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MACROECONOMIC MODELS AND PROSPECTS OF TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

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Abstract: The transition to a green economy has become one of the key priorities for ensuring sustainable economic growth, environmental protection, and efficient resource utilization in Uzbekistan. This article examines the role of macroeconomic models in assessing the economic, social, and environmental impacts of the transition to a green economy. The study analyzes the theoretical foundations of green economic development and explores the applicability of various macroeconomic approaches in the context of sustainable development. Particular attention is paid to Uzbekistan's ongoing reforms aimed at expanding renewable energy sources, improving energy efficiency, reducing greenhouse gas emissions, and promoting environmentally friendly production practices. The article evaluates the potential macroeconomic effects of green investments on economic growth, employment, productivity, and environmental sustainability.
Furthermore, it identifies the main opportunities and challenges associated with the country's green transformation process. The findings suggest that the successful implementation of green economy policies can contribute to long-term economic resilience, enhanced competitiveness, and improved environmental quality. The study concludes that the integration of macroeconomic modeling into policy design can support evidence-based decision-making and facilitate Uzbekistan's transition toward a sustainable and low-carbon economy.
Key words: green economy, macroeconomic modelling, CGE model, DSGE model, renewable energy, sustainable development, Input-Output Analysis, green investment, energy efficiency, climate economics.

Аннотация: Переход к зелёной экономике стал одним из ключевых приоритетов обеспечения устойчивого экономического роста, охраны окружающей среды и эффективного использования ресурсов в Узбекистане. В данной статье рассматривается роль макроэкономических моделей в оценке экономических, социальных и экологических последствий перехода к зелёной экономике. В исследовании проанализированы теоретические основы зелёного экономического развития и изучены возможности применения различных макроэкономических подходов в условиях устойчивого развития. Особое внимание уделено проводимым в Узбекистане реформам, направленным на расширение использования возобновляемых источников энергии, повышение энергоэффективности, сокращение выбросов парниковых газов и развитие экологически чистого производства. В статье оцениваются потенциальные макроэкономические эффекты зелёных инвестиций на экономический рост, занятость, производительность труда и экологическую устойчивость.
Кроме того, выявлены основные возможности и вызовы, связанные с процессом зелёной трансформации страны. Результаты исследования показывают, что успешная реализация политики зелёной экономики способствует долгосрочной экономической устойчивости, повышению конкурентоспособности и улучшению качества окружающей среды. В заключение отмечается, что интеграция макроэкономического моделирования в процесс разработки государственной политики может способствовать принятию решений на основе доказательств и ускорить переход Узбекистана к устойчивой и низкоуглеродной экономике.
Ключевые слова: зелёная экономика, макроэкономическое моделирование, модель CGE, модель DSGE, возобновляемая энергетика, устойчивое развитие, анализ «затраты-выпуск» (Input-Output Analysis), зелёные инвестиции, энергоэффективность, климатическая экономика.

INTRODUCTION

In the second decade of the 21st century, two increasingly complex problems facing humanity have become acute at the same time: the acceleration of climate change and the deepening of global economic inequality. These two problems complement each other, since the climate crisis will hit economically vulnerable groups, countries with underdeveloped infrastructure, and economies dependent on water and land resources hardest. Uzbekistan also falls into this category.

The republic's economy has historically relied on the export of natural resources - natural gas, gold, copper, uranium, and agricultural products. Since the mid-2000s, however, the country has been actively expanding opportunities for economic modernization, industrial diversification, improved energy efficiency, and sustainable resource management. In this context, the "green economy" paradigm is emerging as a promising approach that supports not only environmental objectives but also long-term economic growth, social well-being, and sustainable development.

A green economy is understood as a system that is capable of reducing carbon emissions, using resources efficiently, ensuring social equality, and sustaining economic growth. The global economic community has gained considerable experience in this area: Germany increased the share of renewable energy to 47 percent by 2022, and Denmark managed to cover more than 50 percent of the country's consumption with wind energy. Among developing countries, China and India have made major investments in green energy, transforming the global energy market. The Republic of Uzbekistan has also made bold political decisions in this direction in recent years. The commitments made by President Sh. Mirziyoyev at the UN Climate Conference (COP26) in 2021, the adoption of the «Green Uzbekistan» national program in 2023, and the first issuance of green bonds this year - all this indicates that the country has begun a serious approach to the green transition. However, clear quantitative foundations, models and mechanisms are needed to translate political intentions into economic results. [1]

The main objective of this study is to conduct a quantitative analysis of the transition to a green economy in Uzbekistan using various macroeconomic models, develop key scenarios and assess prospects for the period up to 2030. The study is also distinguished by its topical practicality: its results can be used in developing public policy, formulating investment strategies and conducting dialogues with international financing organizations.

REVIEW OF LITERATURE ON THE SUBJECT

Research in the field of green economy theory and macroeconomic modeling has been actively developing over the past decade. Representatives of different schools of thought use different approaches to studying the economic consequences of the green transition, which indicates the multifaceted nature of the issue.

A number of studies by the International Monetary Fund (IMF) use general equilibrium (CGE) models to assess the macroeconomic effectiveness of the transition to a green economy. Parry et al. (2021) analyzed the impact of a carbon tax on GDP for 36 countries and showed that, while this tax had a positive effect on GDP growth in Western European countries, it was likely to have a negative impact in the short term in countries heavily dependent on fossil fuels. However, it was also noted that this negative impact could be mitigated by targeted public policies. [2]

In the context of Central Asia, Fay and Wood (2022) studied the impact of the energy transition on regional economies based on a DSGE model. They conclude that economies that rely on fossil fuel exports, such as Kazakhstan, Turkmenistan, and Uzbekistan, may face significant structural challenges in the short term, but with the right financing mechanisms and technology transfer, this transition can be economically viable within 7–10 years. [3]

The World Bank (2023) in a report specifically prepared for Uzbekistan estimated the economic potential of improving energy efficiency in the country at $2.3 billion per year. At the same time, the report notes that the installation of 8 GW of renewable capacity by 2030 has the potential to meet domestic fuel needs while maintaining natural gas exports. [4]

In Uzbekistan, the legal and institutional foundations for the transition to a green economy have been strengthened through a series of presidential decrees, resolutions, and national development strategies. A key policy document is the Presidential Resolution "On Approval of the Strategy for the Transition of the Republic of Uzbekistan to a Green Economy for the Period 2019–2030" (PQ-4477, October 4, 2019). This strategy establishes the main priorities for improving energy efficiency, expanding renewable energy sources, reducing greenhouse gas emissions, and ensuring sustainable use of natural resources. [5]

Further support for green transformation is provided by the Presidential Decree "Uzbekistan–2030 Strategy" (PF-158, September 11, 2023), which identifies environmental sustainability, green economic growth, and renewable energy development as strategic priorities for the country's long-term development. The

strategy aims to increase the share of renewable energy in electricity generation, improve energy efficiency, and strengthen environmental protection measures. [6]

In addition, the Law of the Republic of Uzbekistan “On the Use of Renewable Energy Sources” (2019) serves as an important legal framework for encouraging investment in solar, wind, and other renewable energy technologies. The law establishes economic and institutional mechanisms to support the development of renewable energy and reduce dependence on fossil fuels. [7]

The literature review shows that green transition issues are being actively studied at the international and national levels. However, comprehensive macroeconomic models specifically designed for Uzbekistan, fully taking into account local institutional, resource and demographic characteristics, have not yet been sufficiently developed. This study was carried out to fill this gap and provide practical policy recommendations.

RESEARCH METHODOLOGY

The study used a multi-layered approach to macroeconomic modeling methodology. Different models were used as complementary tools:

• General equilibrium model (CGE) — to model the interdependence between economic sectors and the redistribution of resources between sectors as a result of green policies;

• Dynamic stochastic general equilibrium model (DSGE) — to analyze the dynamics of the green transition over time and the mechanism of the economy’s response to unexpected external shocks;

• Input-output model — to identify technological dependencies between sectors and the multiplier effect of green investments;

The data base was formed by data from the Statistical Agency of Uzbekistan for 2019–2024, the World Bank open database, Energy Agency reports, FAO agricultural statistics, and sectoral data provided by the Ministry of Energy of Uzbekistan. Elasticity and structural parameters from international literature and empirical studies conducted on the case of Uzbekistan were adopted for the model parameters.

Five alternatives were developed for the scenario analysis: (1) baseline scenario - current policies will continue; (2) low ambition scenario; (3) medium scenario - the «Green Uzbekistan» program will be implemented as planned; (4) high ambition scenario - additional international financing will be attracted; (5) optimal scenario - a systematic and integrated policy will be implemented in all areas.

ANALYSIS AND RESULTS

Over the past decade, Uzbekistan’s economy has undergone a number of structural changes. The large-scale economic reforms implemented since 2017 — currency liberalization, simplification of the tax system, and measures to develop the private sector — have significantly increased economic activity. Although the 2020 COVID-19 pandemic briefly halted growth, the economy showed resilience in 2021, growing by 7.4 percent (Figure 1).

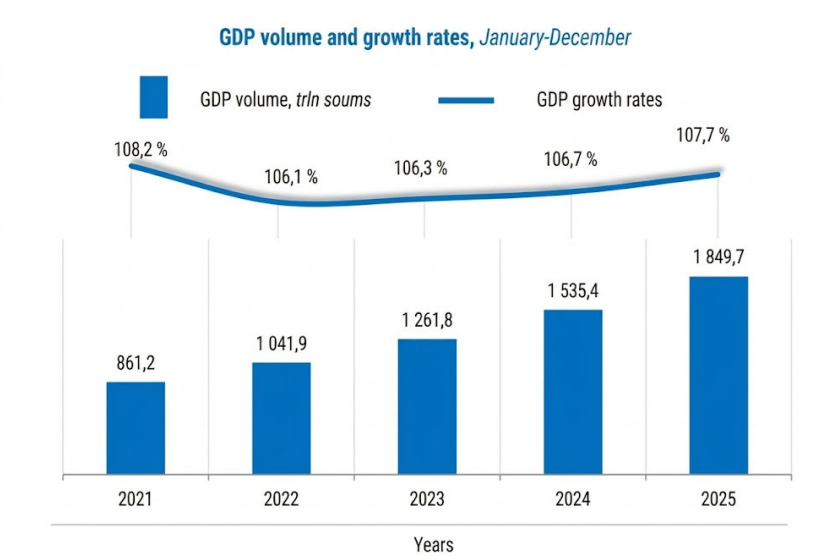

Figure 1. GDP growth rates of Uzbekistan[1] (2015–2025), % [8]

1 Source: Developed by the author.

The GDP growth graph shows that the decline in 2020 was the result of a one-time global external shock (COVID-19). Before and after this, growth rates remained relatively stable — in the range of 5–7 percent. This macroeconomic stability creates favorable conditions for a green transition, as a steadily growing economy is better positioned to implement structural reforms and long-term development initiatives.

Uzbekistan's energy system currently benefits from substantial natural gas resources. According to data for 2024, the share of natural gas in the country's energy balance is 74 percent. This provides affordable energy for domestic consumers and creates a solid foundation for a gradual and balanced diversification of energy sources in the future.

The energy sector is one of the fundamental pillars of Uzbekistan's economy, providing the necessary resources for industrial production, agriculture, transportation, and household consumption. Historically, the country's energy system has relied significantly on natural gas, which accounts for the largest share of primary energy consumption and electricity generation. This resource base has played an important role in supporting economic development and energy security while creating opportunities for the gradual expansion of renewable energy and sustainable development initiatives.

An important area for further development in Uzbekistan's energy sector is improving energy efficiency. The modernization of technologies, infrastructure renewal, and the introduction of advanced production processes offer significant opportunities to reduce energy losses and optimize the use of natural resources. As economic growth and population expansion continue to increase energy demand, ongoing investments in modern energy systems and energy-efficient technologies can further strengthen sustainable economic development and long-term competitiveness.

Environmental degradation associated with fossil fuel consumption represents another significant challenge. The combustion of natural gas and other fossil fuels contributes to greenhouse gas emissions, air pollution, and climate change. These environmental impacts not only affect ecological systems but also create economic and social costs through adverse effects on public health, agricultural productivity, and natural resource availability. The increasing frequency of extreme weather events and rising temperatures further highlight the vulnerability of Uzbekistan to climate-related risks (Figure 2).

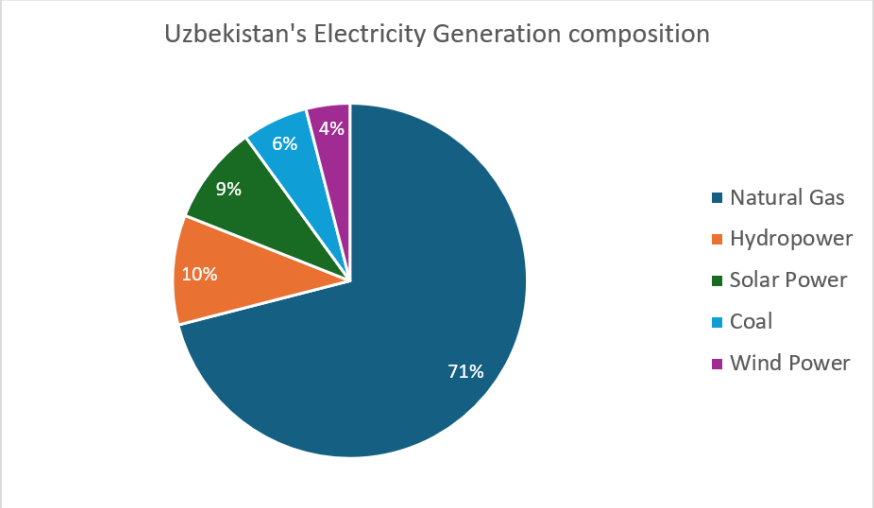

Figure 2. Composition of Uzbekistan's energy balance[2] (2024), % [9]

The situation with CO_2 emissions is also dire: although total emissions have decreased slightly since 1990, this is mainly due to the decline in heavy industry, and not to an increase in environmental efficiency. With population growth and increased economic activity, emissions are showing a tendency to increase again.

The CGE model allows for the joint modeling of the interdependence between economic sectors and their competition for resources. The CGE model developed for Uzbekistan is based on 12 sectoral aggregations, including labor, capital, natural resources, and energy factors. The main limitations of the model and the assumptions made are: (1) all markets are competitive, i.e. prices freely approach equilibrium; (2) labor cannot move freely between sectors in the short run, but adaptation is possible in the long run; (3) capital stocks are sector-specific in the short run and mobile in the long run; (4) various tax and subsidy policies are simulated while maintaining a balanced state budget. In the context of Uzbekistan's transition to a green economy, the CGE model was developed based on sectoral aggregation covering major branches of the national economy,

2 Source: Developed by the author.

including agriculture, industry, services, energy production, transportation, and construction. The model incorporates the key factors of production—labor, capital, natural resources, and energy—and examines how these resources are reallocated under alternative green development scenarios.

Several assumptions underpin the CGE framework. First, markets are assumed to operate under competitive conditions, allowing prices to adjust and clear markets over time. Second, labor mobility between sectors is limited in the short run but becomes more flexible in the long run as workers acquire new skills and adapt to changing labor market conditions. Third, capital is relatively immobile in the short term because existing investments are sector-specific, while long-run adjustments permit capital to move toward more productive and sustainable sectors. Finally, various environmental taxes, subsidies, and government support mechanisms are incorporated while maintaining overall fiscal sustainability.

The simulation results indicate that the transition to a green economy may generate short-term adjustment costs. In particular, sectors heavily dependent on fossil fuels may experience declining investment, lower output, and workforce displacement during the initial stages of the transition. The reallocation of labor and capital from conventional energy industries to renewable energy and environmentally sustainable sectors may temporarily reduce economic efficiency and create structural adjustment pressures.

However, the medium- and long-term outcomes are significantly more favorable. The CGE model suggests that investments in renewable energy, energy-efficient technologies, and sustainable infrastructure stimulate productivity growth and enhance resource allocation efficiency. As green industries expand, new employment opportunities emerge, compensating for job losses in traditional sectors. Increased energy efficiency also reduces production costs, improving the competitiveness of domestic enterprises in both national and international markets.

The most important result identified based on the CGE model is that the transition to green energy may cause some economic structural pain in the short term (1-3 years), as the capital collapse in fossil fuel-producing sectors accelerates and the workforce in these sectors is forced to move to other sectors. However, in the medium and long term, the CGE results show a clear positive dynamic.

The DSGE model is an optimal tool for modeling the dynamic consequences of a green transition. It takes into account that optimal decisions are made by agents in the household sector, the firm sector, the financial sector, and the public sector based on information about the future they expect.

The calibrated DSGE model for Uzbekistan provides several important conclusions. First, green energy requires capital expenditures that have a negative impact during the construction and installation phase, but since operating costs are low, a net positive economic impact begins after 7-10 years. Second, green bonds and international financing can significantly accelerate this time reduction.

The model indicates that the transition to renewable energy requires substantial initial capital investment. During the construction and installation phase of renewable energy facilities, financial resources are redirected from other productive activities, which may temporarily slow economic growth and reduce consumption. Consequently, the short-term effects of green investment programs may be relatively modest or even slightly negative due to high upfront costs and adjustment processes.

However, the dynamic analysis demonstrates that these temporary costs are gradually offset by long-term economic benefits. Once renewable energy infrastructure becomes operational, lower operating and maintenance costs contribute to increased productivity and reduced energy expenditures. According to the DSGE simulations, the positive economic effects of green investments become increasingly evident after several years, leading to higher output, greater investment activity, and improved economic welfare.

An important feature of the DSGE model is its ability to analyze the role of financial mechanisms in accelerating green transformation. The results suggest that green bonds, climate finance instruments, foreign direct investment, and international development assistance can significantly reduce the transition period by providing additional capital for renewable energy projects and sustainable infrastructure development. Greater access to green financing enhances investment capacity and supports faster implementation of environmental policies.

The DSGE model also highlights the importance of economic resilience. The findings indicate that an economy with a larger share of renewable energy is less vulnerable to external shocks such as fluctuations in global fossil fuel prices, disruptions in energy supply chains, and climate-related risks. Because renewable energy sources rely primarily on domestic natural resources such as solar and wind power, they reduce exposure to international energy market volatility and improve long-term energy security.

Furthermore, the dynamic simulations show that green technological innovation generates positive spillover effects throughout the economy. Increased investment in research and development, human capital, and clean technologies enhances productivity growth and supports sustainable economic expansion. These benefits accumulate over time, creating a stronger foundation for long-term macroeconomic stability.

The DSGE model also showed that the green economy is significantly more resilient to external shocks (oil price fluctuations, climate events, financial crises) than the baseline scenario, because the price of renewable energy is not set by import regulators and is more immune to global market fluctuations.

Using an input-output model, the impact of investments in green sectors on other sectors — that is, the multiplier effect — was calculated. Investment multipliers in four areas were compared based on the 23-sector input-output table based on the national accounts statistics of Uzbekistan.

The results show that investments in renewable energy projects produce considerable spillover effects across the economy. The development of solar and wind power facilities increases demand for construction services, machinery and equipment manufacturing, transportation, engineering activities, and financial services. Consequently, the expansion of renewable energy stimulates production in numerous related sectors, creating additional value added and employment opportunities.

Similarly, investments in energy efficiency measures generate strong multiplier effects. Modernization of industrial facilities, installation of energy-saving technologies, and improvements in building efficiency create demand for construction materials, technological equipment, and specialized services. In addition to reducing energy consumption, these investments increase productivity and lower production costs, thereby improving the competitiveness of domestic industries.

The Input-Output analysis also highlights the importance of sustainable agriculture in the green transition process. Investments in efficient irrigation systems, environmentally friendly farming technologies, and climate-resilient agricultural practices stimulate activity in agricultural production, manufacturing, logistics, and service sectors. Given the significant role of agriculture in Uzbekistan's economy, such investments can contribute to both environmental sustainability and rural economic development.

Furthermore, green transportation projects demonstrate notable multiplier effects. Investments in electric public transportation, railway modernization, and sustainable logistics infrastructure generate additional demand in manufacturing, construction, and service industries. These projects not only support economic growth but also contribute to lower emissions, improved air quality, and greater energy efficiency.

One of the most significant findings of the Input-Output model is related to employment generation. The analysis suggests that green sectors generally create more jobs per unit of investment than traditional fossil fuel-based industries. As a result, the expansion of renewable energy, sustainable agriculture, and energy-efficient technologies can support labor market development while facilitating structural transformation of the economy (Figure 3).

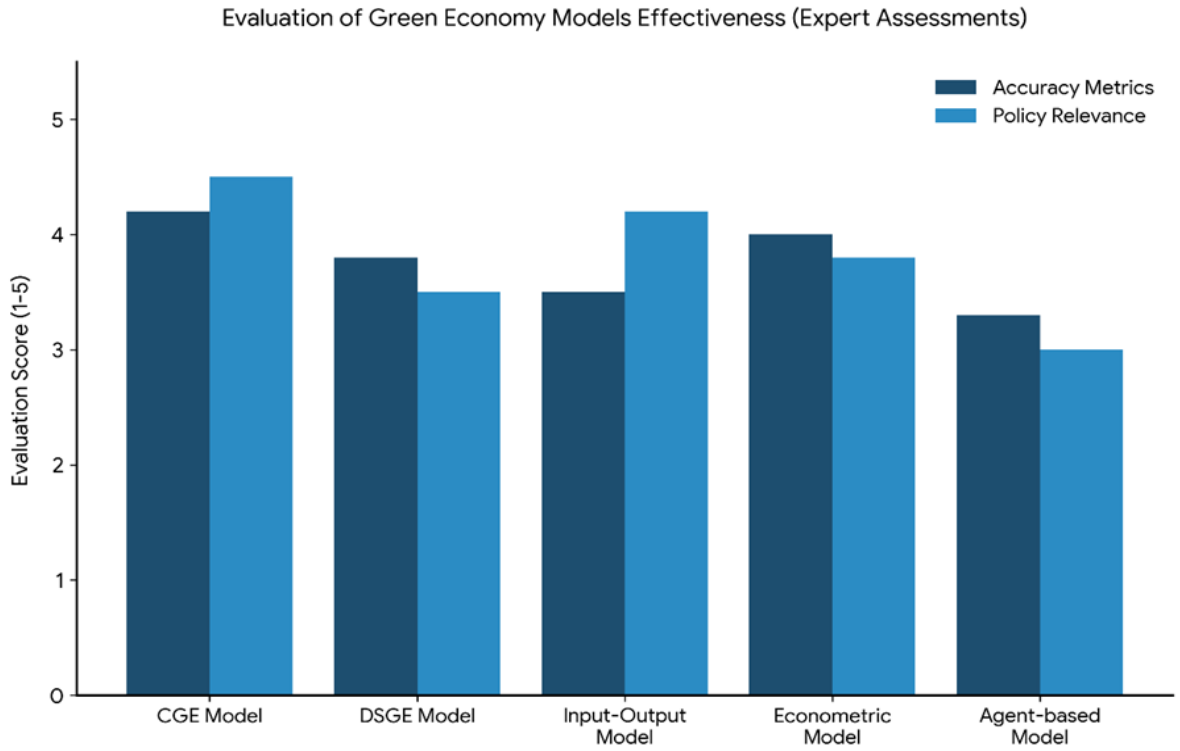

Figure e. Assessment of the effectiveness of green economy models[3] (expert ratings, scale 1-5) [10]

3 Source: Developed by the author.

The green building sector in Uzbekistan is still in its early stages of development. In 2022, the national standard «Green Building» was introduced, and since then, minimum energy efficiency requirements have been set for new capital construction projects (Figure 4).

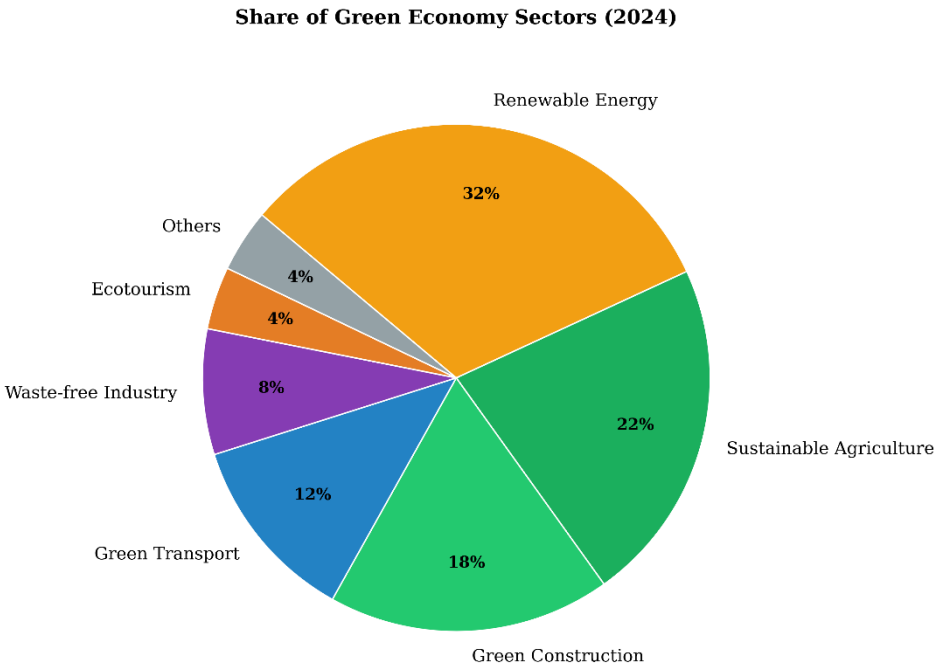

Figure 4. Share of green economy sectors[4] (2024), % [11]

The transport sector represents a promising area for advancing the green transition. With population growth, urban mobility demand is increasing, creating favorable conditions for the expansion of sustainable transport solutions, while the transition to electric vehicles is steadily gaining momentum. By 2024, 4,800 electric vehicles were registered in the country, accounting for 0.3% of the total car fleet. At the same time, the entry of popular Kia EV6 and BYD models into the local market in 2023 indicates growing consumer interest and increasing potential demand.

A systematic assessment of the strengths and weaknesses, opportunities and threats of the transition to a green economy is a necessary foundation for strategic policy development (Table 1).

Table 1. SWOT analysis: Transition to a green economy in Uzbekistan[5]

Strengths	Weaknesses
• Activation of state policy on green energy • Favorable geographical location (solar potential) • Demographic dividend (young population) • Foreign investment flow in green projects • Existence of the national program «Green Uzbekistan»	• Strong potential for diversification of the energy mix beyond fossil fuels (74%) • Growing opportunities for developing human resources in green technologies • Expanding prospects for strengthening green financing mechanisms • Increasing focus on sustainable land management and water efficiency • Emerging opportunities to enhance technology transfer infrastructure
Opportunities	**Threats**
• World Bank and ADB support for green projects • Application of digital technologies in the green sector • Regional green economy partnerships • Growing global demand for decarbonization • Development of the green bond market	• Accelerating climate change • Volatile energy prices • Geopolitical risks and trade restrictions • Increasing technology competition • Depleting water resources

4 Source: Developed by the author.
5 Source: Developed by the author.

The SWOT analysis shows that Uzbekistan has both strong foundations and serious constraints for a green transition. Among the strengths, the most important are the geographically favorable solar energy potential and the relatively young demographic composition of the country. Among the weaknesses, the high dependence of the energy system on fossil fuels and the shortage of personnel in green technologies are the main problems. In terms of opportunities, the presence of international financing institutions (ADB, EBRD, GCF) and the prospects for regional cooperation deserve special attention.

The most important practical issue of the transition to a green economy is the mechanisms for attracting funds. According to estimates, Uzbekistan needs at least 3.5–5 billion US dollars of investment per year to achieve its green goals by 2030. This amount is approximately 4.5–6.5 percent of current GDP. [12]

The international green financing market is an important source for Uzbekistan. The Asian Development Bank (ADB) and the European Bank for Reconstruction and Development (EBRD) are already financing several large green projects in Uzbekistan. The Global Climate Fund (GCF) has allocated 75 million dollars for adaptation projects in Uzbekistan in 2023.

The green bond instrument for local financial markets looks promising. In 2023, the Ministry of Energy of Uzbekistan will issue 100 million US dollars for the first time. issued green bonds worth $1.1 billion, which were well received by foreign institutional investors and generated excess demand. This experience provides a strong foundation for expanding the green bond market. [13]

The mechanism of tax incentives and subsidies also plays an important role in the development of the green financing system. Several incentives currently included in the Tax Code - exemption from customs duties and VAT on imports of renewable energy equipment, and a reduced property tax rate for green construction - serve to improve the investment climate. However, the system of these incentives is not yet fully systematized, and the regulatory framework is sometimes unclear.

In addition to policies and investments, institutional reforms are also important for a successful green transition. Here are a few key areas:

- Establish a national coordination mechanism for the green economy: a governing body that coordinates the actions of various ministries and agencies, makes strategic decisions on the green transition, and monitors it is necessary;
- Introduce an ecological tax system: a carbon tax or emissions trading system is not yet used in Uzbekistan; its gradual introduction will provide an important market signal to reduce fossil fuel use and encourage green investments;
- Expand the green standards and certification system: harmonizing national green standards in the construction, industry, agriculture, and transport sectors with international standards will also increase export opportunities;
- Create an open data and green monitoring system: a reliable and timely updated statistical database on emissions, energy efficiency, and green investments is a prerequisite for assessing policy effectiveness and international cooperation.

Cooperation in the Central Asian region, in particular with neighboring Kazakhstan and Turkmenistan, is also of particular strategic importance. The integration of regional energy systems will allow for more efficient use of resources and complement each other's potential. Regional agreements on the joint and effective use of the Amu Darya and Syr Darya water resources are also an important part of the green transition.

CONCLUSION AND SUGGESTIONS

The transition to a green economy has become an important strategic priority for ensuring sustainable economic development, environmental protection, and long-term energy security in Uzbekistan. The analysis conducted in this study demonstrates that the country possesses significant potential for green transformation due to its abundant renewable energy resources, ongoing economic reforms, and commitment to sustainable development goals. At the same time, the transition process requires substantial investments, institutional improvements, and effective policy implementation to overcome existing structural and environmental challenges.

The application of macroeconomic models provides valuable insights into the economic implications of green transition policies. The CGE model indicates that although the reallocation of labor and capital may generate short-term adjustment costs, the long-term benefits include higher productivity, improved resource efficiency, and sustainable economic growth. The DSGE model confirms that investments in renewable energy and green infrastructure enhance economic resilience and reduce vulnerability to external shocks over time. Similarly, the Input-Output analysis reveals that green investments generate significant multiplier effects, stimulating production, employment, and income across various sectors of the economy.

The findings suggest that the transition to a green economy is not only an environmental necessity but also an economically viable development strategy for Uzbekistan. The expansion of renewable energy sources, improvements in energy efficiency, and adoption of environmentally friendly technologies can contribute to economic diversification, increased competitiveness, and reduced greenhouse gas emissions. Consequently, green transformation can support the achievement of both national development objectives and international climate commitments.

References:

1. Speech by the President of the Republic of Uzbekistan Shavkat Mirziyoyev at the UN Climate Change Conference (COP26), November 2021. United Nations Climate Change Conference (COP26). https://unfccc.int
2. Parry, I.W.H. (2021). Five Things to Know About Carbon Pricing. International Monetary Fund (IMF), Finance & Development Magazine, September 2021. https://www.imf.org/en/Publications/fandd/issues/2021/09/five-things-to-know-about-carbon-pricing-parry
3. Rokita, D., Sawatzki, R., & Szyzdykova, R. (2022). Energy Transition in Central Asia: A Short Review. DKU Center of Natural Resources and Sustainability Working Paper Series, 1(1), 20–52. https://doi.org/10.29258/DKUCRSWP/2022/20-52.eng
4. World Bank (2023). Uzbekistan Country Climate and Development Report. Washington, D.C.: World Bank Group. https://openknowledge.worldbank.org
5. Resolution of the President of the Republic of Uzbekistan No. RP-4477 dated October 4, 2019 “On the approval of the Strategy for Transition of the Republic of Uzbekistan to a Green Economy for 2019 — 2030”. URL: https://lex.uz/docs/7582760
6. Law of the Republic of Uzbekistan No. LRU-539 dated May 21, 2019 “On the use of renewable energy sources”. URL: https://lex.uz/docs/-4346831
7. Central Bank of the Republic of Uzbekistan (2025). Statistical Bulletin and Macroeconomic Indicators. Tashkent: Central Bank of Uzbekistan. Central Bank of Uzbekistan Official Website
8. Ministry of Energy of the Republic of Uzbekistan (2024). Energy Balance of the Republic of Uzbekistan and Main Energy Indicators for 2024. Official Website of the Ministry of Energy of Uzbekistan. https://minenergy.uz
9. World Bank (2023). Uzbekistan Country Climate and Development Report. Washington, D.C.: World Bank Group. https://openknowledge.worldbank.org
10. Agency of Statistics under the President of the Republic of Uzbekistan (2024). Statistical Collection on Environmental Protection and Green Economy Indicators. Tashkent: Agency of Statistics. https://stat.uz
11. Organisation for Economic Co-operation and Development (OECD) (2023). Financing Uzbekistan’s Green Transition. Paris: OECD Publishing.
12. United Nations Development Programme (UNDP) (2023). Uzbekistan Issues First Ever Green Sovereign Eurobonds Worth 4.25 Trillion UZS on the London Stock Exchange. Tashkent: UNDP Uzbekistan. https://www.undp.org/uzbekistan

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