British Journal of Global Ecology and Sustainable Development
Volume-15, April, 2023
ISSN (E): 2754-9291

GREEN ECONOMY: IS IT A PATH TO SUSTAINABLE ECONOMIC GROWTH FOR UZBEKISTAN?

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Abstract:
"Green economy" as an economic system is still a very controversial topic. This article highlights the origin, goals, and objectives of the "green economy" and its differences from the traditional economy. The efforts of the world's societies related to long-term sustainable development and better living will be strengthened in the context of the "green economy". This article presents the main drivers of the "green economy". At the same time, the results achieved in the implementation of the green economy in Uzbekistan are analyzed.

Keywords: green economy, sustainable development, planetary boundaries, traditional economy, environment.

INTRODUCTION

The emergence of the term "green economy" is based on "Blueprint for a Green Economy: A Report." [1] prepared by Pearce, Markandya, and Barbier for the Department of the Environment of Great Britain in 1989. The green economy is not a new system at all, and it aims to solve anthropogenic environmental problems along with the features of the previous system. A green economy maintains a safe operating space for humanity, i.e., planetary boundaries, and re-examines the basic theories of economics such as resource scarcity, prosperity, and wealth within planetary boundaries. The effective operation of the green economy is directly related to the economic incentives in the system. That is, the positive behavior of people in relation to nature should be encouraged in economically based assessments, and in the opposite case, it should be penalized.

The negative environmental, economic, and social events that are clearly visible today indicate that countries should reconsider the path of sustainable development. And, to measure sustainable development, along with traditional economic indicators, new indicators such as green growth, green economy, low-carbon economy, and "sustainable production and consumption have entered. All activities based on the green economy (alternative energy, transport, investments, infrastructure, etc.) are contrary to the brown economy. For example, the green economy emphasizes the use of renewable energy instead of fossil fuels for industrial and transport systems, the transition to low-carbon industries, the promotion of a circular economy, environmental protection, and increasing economic efficiency on land and sea without damaging the ecosystem. These economic activities directly contribute to the achievement of the Sustainable

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Development Goals by promoting social cohesion while providing important opportunities for green economic growth. Humanity will not be able to get out of the vortex of environmental problems until the brown economy is replaced by green growth. In 2009, scientists from the Stockholm Resilience Centre, in collaboration with a number of other researchers, proposed a model based on "planetary boundaries". These boundaries define the safe space for human activity on earth. According to them, "Earth's complex systems sometimes respond smoothly to changing pressures, but this turns out to be the exception rather than the rule. Many of the Earth's subsystems often react dramatically and are sensitive to thresholds of certain key variables. If these thresholds are crossed, critical subsystems such as the monsoon system can shift to new states, often with harmful or potentially fatal consequences for humans." [2] They singled out the following nine systems to determine the boundaries of the planet: climate change, ocean pollution, ozone layer depletion, interference with the nitrogen and phosphorus cycles, use of fresh water, land use, rate of biodiversity, atmospheric aerosol loading, and chemical pollution. As a result of research carried out by researchers, three systems have gone out of the safe sphere of human activity. In 2015, the boundaries of the planet were recalculated, and according to the results, 3 systems are growing outside the safe area of human activity, and two more are growing at great risk.[3] In 2022, some clarification was made to this study, that is, a group of scientists led by Wang Erlandsson divided the system related to the freshwater cycle on our planet into two groups. One of them, green water, also crossed the planetary boundary.

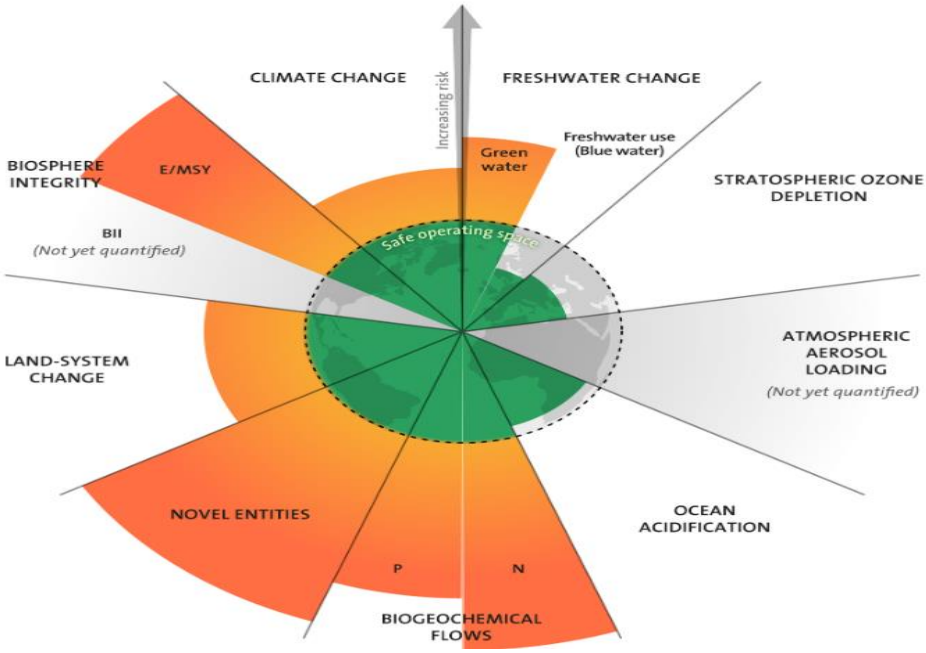

Figure 1

Source: Wang-Erlandsson, L., Tobian, A., van der Ent, RJ, Fetzer, I., te Wierik, S., Porkka, M., ... & Rockström, J. (2022). Planetary limit of green water. *Nature Reviews Earth & Environment* , *3* (6), 380-392.[4]

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As we see in the picture above, seven systems have already exceeded the safe area for human activity. The reason for this is the subsidization of fossil fuels that emit carbon every year around the world, the improper use of land and water resources, the lack of implementation of excellent waste treatment systems, and the lack of incentives in many economies. However, investments in the development of renewable energy sources and the creation of green jobs remain insufficient. Investments in agriculture, including water and soil conservation, are still relatively low. As societies become healthier, happier, wealthier, and more prosperous than before, environmental degradation is becoming more visible. The function of the "traditional economy" that leads humanity to prosperity is not working properly. In such a situation, the transition to the "green economy" remains a more urgent issue for countries around the world.

RESULT AND DISCUSSION

Definition and historical roots of the green economy concept

One of the main reasons for the emergence of the concept of a "green economy is that industrialization in the 20th century caused unprecedented damage to the environment. And the problems of the environment began to take on a more serious nature. In such conditions, it was necessary for the economic system to undertake the tasks of economic growth, social equality, rational use of environmental resources, and their protection from various wastages.

The emergence of the concept of "green economy" was based on "Blueprint for a Green Economy: A Report," prepared by Pearce, Markandya, and Barbier (1989) for the UK Department of the Environment. The global financial and economic crisis of 2008 can be cited as one of the main reasons for the development of the green economy concept. [5] During this period, the United Nations Environment Program launched the Green Economy Initiative, which aims to support governments in developing policy, investment and budget stategies to promote the adoption of clean technologies, renewable energy and green transport systems. [6] The green economy was once again discussed at the international level in 2012 as one of the main topics of the Rio+20 Conference on Sustainable Development of the United Nations. In 2017, researchers led by Lucien Georgeson described the hierarchical structure of the "green economy" concept. [7] According to it, the green economy is interpreted as a policy leading to sustainable development.

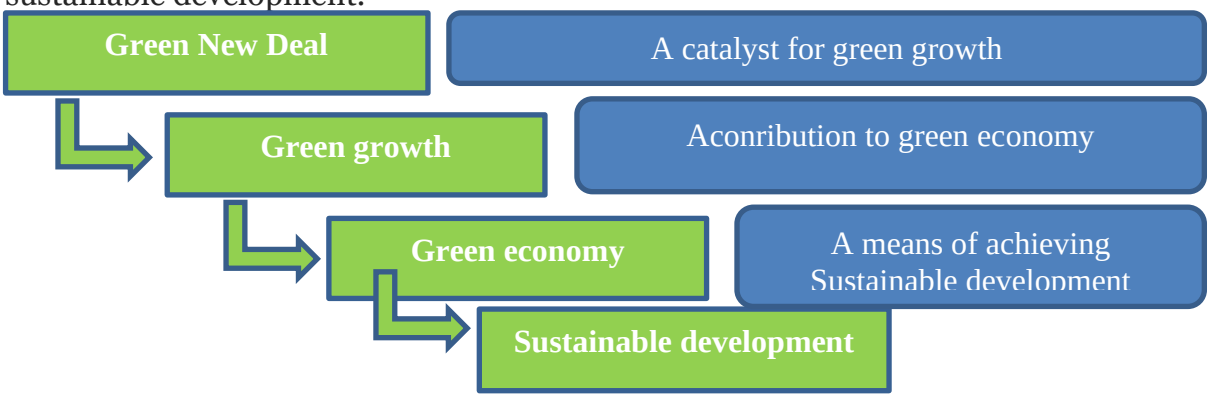

Figure 2 Green economy concept hierarchy

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Source: L. Georgeson, M. Maslin, and M. Poessinouw (2017).

The worsening environmental situation at the close of the twentieth century provided a foundation for a number of significant international organizations to embrace the concept of a green economy. The ideas of "green economy" and "green growth" are understood similarly, and the definitions provided by international organizations are shown below:

Table 1

No	International organizations	Description
1	**Organization for Economic Cooperation and Development**	Green growth promotes economic growth and development while ensuring that natural resources (resources and environmental services) are provided for our well-being
2	**United Nations Environment Programme**	Green growth is resource-efficient, low-carbon, climate-resilient, and socially inclusive. A "green economy" is an economy that increases human well-being and reduces inequality in the long term without exposing future generations to serious environmental risks and ecological shortages.
3	**World Bank**	Green growth is a strategy to promote economic growth while adding environmental quality to existing economic processes and creating additional jobs and income opportunities with minimal environmental burden.
4	**Global Green Growth Institute**	Growth that leaves behind the resource-intensive and environmentally unsustainable model of industrial development developed by advanced economies
5	**Green Economy Coalition**	A green economy is a fair and sustainable economy that provides a better quality of life for all, achieved within the ecological limits of one planet

In 2012, the United Nations Research Institute for Social Development, based on the interests of justice and equity, stated that "any transition to a green economy must not only address the consequences of environmental and economic change but also address the social structures, institutions, and power that underpin inequality and poverty." should strive to stabilize their relations" [8] expressed the opinion.

Different from the traditional economy, we can interpret the "green economy" as a system of activities that effectively uses resources that do not cause environmental disasters for the welfare of society, distributes them correctly between generations, and is based on the principle of social inclusion. Alfredsson, E., & Wijkman, A. (2014). In the work "Inclusive Green Economy" [9], he cites the following as the main differences between the green and traditional economies:

Table 2

Traditional economy	Green economy
GDP increase : more economic activity the aim	"Beyond GDP": prosperity the aim
Focus on the near future (short-termism)	Long-termism
Maximisation of return	Safeguarding of long-term incomes
Shareholder value	Stakeholder value: benefit to society
Extraction of natural resources	Management of natural resources
Linear production systems	Circular production systems
Short-life products for sale	Long-life services: the 'performance economy'
Efficiency measured in monetary terms (e.g. cost-benefit analysis, CBA)	Multidimensional efficiency (e.g. multi-criterion analysis, MCA)

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The main differences between the green and traditional economy

Source: (Alfredsson, E., & Wijkman, A. 2014)

Any policy aimed at economic development today must also take into account the environmental challenges we face, such as climate change, pollution, and habitat loss. The United Nations Environment Program (2011), in its Green Economy Keynote Report, identifies 11 sectors that it considers to have the potential for a green economy transition: [10] agriculture, water, forestry, and fisheries, as well as so-called natural capital and renewable energy sectors, manufacturing, waste, construction, transport, tourism, and cities. The main goal of the transition to a green economy is to ensure economic growth and investment, improve environmental quality, and increase social inclusion. The report shows that in the short term, economic growth in the context of the green economy may be lower than in the "traditional economic system"; however, in the long run, growth will be above normal by traditional measures (GDP growth) as well as by more inclusive measures (per capita growth). Also, in a number of important sectors such as agriculture, construction, forestry, and transport, the green economy offers more employment than the traditional economy in the short, medium, and long term. Natural disturbances such as climate change, pollution, and global warming that we are facing today are accelerating the process of adopting green economic policies for the countries of the world.

Principles and benefits of the green economy

A green economy offers numerous benefits for both people and the planet. By promoting sustainability, resource efficiency, social equity, and environmental protection, it can help create a more resilient and prosperous future for all. Below, we classify the principles of a green economy according to economic, social, and ecological principles.

Green economy principles

Table 3

Type	Principles
Economic	1. Recognizes natural capital and values. 2. Creates decent and green jobs. 3. Integrated into economic development and growth models. 4. Promotes resources and energy efficiency.
Environmental	5. Internalizes externalities. 1. Protects biodiversity and ecosystem. 2. Invests in and sustains natural capital. 3. Recognizes and respects planetary boundaries and ecological limits.
Social	4. Advances international environmental sustainability goals such as sustainable development goals (SDGs) 1 Poverty reduction, well-being, livelihoods, social protection and access to essential services. 2 Socially inclusive, democratic, participatory, accountable, transparent, and stable. 3 Equitable, fair and just.

Source: Ali, E. B., Anufriev, V. P., & Amfo, B. (2021). Green economy implementation in Ghana as a road map for a sustainable development drive: A review.

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Benefits from green economy

Table 4

Economic benefits	Social benefits	Environmental benefits
1 Reduced poverty and inequality. ∗ 2. Increased economic growth and employment. ∗ 3. Improved training and skills. ∗ 4. Development of new markets and specialization. 5. Increased productivity, and increased commodity and agricultural yields. 6. Improved energy security. 7. Improved competitiveness and trade balances.	1. Reduced poverty and inequality. ∗ 2. Reduced social inequality. ∗ 3. Increased employment. ∗ 4. Improved training and skills. 5. Better public services. 6. Improved health outcomes.	1. Sustainable management of natural assets and resources. 2. Reduced greenhouse gas and other emissions. 3. Better adaptation to climate change and resilience to natural disasters. 4. Improved environmental quality.

Source: Ali, E. B., Anufriev, V. P., & Amfo, B. (2021). Green economy implementation in Ghana as a road map for a sustainable development drive: A review. [11]

Note: ∗ can be classified under both economic and social

Greening of the economy of Uzbekistan

Uzbekistan has also been implementing significant reforms in the field of greening the economy in recent years. In 2019, the decision of the President of the Republic of Uzbekistan "On approval of the strategy of the transition to the "green" economy of the Republic of Uzbekistan in the period of 2019-2030" [12] was signed. The most important task in the transition to a green economy is, first of all, to determine the spheres of its application. In our opinion, the most important of these are:

- Sustainable agriculture
- Renewable (green) energy systems
- Sustainable transport system
- Tourism
- Green cities and construction
- Safe recycle of wastes
- Scientific, technological development and field research

A successful transition to a development-oriented and inclusive green economy will not happen automatically. Effective frameworks for sustaining the development of a green economy require reforms at the national and international levels. [13]

In 2019–2020, a total of 3.8 million saplings were planted across the country as part of the "1 million trees" project in order to green the regions and expand the total area of tree groves in Uzbekistan. In 2021, the "green space" project was launched, and it is planned to plant 200 million tree saplings throughout the regions every year. The chart below shows how the country's forest land area is growing.

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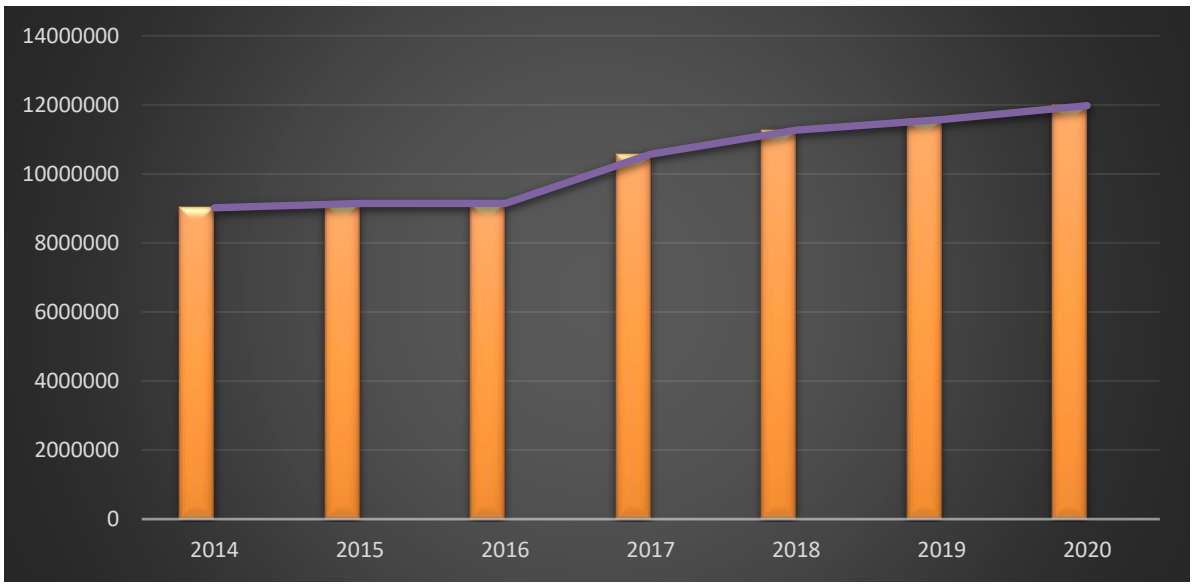

Diagram 1

Changes in the total land area of forestry in Uzbekistan (hectares) [14]

Significant reforms are also underway in the renewable energy sector. In 2019, Uzbekistan signed an agreement with the Masdar company of the United Arab Emirates on the construction of a solar power plant. The station covers the electricity needs of 31,000 households with a capacity of 100 MW. In addition, it prevents the release of 150,000 tons of CO2 into the atmosphere per year. In addition, an agreement was signed with the Masdar company on the construction of a total of four renewable power plants. They are as follows:

1. In June 2020, the Masdar company, together with the Ministry of Investments and Foreign Trade of the Republic of Uzbekistan and "Uzbekistan National Electric Network" JSC, will build the "Zarafshon wind power plant" with a capacity of 500 MW in the Navoi region. This wind power plant, the largest in Central Asia, is planned to be put into operation in 2024 and will eliminate the total release of 1.1 million tons of CO2 into the atmosphere.
2. In July 2021, the Masdar company signed an agreement between the Ministry of Investments and Foreign Trade of the Republic of Uzbekistan and "Uzbekistan National Grid" JSC on the construction of a 220 MW communal solar power plant in the Jizzakh region. At full capacity, the plant will meet the electricity needs of 264,000 households and reduce 237,000 tons of carbon emissions.
3. One of the similar projects planned to be implemented in 2021 is the construction of a 220 megawatt solar power plant in the Samarkand region.
4. Another major project is the construction of a solar power plant with a total capacity of 457 MW in the Surkhondarya region, which will meet the needs of 495,000 households and save 445,000 tons of CO2 from atmospheric air pollution. In addition, in order to widely introduce renewable energy sources in all sectors of the

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economy, the decision of the President of the Republic of Uzbekistan "On measures to accelerate the introduction of renewable energy sources and energy-saving technologies in 2023" was signed.

In the decision of the President of the Republic of Uzbekistan "On measures to increase the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a "green" economy by 2030", the capacity of renewable energy sources produced in the country by 2030, the task of increasing the total volume of electricity to more than 30%, increasing the level of solid household waste processing to 65%, introducing water-saving technologies on an area of up to 1 million hectares, and expanding green spaces in cities by more than 30%,

Conclusion

The transition from a traditional economy to a green economy can be difficult, especially for developing countries. Because the payment policy implemented based on the function of environmental protection in the green economy (for example, carbon taxes, the introduction of entrance tickets to recreational areas, taxes for environmental pollution, additional payments for the use of natural resources, etc.) has a negative impact on real incomes. In such conditions, countries should implement reforms to further develop pure market relations in key sectors of the green economy, such as renewable energy, sustainable agriculture, and sustainable transport.

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