

Financing of entrepreneurial activity in the conditions of a green economy

Roziyeva Maftuna

Tashkent State University of Economics, Tashkent City, Uzbekistan

Makhtimova Zarafshon

Tashkent State University of Economics, Tashkent City, Uzbekistan

Received: 24 December 2024; **Accepted:** 26 January 2025; **Published:** 28 February 2025

Abstract: The transition to a green economy will require a radical change in business financing. Traditional financing models often prioritize short-term profitability over environmental profitability, discourage green business growth, and continue unstable practices. This article explores the challenges and opportunities associated with financing entrepreneurship in a green economy, exploring the role of traditional and innovative financial instruments, policy interventions, and the evolving benefits of investors in fostering sustainable innovation and growth. We can say that joint efforts to adapt financial incentives to environmental goals are very important in unlocking the potential of green entrepreneurship and achieving a truly stable future.

Keywords: Green economy, entrepreneurship, green finance, sustainable investment, influential investment.

Introduction: The urgency of addressing climate change and environmental degradation has brought the concept of "green economy" to the top of the global debate. This economic model focuses on sustainable development, resource efficiency and environmental protection, requires a radical revision of production, production and, most importantly, financing. Entrepreneurship plays an important role in the transition to a green economy by developing innovative technologies, creating new markets and promoting sustainable business practices. However, access to sufficient and appropriate funding remains an important barrier for green entrepreneurs.

Traditional financial institutions often refrain from investing in green enterprises due to risks, a lack of understanding of green technologies and the long-term nature of environmental revenues. This article explores the challenges and opportunities associated with financing green entrepreneurship, highlights the need to change investor thinking to unlock the full power of innovative financial instruments, supportive policies and green innovation and growth.

Literature review

In Uzbekistan, the socio-economic relations of the business society are becoming embodied, pronounced, rapidly developing and mobile. His role and role in the formation and economic development of market relations in the country is becoming more and more noticeable. Joseph Schumpeter, the great economist of the 20th century (1883 - 1950), said: "Without it, you can feel the decisive role of entrepreneurship in the socio - economic development of society."

The first scientific studies of entrepreneurship were carried out by the great scientists of the 18th century R. Cantilyan, A. Turgot, F. Kene, A. Smith, J.B. Say and others. Consequently, the emergence of the concepts of "entrepreneur" and "entrepreneurship" coincides with this period. Later, such studies acquired a special scientific focus, and the application of their results in practice began to have an effective impact on the economy. One of these results is the formation and enrichment of the concept of "entrepreneurship."

As a result of the introduction into economic policy of the principles put forward on the basis of the development of the economy of the environment and ecology, the concept of "green economy" began to take

shape. The term was first used for the UK government in 1989 by leading economists in a report entitled "Green Economy Plan" [1]. Unlike environmental economics or ecological economics, the green economy is more practical. "Green economy" does not belong to the field of science, but mainly to real economic policy, specific areas of activity (energy, innovation, agriculture, etc.). This difference can be observed in the fact that the "green economy" is expressed not by the English economy (economic theory or economic sciences such as environmental economics, economic economics), but by the economy (real economic activity).

The term "green finance" was first coined by renowned economist Richard Sandor in 1992 at Columbia University in New York is used in a special educational program [2]. In 2002, Stanford published by Professor Glethen Dale "The New "On the protection of natural resources" financing issues considered [3].

METHODS

The methodology used in this study is associated with a comprehensive analysis of the financing of entrepreneurial activity in the conditions of the green economy in Uzbekistan. A mixed method approach was adopted to ensure a holistic understanding of the subject. This methodology combines qualitative and quantitative research methods using economic indicators, statistics and comparative analysis to assess the impact of the green economy and its impact on the activities of business entities. The study is based on primary and secondary data sources, including government reports, Green Economy reports. The study explores macroeconomic trends, legislative frameworks, and infrastructure developments affecting green economy decisions. The main component of this study is the comparative assessment of green economy strategies in Uzbekistan with respect to international criteria to determine the best results.

RESULTS AND DISCUSSION

Uzbekistan is already experiencing the deleterious effects of a changed climate. The ecological disaster of the drying Aral Sea—once the fourth-largest lake in the world— epitomizes the pressing development challenges in large parts of the country. Droughts, extreme heat, rainfall volatility, and dust storms are increasingly wreaking havoc on people and the economy. Air pollution is a growing environmental and health challenge. The annual costs of the damage to health from ambient PM_{2.5} (PM_{2.5} = fine particulate matter of 2.5 microns or less in width) pollution in Uzbekistan, disproportionately borne by women, children, and vulnerable groups, have reached 6.5 percent of gross domestic product (GDP). Climate risks

pose another source of vulnerability for the economy in addition to the already high costs of degradation of natural resources. Without action, climate change will continue to have severe impacts on Uzbekistan.

Effective compliance with environmental regulations will contribute to and encourage investors to adopt greener business practices that provided by attracting "green" investments. Norms in the field of energy efficiency, such as energy saving targets for energy-intensive industries or requirements for energy efficiency of buildings, not always put into practice.

Uzbekistan needs to create a clearer strategic and an institutional framework for green investment. Despite the presence of several forums for dialogue and inter-agency coordination, there are gaps between ambitious goals and green growth, including in green investment, and plans for further expansion of polluting sectors such as petrochemicals and cement production. The country is currently in early the stages of integrating "green" considerations into promotion policies and investment promotion.

Based on the above, the following were formed strategic priorities to attract green investment, which can be divided into two components.

- I. Strategic priorities for investment in renewable energy sources
- II. Strategic priorities for environmental sustainability of investment projects

Green investment structure

Analyzing the structure of green investments in the first place investments in renewable energy should be noted. Thanks to international tenders, green investments (direct foreign investment in renewable energy) in Uzbekistan have increased significantly over the past 5 years and significantly exceed foreign direct investment in fossil fuels.

Solar & Wind Power & Storage Tenders electricity conducted between 2020 and July 2024 amounted to a total of US \$11.6 million, while at the power plant, operating on natural gas, tenders were held for only 3.3 million USD (schedule-1). FDI in renewable energy increased from \$1.4 billion (9.1% of total and only one seventh from fossil fuel investments) between 2014 and 2018 to US \$11.7 billion between 2019 and 2023 (50.1% of total FDI in renewable energy sources), which is almost three times more than FDI in fossil fuels.

This corresponds to or is higher than most of the countries compared, and almost twice the Central Asian average, but lower than leading countries such as Jordan or Egypt. In addition to green investments in renewable energy, Uzbekistan also received several green investment projects for the production of solar

photovoltaic panels and solar heaters. For example, the first automated plant for the production of solar photovoltaic panels opened in 2024 in the city of Nukus

as a joint the Chinese-Uzbek enterprise.

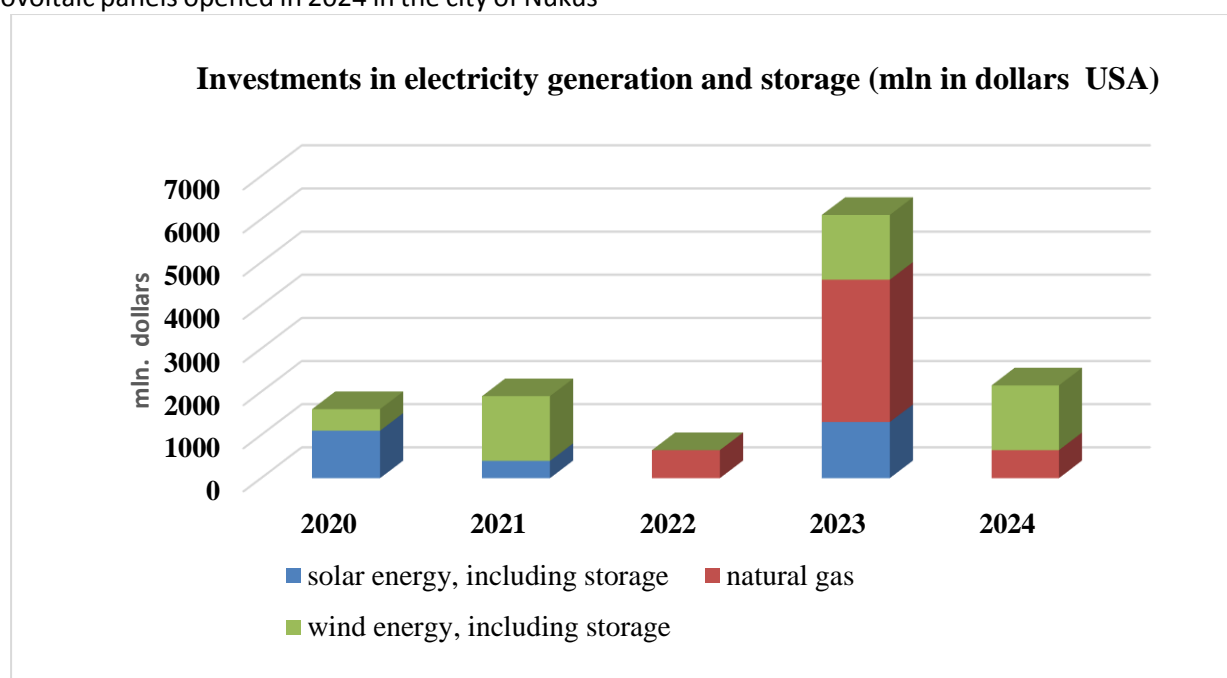


Fig. 1 Investments in electricity generation and storage in 2020-2024

Implementation of the tasks defined in the Strategy for the Development of the New Uzbekistan for 2022-2026, increasing the effectiveness of the measures being implemented to ensure "green" and inclusive economic growth within the framework of the Strategy for the Transition of the Republic of Uzbekistan to a "Green" Economy, further expanding the use of renewable energy sources and resource saving in all sectors of the economy in order to:

- reduction of greenhouse gas emissions per unit of gross domestic product by 35 per cent of 2010 levels;
- Increasing renewable energy generation capacity by 15 GW and increasing its share by more than 30 per cent of total electricity generation;
- increase in energy efficiency in industry by at least 20 percent;
- 30 per cent reduction in energy consumption per unit of gross domestic product, including through the expansion of renewable energy sources;

- a significant increase in the efficiency of water use in all sectors of the economy, the introduction of water-saving irrigation technologies on an area of up to 1 million hectares;
- Expanding green space in cities by more than 30 percent by planting 200 million seedlings per year and increasing the total number of seedlings by more than 1 billion;
- bringing the indicator of forest reserves of the republic by more than 90 million cubic meters;
- increase in the level of processing of generated municipal solid waste by more than 65 percent.

In 2022-2026, it is planned to save fuel and energy resources in the sectors of the economy, aimed at reducing the energy intensity of the products of 25 enterprises and organizations by 20 percent by 2026 compared to 2022.

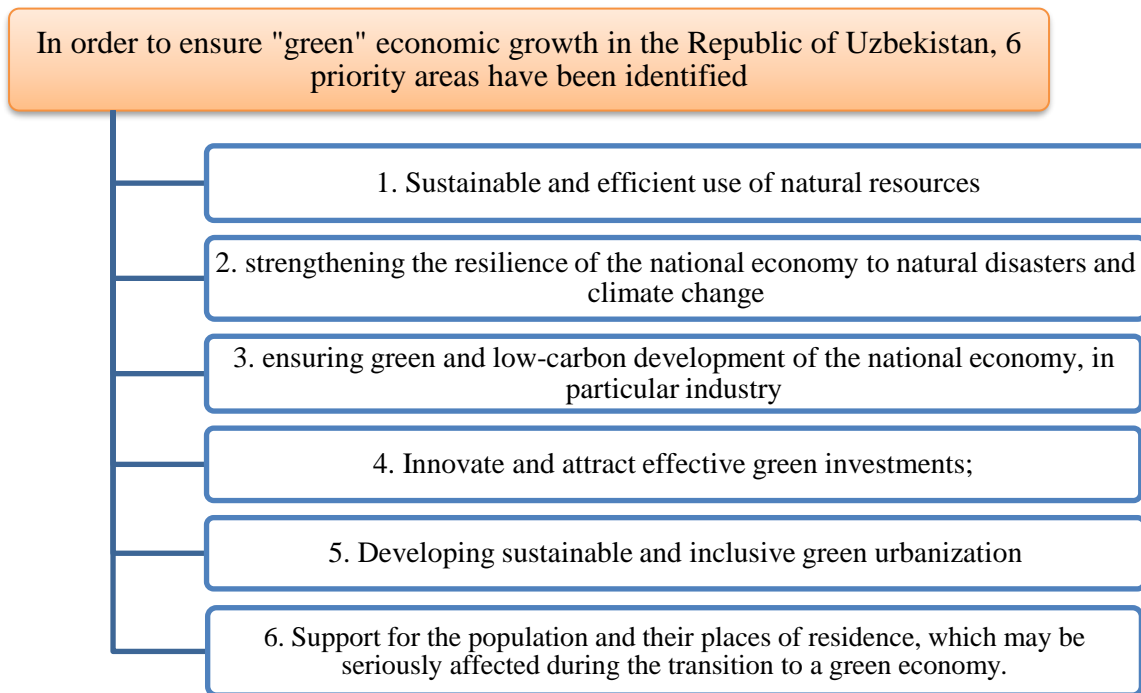


Fig. 2. Tasks in 6 priority areas of ensuring green economic growth in the Republic of Uzbekistan

The achievement of the Paris Agreement goal of limiting global temperature rise to 1.5-2°C relative to the pre-industrial period is directly linked to the rate of decarbonization of key economic sectors, including electric and thermal power, oil and gas and chemical industries, transport, buildings. Today, using Uzbekistan as an example, we will look at how green finance helps achieve climate goals.

Within the framework of the Paris Agreement, the NDC (nationally determined contribution) of the Republic of Uzbekistan - the carbon intensity of the country's GDP - must be reduced by 35% compared to the 2010 level by 2030.

Electricity production from renewable energy sources (RES), represented mainly by hydropower plants in Uzbekistan, amounted to just over 10% of the total

electricity production in the country in 2020. Nevertheless, in recent years Uzbekistan has already been making a gradual transition to a low-carbon economy. Uzbekistan has pledged to achieve carbon neutrality in electricity generation by 2050. For this purpose, it is planned to further develop solar, wind, nuclear and small hydropower, as well as to modernize the power grid. Natural gas will remain the main hydrocarbon fuel during the transition period. Opportunities to create a comprehensive infrastructure for hydrogen energy are being developed [4].

A number of innovative financing mechanisms are emerging to address the challenges of innovative financing mechanisms for green entrepreneurship:

Green bonds	• Bonds issued to finance environmentally friendly projects such as renewable energy and energy efficiency projects.
Impact Investing	• Investments that focus on both financial income and positive social and environmental impacts.
Venture capital funds focused on sustainability	• funds specifically designed to invest in early-stage green ventures.
Crowdfunding	• Raising capital from many individuals through online platforms.
Angel investors	• Those with the potential to grow their money often invest in early-life companies, seeking stability.
Carbon credits	• Permit or certificate to remove, reduce or avoid the release of one tonne of carbon dioxide from the atmosphere. Green entrepreneurs can generate income through approved carbon reduction/removal projects.
Green banks	• public or quasi-public financial institutions that provide financing for green projects.
ESG-related loans	• loans with interest rates that depend on the borrower's performance on its environmental, social and governance performance.

Fig. 3. Innovative financing mechanisms for green entrepreneurship

According to experts, the alternative ratio between public and private investments involved in the project of green projects should be in the ratio of 1:5. In Chinese practice, 10-15% of the state budget and 85-90% of private funds are used to finance domestic coronavirus green projects [5]. Therefore, we consider it expedient to minimize risks when attracting private investment - to the level of risks faced when financing specific projects. In practice, various economic methods and levers of stimulating the attraction of private investment - green projects are widely used in the world.

CONCLUSION

Financing green entrepreneurship is very important for the transition to a sustainable economy. Fixing the problems will require governments, financial institutions and investors to work together to adapt financial incentives to environmental goals. By adopting innovative financing mechanisms, implementing support policies and helping to change investor perceptions, we can unlock all opportunities for green entrepreneurship and create a more stable and prosperous future. More research is needed to explore the effectiveness of different funding models, identify best practices, and develop a strategy to expand green finance to meet the growing demand for sustainable solutions.

Ultimately, the success of the green economy depends on our ability to mobilize capital and channel it into

innovative businesses that will drive the transition to a more stable world.

In addition to the above goals, it should be noted that an increase in the number of electric vehicles and public transport, such as electric buses, contributes to the savings of natural gas by several million cubic meters and prevents emissions of harmful gases into the atmosphere. This, in turn, will lead to an improvement in the energy supply of the population and sectors of the economy. At the same time, in order to protect the environment, it is advisable to improve the quality of public administration, to pursue a policy of public procurement of a green economy and, as a result, to stimulate the use of green technologies in the production of environmentally friendly products, and to increase the energy potential of the national economy. In addition, maximum funding for green technology projects and increased public investment in green infrastructure is needed.

REFERENCES

- Blueprint for a Green Economy: David Pearce, Anil Markandya and Edward B. Barbier. Earthscan, London, Great Britain, 1989. 192 pp.
- Richard L. Sandor. "Good Derivatives: A Story of Financial and Environmental Innovation." John Wiley & Sons. February 2012
- Gretchen Daily , Katherine Ellison The New Economy of Nature: The Quest to Make Conservation Profitable.

Island Press, 2002

Liliya Zavyalova, Anastasia Pavlenko. "The Role of Green Finance in the Decarbonization of the Economy: The Case of Uzbekistan" July 22, 2022

<https://dualcitizeninc.com/global-green-economy-index/>

Decree of the President of the Republic of Uzbekistan of December 2, 2022 "On measures to improve the effectiveness of reforms aimed at the transition of the Republic of Uzbekistan to a "green" economy. PQ-436-son

Can S'ener S. E, Sharp J. L, Anctil A., "Factors impacting diverging paths of renewable energy: A review,"

Renew. Sustain. Energy Rev., vol. 81, no. –October 2016, pp. –2335–2342, –2018.

GarcíaOlivares, J. Solé, Osychenko.O, "Transportation in a 100% renewable energy system", Energy Convers. Manag., vol. 158, no. –August 2017, pp. –266–285, 2018.

Deshmukh M. K. G. et al. Renewable energy in the 21st century: A review //Materials Today: Proceedings. – 2021.

Green economy: Textbook ./A.V. Vakhobov, Sh. Kh. Khadzhibakiev and others. - Tashkent.: "University," 2020. Article 262

green.imv.uz/uz/report