in the successful implementation of the concept of "green economy" is to simplify the concept of "green economy" as effective technologies that save energy and resources, additional investments in alternative energy or "green" growth. The extreme complexity of scientific justification of the need to transition to a "green economy", and the high level of uncertainty in forecasting environmental problems, make it difficult to explain this concept understandably and simply. For example, there is no single agreement on reducing the duration and level of greenhouse gas emissions into the atmosphere. The amount of greenhouse gases released into the atmosphere is increasing;
- "Green economy" cannot replace sustainable development, "Green economy" is a criterion for achieving sustainable development;
- Sustainable development requires the development of economic, social and ecological components in a holistic, interconnected manner;
- The process of transition to the "green economy" is of particular importance for each country and is directly related to such characteristics as natural capital, human capital and the level of economic development of the country;
- The energy capacity of the national economy should be reduced with the help of modernization of production technologies, development of effective measures aimed at rational use of energy resources;
- It is necessary to form and improve the legal framework for state support and encouragement of the use of renewable energy sources.

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