3. https://www.undp.org/uzbekistan

4. https://ourworld.unu.edu/en/farming-in-the-sky-in-singapore

5. Sky Greens. (n.d.). Sky Greens: World's first low carbon, hydraulic driven vertical farm. Retrieved from https://www.skygreens.com/

6. Our World in Data. (n.d.). Food Production and Consumption. Retrieved from https://ourworldindata.org/food-production

7. IPS News. (2013). Singapore’s Vertical Farming Breaks New Ground. Retrieved from http://www.ipsnews.net/2013/02/singapores-vertical-farming-breaks-new-ground/

8. Food and Agriculture Organization of the United Nations (FAO). (n.d.). Urban Agriculture: Food, Jobs, and Sustainable Cities. Retrieved from https://www.fao.org/urban-agriculture/en/

9. An essay on innovations for sustainable development Dr. Yoram Krozer & Andries Nentjes

10. The Importance of Regulation-Induced Innovation for Sustainable Development Nicholas A. Ashford

INNOVATIVE APPROACHES TO ACHIEVING SUSTAINABLE DEVELOPMENT: THE ROLE OF NEW OCCUPATIONS, SKILLS, AND THE GREEN ECONOMY IN UZBEKISTAN

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Annotation

This article examines how innovation and green skills development are driving sustainable development in Uzbekistan. It highlights the growth of green jobs, workforce modernization through digital education and partnerships, and the impact of renewable energy on employment. The study concludes that innovation and green skills are vital for building an inclusive and resilient economy.

Keywords: green economy, innovation, labor market, green jobs, skills development, competency-based education.

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Introduction

In our 21st century, the development of the labor market is solely depends on the adaptability and transformation pace. That’s to say, the pace in the job market is doubled with the introduction of technological advancements, as well as other external factor such as globalization and environmental challenges, to name but a few. This, in turn, raises the question of necessity to adapt to the continuous evolution of the occupational structures and skillsets. Uzbekistan is a good case in point where because of socioeconomic reforms forces innovation and creativity making them critical for sustainable progress.

Sustainable development is broadly defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987).[198]The concept of a **green economy**, as promoted by the United Nations Environment Programme (UNEP), refers to an economy that results in "improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP, 2011).[199]

Innovation-driven economies prioritize knowledge-intensive occupations and demand new skills such as digital literacy, critical thinking, environmental awareness, and adaptability. In parallel, the green economy emphasizes the creation of green jobs that contribute to preserving or restoring environmental quality, while offering decent wages and safe working conditions (ILO, 2019).[200]

The fourth industrial revolution, characterized by the fusion of technologies blurring the lines between the physical, digital, and biological spheres, has intensified the demand for new competencies. This dual transition—to a digital and green economy—requires workforce strategies that foster innovation, sustainability, and resilience. The green economy and labor market trends in Uzbekistan. Uzbekistan, with its young and rapidly urbanizing population, has prioritized green economic reforms as part of its national strategies. The government’s commitment to the green economy was formalized through the **National Strategy on the Transition to a Green Economy for the period 2019–2030,** aiming to increase the share of renewable energy sources, improve energy efficiency, and create green jobs .

[198] World Commission on Environment and Development. (1987). Our Common Future. Oxford: Oxford University Press.
[199] United Nations Environment Programme (UNEP). (2011). Towards a green economy: Pathways to sustainable development and poverty eradication. Nairobi: UNEP.
[200] International Labour Organization (ILO). (2019). Skills for a greener future: Key findings. Geneva: ILO.
Schwab, K. (2016). The Fourth Industrial Revolution. Geneva: World Economic Forum.

According to the **State committee of the republic of Uzbekistan on Statistics** (2023):[201]

- The renewable energy sector's contribution to total energy production increased from **10% in 2019** to **15.2% in 2023**.
- Approximately **25,000 green jobs** were created between 2020 and 2023, primarily in solar energy, energy-efficient construction, and sustainable agriculture.
- Uzbekistan targets **a 30% share of renewables** in its energy mix by 2030, expected to generate over **120,000 green jobs**.

These trends highlight the crucial link between sustainable economic development and innovative labor market strategies.

The shift towards a green economy requires new occupational profiles and competencies.

Table 1: Emerging Green Occupations and Required Skills in Uzbekistan[202]

Emerging Green Occupation	Key Skills Required
Solar Energy Technician	Photovoltaic systems installation, maintenance, energy auditing
Sustainable Agriculture Specialist	Organic farming, water conservation, soil health management
Environmental Engineer	Pollution control, environmental impact assessment
Green Construction Manager	Eco-design principles, sustainable materials, energy efficiency
Renewable Energy Policy Analyst	Energy policy analysis, environmental law, stakeholder engagement
Waste Management Expert	Recycling technologies, hazardous waste handling

Source: Compiled by the author based on UNDP Uzbekistan (2022), State Statistics Committee (2023).

The government of Uzbekistan has made strategic moves towards developing the capabilities needed for a green economy:

- Uzbekistan, with the assistance of UNDP and the European Union, conducted pilot initiatives for incorporating green skills into vocational training.

[201] State Committee of the Republic of Uzbekistan on Statistics. (2023). Green Economy Statistical Bulletin 2023. Tashkent: State Committee of the Republic of Uzbekistan on Statistics.
[202] Created by author

More than 10,000 students from 50 vocational schools were trained in renewable energy technology and sustainable agriculture as of 2023 (UNDP Uzbekistan, 2023).

- Specialized certifications for Green occupations are provided by Skill Assessment and Certification Centres (SACCs), including solar panel installer, environmental auditor, and eco-constructor.
- New standards for vocational education encompass core competencies regarding climate change awareness, energy efficiency, and sustainable development goals (Ministry of Employment and Labor Relations, 2021).

New approaches to developing the workforce for Green growth to foster green growth and sustainable development, Uzbekistan is pursuing a number of innovative practices are green education digitalization, public-private collaboration, integration of policies and empowerment of women in green sectors. There remain significant challenges despite substantial improvement are shortage of qualified educators for green vocational course offerings, insufficient access to green technology within rural areas and requirement to invest continuously in renewable energy framework. However, there are more benefits than difficulties. Uzbekistan's youth, rich solar and wind resources, and strong political will provide a distinct competitive edge for creating a stable green economy combined with a dynamic labor market.

Conclusion

Innovation and the green economy are mutually reinforcing pillars in achieving sustainable development. Uzbekistan’s strategic focus on developing green occupations and skills-through competency-based education, public-private partnerships, and inclusive policies-provides a viable pathway for both economic diversification and environmental stewardship. Future efforts must prioritize the scalability of green training programs, digital accessibility, and inclusive participation to fully realize Uzbekistan’s vision of a sustainable and prosperous society.

References

1. International Labour Organization (ILO). (2019). *Skills for a greener future: Key findings*. Geneva: ILO.

2. Ministry of Employment and Labor Relations of the Republic of Uzbekistan. (2021). *Professional Education Development Concept until 2030*. Tashkent.

3. Organisation for Economic Co-operation and Development (OECD). (2020). *Skills Outlook 2020: Learning for Life*. Paris: OECD Publishing.

4. Schwab, K. (2016). *The Fourth Industrial Revolution*. World Economic Forum.

5. United Nations Development Programme (UNDP) Uzbekistan. (2023). *Green Skills Initiative Report*.

6. World Commission on Environment and Development. (1987). *Our Common Future*. Oxford University Press.

7. State Committee of the Republic of Uzbekistan on Statistics. (2023). *Green Economy Statistical Bulletin*.

INNOVATIVE APPROACHES TO ACHIEVING SUSTAINABLE DEVELOPMENT

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Abstract: *This paper analyzes the role of innovation, investment, economic analysis and taxation in achieving sustainable development. The study examines the experience of developed countries and provides practical recommendations for the development of the economy of Uzbekistan. It highlights ways to increase economic efficiency through the integration of innovation and taxation systems.*

Keywords: *sustainable development, innovations, investments, economic analysis, tax system, sustainable economic growth.*

Introduction

Sustainable development has become one of the main goals of humanity and society in the 21st century. The economic growth of each country depends not only on its resources, but also through the introduction of innovations, attracting investments, and increasing economic efficiency. The term "sustainable development" refers to ensuring the growth of society in the economic, social and environmental spheres in the long term. Today, such important factors as innovative methods, efficient allocation of resources and the taxation system are important for the stability of economic growth.

Special attention is paid to the role of innovation, economic analysis and taxation in ensuring sustainable development. Innovation increases production efficiency through the development and implementation of new technologies, and attracting investment accelerates economic growth. The tax system, as the main instrument for implementing the state's economic policy, serves as a determining factor in supporting innovation processes and achieving sustainable growth. The purpose of the article is to analyze the role of innovation, investment, economic analysis and taxation in sustainable development and to develop practical proposals for the economy of Uzbekistan. At the same time, the article is aimed at studying the strategies necessary to develop innovations, increase economic efficiency and create an effective tax system.

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