



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

PROSPECTS FOR THE DEVELOPMENT OF THE GREEN ECONOMY IN THE CONDITIONS OF DIGITAL TECHNOLOGIES

Silk y'oli University of innovations, " Economics
and Senior Teacher of the Department" Exact Sciences
" Khujamberdiyev T. tulkinxujamberdiyev@gmail.com

Annotation:

This article analyzes the essence of the digital and green economy, their relationship and their role in the process of sustainable development. While the digital economy is focused on ensuring economic growth through the rapid development of Information Technology, the green economy is focused on the efficient use of resources while maintaining environmental sustainability.. In particular, the effective use of resources, investment in and improvement of renewable energy sources, Environmental Protection and social justice are recognized as important factors for the development of the green economy.

Keywords: Digital economy, green economy, e-commerce, digitization, digital technology, big data, artificial intelligence, cloud technology, smart technology.

INTRODUCTION

In the modern world, the problems of Ecology and sustainable development are becoming more and more relevant. The topic of Ecological Economics is one of the most growing trends in the last few years. With the strong development of digital technology, the whole world is changing the usual way of life.

The growth of the economy and the development of technologies opens up new opportunities to influence the environment, but the development of digitalization in this is a transition to a "green economy", which promotes environmental protection, combines economic growth and a more qualitative use of Natural Resources. This article examines in detail the impact of digital technology on the



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

transition to a "green economy" and its importance in the sustainable development of society ¹.

The main advantages of digitization are the possibility of optimizing processes and increasing resource efficiency. Digital technologies make it possible to accelerate and automate production, consist in the detection and elimination of deviations, malfunctions that can occur in production processes, reducing resource consumption and, accordingly, reducing the waste of harmful substances.

Today, small business and entrepreneurial business in our country are actively directing important resources, reducing climate and environmental pollution, developing alternative energy sources in the development of technologies aimed at combating global changes, is one of the leading factors in innovative development. Alternative energy resources consist of renewable energy sources, with the use of hydropower, wind power, solar power, geothermal energy, biomass and wave energy, another important area that serves to shift digitalization to a more environmentally friendly economy is smart city development.

LITERATURE ANALYSIS

Many researchers are studying this topic and analyzing the positive impact of digital technologies on environmental sustainability. Brynjolfsson and McAfee (2014) state in their research that digital technologies help to increase environmental sustainability by automating the industry, using resources efficiently, and reducing emissions. Also, Schwab (2016) notes that as part of the Fourth Industrial Revolution, digital transformation becomes an integral part of the green economy². Zhang et al (2020) study the impact of digital technology on environmental performance, arguing that energy consumption can be optimized through the Internet of Things (IoT) and intelligent systems. Smart cities and smart energy systems help save resources, reduce emissions, and lower overall carbon

¹ Environmental economics volume of scientific research in Educational Sciences in the state economic system multidisciplinary scientific journal 4 / son 5 | 2023 1-5B.

² THE ROLE OF ADVANCED TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE IN THE TEACHING OF SCIENCE TODAY INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE "MODERN APPROACHES TO TEACHING EXACT AND NATURAL SCIENCES: PROBLEMS AND SOLUTIONS", MAY 30, 2025 357-362B



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

footprint.hang et al (2020) study the impact of digital technology on environmental performance, arguing that energy consumption can be optimized through the Internet of Things (IoT) and intelligent systems. Smart cities and smart energy systems help save resources, reduce emissions, and lower overall carbon footprint. Tapscott and Tapscott (2016) explore the importance of blockchain technology in ensuring environmental and economic sustainability, arguing that it can be used to monitor supply chains and carbon footprints. The open and transparent nature of blockchain helps support the principles of a green economy.

ANALYSIS AND RESULTS

Digital technologies are creating significant changes in various sectors of the green economy. They include important factors such as increased energy efficiency, efficient use of Natural Resources, and reduced carbon emissions. Using digital technologies such as artificial intelligence (AI), Internet of Things (IoT), cloud computing and Big Data (Big Data), positive results are shown in the following areas:³

- Modern technologies, in particular digital ones, provide new opportunities in the control and management of energy consumption. Artificial intelligence, IoT (Internet of Things), data analysis, blockchain and other innovative approaches are key factors to make energy systems more efficient. International experiments show that with the widespread introduction of digital tools, it is possible to use energy resources sparingly, reduce emissions and increase economic efficiency.
- Renewable energy flows include natural phenomena such as sunlight, wind, flooding, plant growth and geothermal heat. The International Energy Agency has defined renewable energy as follows. Integration of renewable energy sources: with the help of cloud technologies and artificial intelligence, opportunities for the efficient use of renewable energy sources, such as solar and wind, are being created. These technologies ensure the stability of energy production and supply systems.
- It has become a society's obligation to prioritize waste reduction and management in an era of increasing environmental attention. An integral part of this movement

³ Turobova Hulkar Rustamovna, Kadirova Maral Matyakubovna. Green economics / [text]: tutorial / H.Tu Hul Hulkar Rustamovna, Kadirova Maral Matyakubovna. Green economics / [text]: LLC, 2025. - 96 b.



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

are organizations such as the environmental certification Institute, which play an important role in guiding manufacturers and consumers towards more sustainable practices by promoting eco-labeling. Resource-saving processes are improving in recycling and manufacturing waste through 3D printing technologies, IoT and other digital tools. Waste management systems can also be made more efficient and environmentally friendly with the help of digital technologies.

The more environmentally friendly and transparent business, the higher its value. Evaluating a company by environmental criteria will help investors understand how willing it is to move to a low-carbon economy⁴.

Recently, Megafon presented the project "Megafon Ecology", which was recognized as the best in the nomination "digital solutions", experts highly appreciated the functionality of this solution, which allows industrial enterprises to successfully implement projects in the field of waste control and environmental protection, including projects of any complexity. The main goal of the project is to improve the environmental situation in settlements. The platform allows industrial enterprises to monitor the environmental situation and analyze changes, as well as monitor the quality of air, surface and wastewater, as well as control industrial emissions.

An example of effective measures for the implementation of the practice is the introduction of innovative technologies, sustainable development and agricultural activities, which, by intensive methods, made it possible to increase efficiency from resource potential many times. In conditions of economic instability, agriculture consists in the introduction of digital solutions to replace imports and reduce a significant portion of emissions⁵. The use of sensors, drones and data analysis allows for more accurate control of cultivation and irrigation processes.

In order to remain competitive, companies must introduce digital technologies and follow "green" transformation trends. Today, the leaders in capitalization are

⁴ Rapid transition to the "green" economy and sustainable technological changes provided goals green economy and development <https://yashil-iqtisodiyot-taraqqiyot.uz> electronic journal // special issue October 2024, 2024 / Special Issue 12-16b.

⁵ QISHLOQ XO'JALIGIDA INNOVATION TECHNOLOGIYALARORQALIBARQAROR RIVOJLANISHGA ERISHISH ISTIQBOLLARI INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH ISSN: 3030-332X Impact factor: 8,293 Volume 12, issue 1, June 2025 162-164 b.



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

Apple, Google and others. Thus, in conditions of transformation of the economy, it is important to develop adaptability to rapidly changing conditions how, digital technologies, and to be able to increase efficiency and the reliability of the "green" sector of the economy, etc. However, it should be taken into account that digitization is also associated with certain threats and can be a threat to the environment. For example, e-waste and energy consumption in the development and use of digital technologies can negatively affect ecology. Therefore, strict standards and norms can be applied to reduce the negative impact of digitization on the environment.

Due to the fact that modern scientific research and regulatory legal documents do not contain universally recognized definitions of terms "digital economy" and "green economy", there is no single approach to the solution problems of their interaction, let us clarify, the authors of the Republic of Uzbekistan consist of the concepts of "digitization" and "environmentalization" of the economy.

According to the authors, the digitization of the economy is a transfer process consisting of economic, social, cultural and environmental relations of digital ICT (ICT).

Key approaches to digital transformation include:(development, logistics, sales, service); networking (FoodNet,TechNet, EnergyNet, "digital quarry", AutoNet, AeroNet, "digital railway", "digital city", HealthNet, FinTech, SaveNet, E-Trade, e-education, Digital Culture, Media); Technology (Internet products, industrial Internet, digital design and modeling, quantum technologies, BigData, element base, robotics, sensors and sensors, additional technologies, cloud technologies, supercomputer technologies)⁶.

Ecologization of the economy - "a necessary condition for the development of an environmentally proportional phenomenon of economic, productive and social nature."The saving and efficient use of resources is one of the basic principles of the green economy. This means ensuring the effective management of not only natural resources, but also economic and social resources.

⁶ Opportunities for the use of information and communication technologies in the development of digital logistics in Uzbekistan scientific electronic journal "Economics and Innovative Technologies" (pp. 315-326).



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

- Energy conservation plays a crucial role in protecting the environment. By reducing energy consumption, we significantly reduce the emission of harmful gases, which prevents air pollution and is important in the fight against climate change.

- Low energy consumption → low pollution and carbon dioxide (CO₂) emissions, reducing greenhouse gas emissions.

- Energy conservation plays a crucial role in protecting the environment. By reducing energy consumption, we significantly reduce the emission of harmful gases, which prevents air pollution and is important in the fight against climate change.

- Low energy consumption → low pollution and carbon dioxide (CO₂) emissions, reducing greenhouse gas emissions.

- Uzbekistan's role in combating climate change is to make a significant contribution to solving global climate problems.

- Energy efficiency for sustainable development ensures not only environmental, but also economic and social stability.

- Renewable energy sources-one of the huge reserves that is not yet fully used.

Of course, this route will cost a lot at the beginning. But it justifies itself if in the future it will solve the shortage of natural gas and oil, and for consumers it will save spending at least 2 times⁷. For example, if solar panels and water heating systems are installed in 150,000 apartments, it will save 319 million cubic meters of natural gas per year. Of course, this route will cost a lot at the beginning. But it justifies itself if in the future it will solve the shortage of natural gas and oil, and for consumers it will save spending at least 2 times. For example, if solar panels and water heating systems are installed in 150,000 apartments, it will save 319 million cubic meters of natural gas per year. The importance of encouraging the use of renewable energy sources, reviewing legislation, and creating additional conditions for consumers based on global experience was emphasized. Issues related to direct investment in the sector and the construction of solar photovoltaic and wind farms in the provinces were addressed.

⁷ X. Rustamov, N. Khasanova. (2019). Fundamentals of Energy. Tashkent: TDYU Publishing House



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

- Water is one of the vital resources for humanity, and its rational use is important in the sustainable development of the economy. The application of water saving technologies is one of the pressing issues in Uzbekistan due to the limited availability of Water Resources and their intensive use in agriculture. Water is an important resource for life and economic development, but its availability is limited in many regions. Effective water use is important for sustainable development, especially in agriculture, which is one of the largest consumers of fresh water. The introduction of water-saving technologies makes it possible to significantly increase the efficiency of water use, increase economic income and protect the environment. Water resources: saving water resources and managing them efficiently is also important in the green economy. The introduction of water conservation technologies, optimization of irrigation systems and efficient use of water resources contribute to the development of the green economy.

- The "Zero Waste" (Zero Waste) Strategy is a resource recovery-based system that aims to reduce waste flow to a minimum by reducing, reusing and ensuring recirculation (repeated use of resources). This system does not allow the accumulation and burial of waste, instead all materials are seen as a "resource" that can be reused rather than "waste". Resources and waste recycling: the development of waste reduction, recycling and resource recovery strategies through systems based on the "Zero Waste" Strategy forms the central part of the green economy. Basic principles of the "Zero Waste" Strategy:

- Resource reduction (Reduce): optimize the use of resources in all production and consumption processes.

- Reuse (Reuse): multiple uses of products and packaging materials.
 - Recirculation (Recycle): produce new products by collecting waste and sending it to processing plants.
- Basic principles of the "Zero Waste" Strategy:
- Resource reduction (Reduce): optimize the use of resources in all production and consumption processes.
 - Reuse (Reuse): multiple uses of products and packaging materials.
 - Recirculation (Recycle): produce new products by collecting waste and sending it to processing plants.
 - Composting (Compost): decomposing organic waste in natural ways and using it as an additive to the soil.



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

- Waste return (Refuse): abandonment of disposable products and excessive packaging.

CONCLUSION

The transition to a digital and green economy in the Republic of Uzbekistan has become one of the priorities of state policy. As indicated in the article, these two directions are harmoniously serving the economic development of the country.

The transition to a digital and green economy in the Republic of Uzbekistan has become one of the priorities of state policy. As indicated in the article, these two directions are harmoniously serving the economic development of the country.

We can see the increase in the contribution of small businesses to the country's economy, the creation of small industrial zones, the improvement of the investment environment and competitive environment, the expansion of the volume of public purchases within the framework of public-private partnerships with small businesses, strengthening mutually beneficial cooperation between large and small enterprises, attracting business entities to innovation processes. It is also worth noting that the financial support of successful and promising small enterprises with sufficient export potential, but at the same time not enough capital for further development, is of great importance.

The measures implemented in our country on the transition to a green economy serve to mitigate the negative consequences of climate change, effectively use natural resources and ensure sustainable economic development. In the future, Uzbekistan can become one of the leading countries of the green economy by the widespread introduction of innovative technologies, strengthening environmental legislation and the development of international cooperation.

LIST OF USED LITERATURE:

1. Turobova Hulkar Rustamovna, Kadirova Maral Matyakubovna. Green Economy / [Text]: Textbook / H.1.1. Turobova ova Hulkar Rustamovna, Kadirova Maral Matyakubovna. Green Economy / [Text]: Text. Turobova Hulkar Rustamovna, Kadirova Maral Matyakubovna. Green Economy / [Text]: Textbook /



Scientific Conference on Multidisciplinary Studies

Hosted online from Bursa, Turkey

Website: econfseries.com

11th October, 2025

H.R.Turobova, M.M.Kadirova-Bukhara: Kamolot publishing house of Bukhara determinant LLC, 2025. - 96 b.

2.X. Rustamov, N. Khasanova. (2019). Energy fundamentals. Tashkent: tdyu publishing house

3.The role of Environmental Economics in the country'S economic system
Academic Research in Educational Sciences Volume Multidisciplinary Scientific Journal 4 | Issue 5 | 2023 1-5B.

4.THE ROLE OF DIGITAL TECHNOLOGY AND ARTIFICIAL INTELLIGENCE IN THE TEACHING OF SCIENCE TODAY IN THE INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE "MODERN APPROACHES IN TEACHING EXACT AND NATURAL SCIENCES: CHALLENGES AND SOLUTIONS", MAY 30, 2025 357-362B

5.THE ROLE OF DIGITAL TECHNOLOGY AND ARTIFICIAL INTELLIGENCE IN THE TEACHING OF SCIENCE TODAY IN THE INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE "MODERN APPROACHES IN TEACHING EXACT AND NATURAL SCIENCES: CHALLENGES AND SOLUTIONS", MAY 30, 2025 357-362B 5.

Rapid transition to the" green " economy and sustainable technological changes provard goals green economy and development <https://yashil-iqtisodiyot-taraqqiyot.uz> electronic journal // special issue October 2024, 2024 / Special Issue 12-16b..

6.Innovative technologies in agriculture-prospects for achieving sustainable development International JOURNAL of SCIENTIFIC RESEARCHERSISSN: 3030-332x Impact factor: 8,293 Volume 12, issue 1, June2025 162-164 b.

7.Innovative technologies in agriculture-prospects for achieving sustainable development International JOURNAL of SCIENTIFIC RESEARCHERSISSN: 3030-332x Impact factor: 8,293 Volume 12, issue 1, June2025 162-164