



GREEN ECONOMY FINANCING INSTRUMENTS AND THEIR APPLICATION ASPECTS

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A B S T R A C T	K E Y W O R D S
This article examines the interaction of ecology and economy today. Various approaches to the possibilities of solving global environmental problems through the active introduction of modern financial instruments are studied. The role of "green bonds" in the global financial market and the features of investing in the development of renewable energy sources are also studied. In order to reduce environmental risks in the country's economy, the work carried out on the transition to a green economy is analyzed, and proposals and recommendations are made in this regard.	Financial instrument, green economy, renewable energy, green credit, green bonds, principles of the green economy, green investment, environmental problems.

Introduction

The global transition to a "green economy" is characterized by the fact that it requires long-term and large-scale investments, with a focus on the effective use of renewable energy sources and the development of energy-saving technologies. One of the important issues in the transition to a "green economy" is the financing of this process. When we say "green finance", we can understand the set of investments and other financial instruments aimed at implementing environmentally friendly, energy-efficient and low-carbon projects. In most cases, concepts such as "environmentally responsible investment" and "climate change investment" are also used as synonyms for the concept of "green finance". World practice shows that there are opportunities to meet the need for financing the "green economy". All "green projects" require serious financing. Due to the high level of risk in financing green projects using traditional methods, they are not considered attractive from an investment point of view. Finance, banking and insurance investments are becoming an important direction of private investments in the "green economy". Microfinance can play an important role at the agricultural level. It allows low-income populations to invest their funds in resource and energy conservation and reduce the risk of this activity. There is also a connection in the green finance system. One of the most common types of green economy financing instruments is "green bonds". "Green bonds" were first issued by the European Investment Bank and were then called "climate bonds", later "climate bonds" and now

under the general name “green bonds”. The borrower repays the bond with interest over its term. Green bonds differ from other bonds in that the funds raised are spent on projects related to renewable energy, energy efficiency, clean transport or reducing greenhouse gas emissions. Although initially securities were issued in various countries to attract funds for environmental projects, the directions for spending financial resources were not tied to the issuance of a specific type of bond. In 2008, the International Bank for Reconstruction and Development issued such securities under the name "green bonds". Bank specialists invited Norwegian environmental experts to determine to what extent the projects to which the proceeds from the placement of the issued securities should be directed meet environmental criteria. The International Finance Institute, as usual, acts as a catalyst for private investors and issuers who are actively using “green bonds” in their portfolios and investment strategies. Green bonds differ from each other in terms of their formation mechanism. The diversity of green bond types allows investors to issue bonds that are directed to finance a “pool” of projects, in addition to their own green projects. For issuers, “green bonds” allow them to attract additional financial resources for environmentally friendly projects. "Green bonds" provide investors with the opportunity to receive a fixed income over a long period of time and increase their reputation for participating in "green projects."

RESEARCH METHODOLOGY

Interdependence in the green financing system. “Green financing” is at the heart of the “green economy” concept as an element that connects economic growth, environmental protection and financial institutions. In this regard, “green financing” is a real financial lever that allows for the transition to a “green economy”. Sources of “green financing” can be divided into the following groups. Green financing through the state budget is the process of directing state budget funds to finance projects and programs aimed at environmental protection, ensuring environmental sustainability and combating climate change. Green financing through private sector funds (domestic and external) is the process of attracting funds from private companies, investors and individuals to finance projects and initiatives aimed at protecting the environment, ensuring ecological sustainability and combating climate change. These funds can come from both domestic (domestic) and foreign (external) sources. The main areas of green financing through private sector funds are investments in the development of power plants, wind farms, hydroelectric power plants, bioenergy projects and geothermal energy sources. Investments in the introduction of energy-saving technologies in buildings and structures, reducing energy consumption in industrial enterprises, creating smart grids and modernizing the transport system. Investments in the production and sale of electric vehicles, the construction of charging stations, the development of public transport and the creation of bicycle infrastructure. Investments in the construction of water treatment plants, the introduction of water-saving technologies, the modernization of irrigation systems and the creation of water reuse systems. Investments in the development of organic agriculture, the preservation of soil fertility, the introduction of water-saving irrigation systems and the reduction of the use of chemical fertilizers. Investments in the restoration of forests, the prevention of forest degradation and the fight against illegal logging. Investments in the construction of waste processing plants, the promotion of waste reduction and reuse. Investments in the construction of energy-efficient buildings, the use of environmentally friendly materials and the introduction of water-saving technologies. **Methods of attracting private sector funds.** Green bonds: Bonds issued to finance environmentally beneficial projects. Green loans: Loans issued to implement environmental projects. Venture capital: Investments in startups developing green

technologies. Impact investing: Investments in companies that provide social and environmental benefits. Public-private partnerships (PPPs): Joint implementation of green projects by the public and private sectors.

LITERATURE REVIEW ON THE TOPIC

Many scientists and economists have contributed to the development of the green economy. Their work is aimed at forming the theoretical foundations of the green economy, developing its practical aspects, and influencing policy.

German scientist Karl Wilhelm Recknagel (Karl William Kapp) (1910-1976). He is considered one of the founders of ecological economics. He criticized the impact of the market economy on the environment and society and introduced the concept of "social costs". He conducted the study "The Social Costs of Private Enterprise" (1950). Karl Kapp deeply studied the externalities of the market economy, in particular its negative impact on the environment and society. By "social costs" he meant the damage that companies cause to the environment and society in the course of their activities. According to Kapp, these costs are not reflected in market prices and therefore are not taken into account when making economic decisions. Herman Daly (born 1938) in the United States. Development of the concept of a sustainable economy, a leading figure in ecological economics. He emphasizes that economic growth cannot be unlimited and calls for economic policies to be conducted taking into account ecological limits. He has conducted scientific studies such as "Steady-State Economics" (1977), "Beyond Growth: The Economics of Sustainable Development" (1996). Herman Daly put forward the concept of a sustainable economy. He emphasizes that economic growth should be limited by environmental capabilities. According to Daly, the economy should be part of an ecological system and its activities should not harm the environment. Hazel Henderson (Hazel Henderson) (1933-2022). An active advocate of green economy and sustainable development. She criticized economic indicators and proposed new measures that take into account the environment and social capital. Research works "Creating Alternative Futures" (1978), "Building a Win-Win World" (1996). Hazel Henderson proposed new ways of measuring the economy. She argued that traditional indicators such as gross domestic product (GDP) do not reflect the true state of the economy. Henderson proposed the use of indicators that take into account the environment and social capital. Amartya Sen (born 1933). Nobel laureate, approaches economic development and well-being from the perspective of human rights and opportunities. He emphasizes the importance of environmental protection in the fight against poverty. He has been involved in research on "Poverty and Famines" (1981), "Development as Freedom" (1999). Amartya Sen emphasizes the importance of human rights and opportunities in economic development. He believes that environmental protection is important in the fight against poverty. Because the poor often depend on natural resources. Nicholas Stern (born 1946) from Great Britain. He is known for his report on the economic consequences of climate change ("Stern Review", 2006). He has proven that combating climate change is economically viable and has had a major impact on global policy. He was involved in the scientific work "Stern Review on the Economics of Climate Change" (2006). Nicholas Stern has studied in depth the economic consequences of climate change. His report showed that combating climate change is economically viable.

ANALYSIS AND RESULTS

According to experts, the ratio of public and private investments involved in "green projects" should be 1:5. In China, it is advisable to use 10-15% of state budget funds and 85-90% of private investments in "green projects" to finance domestic "green projects" in order to minimize the risks of attracting "green projects" to the level of risks encountered in financing traditional projects. In world practice, various methods and mechanisms are widely used to stimulate the attraction of private investments in "green projects". Sovereign funds can become one of the promising sources of financing for investments in "green projects". According to UNEP experts, although the potential of sovereign funds in financing and stimulating investments in "green projects" and achieving sustainable development goals is high, they are still poorly studied. In particular, the amount of "green financing" implemented by sovereign wealth funds in 2015-2017 amounted to \$11 billion.

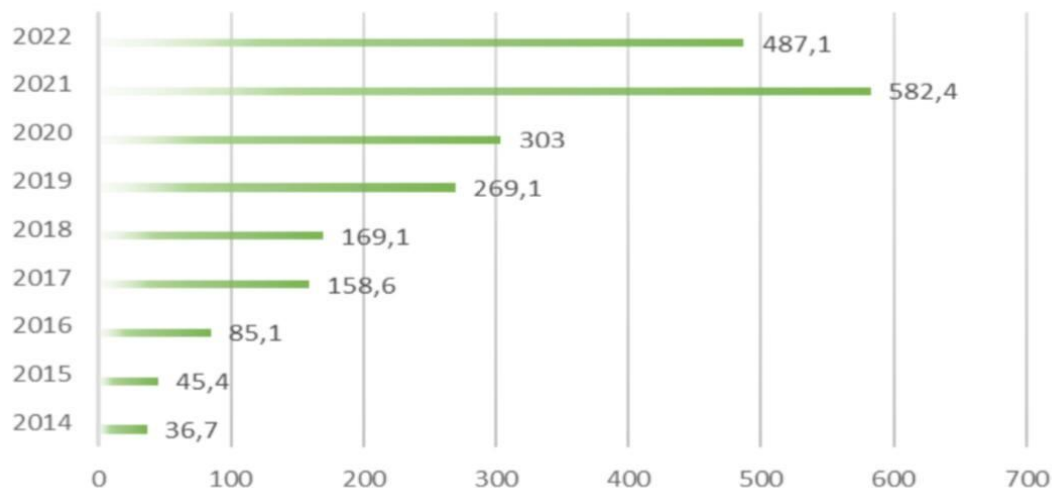


Figure 1. Issued "Green Bonds" in billions of dollars

The data presented in Figure 1 shows that the value of "green" bonds issued worldwide has been increasing sharply in recent years. If in 2014 the value of "green" bonds issued worldwide was 36.7 billion. USD, then by 2021 a record value of "green" bonds was recorded, i.e. 582.4 billion. USD. In 2022, slightly less than in 2021, i.e. 487.1 billion. USD. Green bonds were issued.

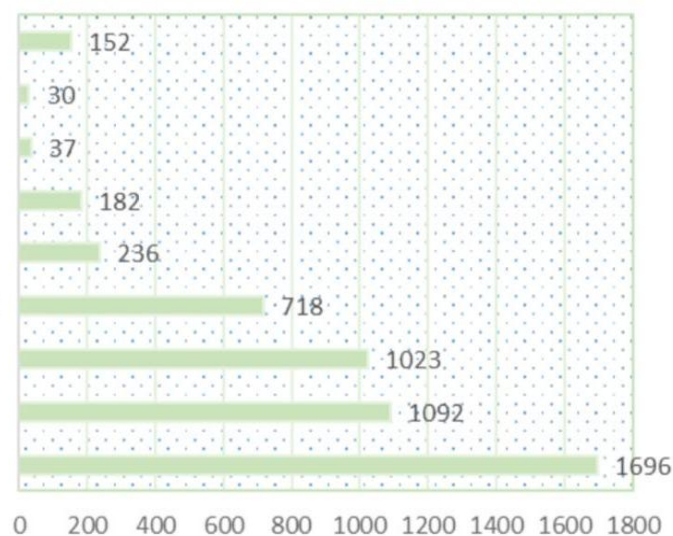


Figure 2. Number of green bond issues

As shown in Figure 2, a total of 5,166 green bond issues were issued globally in 2022. If we analyze bond issuance by economic sector, the largest number of green bond issues in 2022, namely 1,696, were issued to finance projects related to the construction of energy-efficient buildings. 1,092 green bond issues were issued to finance projects aimed at sustainable water and wastewater management and the creation of sustainable infrastructure for clean drinking water.

Analysis shows that the increase in the world population and economic growth has led to a steady increase in the environmental burden. Due to the increase in the number of people and economic activity over the past century, the level of oxidation of the world's oceans has increased by almost 1.2 times (in 2000 compared to 1900), the rate of loss of tropical forests has increased by 6 times, and carbon dioxide emissions have increased by 1.5 times. Such climate changes that are occurring as a result of the increase in the economic activity of the world's population can have serious consequences in the medium term. According to the United Nations Development Program (UNDP), if the current state of the world economy and social sphere, which requires significant amounts of hydrocarbons for development and meeting needs, is not changed, humanity will lose 5 million people in 2050 compared to 2030. Climate change and global natural system changes negatively affect all aspects of human life and worsen the living standards of countries' populations. Developing human capital is essential in the transition to a "green economy". The formation of a "green" economy requires the training of personnel capable of creating and using innovative technologies that serve the ecologically correct orientation of the population, saving resources, and preserving nature. In particular, in 2010, the UNEP "Green Jobs" report concluded that each job created should serve to increase economic stability. It emphasized the need to introduce the study of sustainable development issues simultaneously with the improvement of skills in the field of current vocational training. According to the International Financial Organizations, by 2030, 24 million new jobs can be created in the "green economy". These jobs will be created through the use of new technologies in the energy sector, the use of electric vehicles, and increasing the energy efficiency of buildings.

CONCLUSION

At a time when the economies of countries around the world are experiencing a need for a green economy, it is necessary to introduce and use at a high level all types of instruments used in the implementation of green projects. The transition to a "green" economy requires large investments. It is impossible to carry out such expenses only at the expense of the state budget, and there are not enough funds for this. As a solution to this issue, it is necessary to actively involve the private sector in the use of low-carbon technologies. We believe that, based on the experience of advanced foreign countries, it is appropriate to establish a separate department for trading in "green" bonds at the "Tashkent" Republican Stock Exchange in order to support "green" financing in our country and actively involve private investors in this process. To do this, first of all, it is necessary to clarify the concept of "green" bonds, its types and principles in the relevant laws and by-laws, and then create the necessary ecosystem for trading in "green" bonds on the stock exchange. In order to issue green bonds on the international capital market and include them in the international registry, they must meet the requirements of the International Capital Markets Association (ICMA) and the Climate Bond Initiative (CBI). The European Union, the United Kingdom, China and many other countries have developed a taxonomy of green projects (specific directions and criteria for sustainable development and green projects), and the taxonomy complies with the requirements of ICMA and CBI. Therefore, based on

the experience of developed countries, it is advisable to develop a taxonomy of green projects in our country.

REFERENCES

1. UNEP. (2015), Publication UNEP. United Nations Environment Program. <http://www.unep.org/climatechange/>.
2. IRENA (2017), Renewable capacity statistics 2017, International Renewable Energy Agency (IRENA), www.irena.org/Publications.
3. UN. Report for the UN secretary-general “An action agenda for sustainable development”. 2014. - P. 1-2.
4. United Nations Environment Programme and Intergovernmental Panel on Climate Change. Special Report on Renewable Energy Sources and Climate Change Mitigation. - P. 7.
5. http://www.unep.org/labour_environment/PDFs/Greenjobs/UNEP-Green-Jobs-TowardsSustainable-Summary.pdf.
6. <https://www.un.org/sustainabledevelopment/blog/2019/04/green-economy-could-create-24-million-new-jobs/>.
7. TDIU “Yashil Iqtisodiyot” darslik (2020).