

**HIGHER AND SECONDARY SPECIALISTS OF THE  
REPUBLIC OF UZBEKISTAN MINISTRY OF EDUCATION**



**GULISTON STATE UNIVERSITY**

**GREEN ECONOMY  
Electronic Textbook**

**THE NEED, PRINCIPLES AND SUPPORTS OF TRANSITION TO A  
GREEN ECONOMY**

**Intended for students studying in the following fields of study  
60410100-Economics, 60410200-Accounting, 60410500-Finance and Financial  
Technologies, 60410800-Management, 60410900-Business Administration**

**Guliston – 2024**

Burkhanov A., The need for, principles and transition to a green economy [Text], 2024. – 16 p.

In this “Electronic textbook, the formation of a green economy and the transition to sustainable development are priority tasks both at the global level and for Russia. The concept of sustainable development is of fundamental importance for the future of humanity and is reflected in the fundamental documents of the UN. The economic basis of sustainable development is the formation of a green economy. To eliminate current unsustainable trends, the UN set 17 goals in 2015.

The electronic content offers approaches to the development of a green economy for sustainable development in the period up to 2030 and the adaptation of these goals for Uzbekistan. The electronic content is intended for professors, teachers, doctoral students and graduates of the Department of Economics of the GSU.

**This methodological content was discussed at the university's teaching and methodological council.**

**(Protocol of the meeting No \_\_)  
“26” November 2024 y**

**Reviewer:**

O.A. Yusufaliyev – Doctor of Philosophy, PhD, Department of Economics, Gulistan State University

# THE NEED, PRINCIPLES AND FUNCTIONS OF TRANSITION TO A GREEN ECONOMY

## Page

1. Limited resources and the need to transition to a green economy
2. Principles of transition to a “green economy”
3. Drivers of the policy of transition to a “green economy”
4. “Problems and prospects of transition to a green economy in Uzbekistan

**Annotation.** The formation of a green economy and the transition to sustainable development are priority tasks both at the global level and for Uzbekistan. The concept of sustainable development is of fundamental importance for the future of humanity and is reflected in the fundamental documents of the UN. The economic basis of sustainable development is the formation of a green economy. In 2015, the UN set 17 goals to overcome current unsustainable trends.

Sustainable development for the period up to 2030. The electronic content offers approaches to developing a green economy and adapting these goals for Uzbekistan. The electronic manual was prepared for employees, doctoral students and graduates of the GSU Department of Economics.

**Key concepts.** Uzbekistan, economy, climate change, environment, energy industry, coal industry, global warming, Green economy, a new stage of economic development, organizational and legal framework, development laws, feminist economics, ecology, environment, legislation, Paris Agreement, resource, economy, international convention, international treaty, ecological code.

## 1. Resource limitations and the need to transition to a green economy

Today, all over the world - from big cities to small villages - people breathe polluted air. According to the World Health Organization's air quality guidelines, nine out of ten people in the world are exposed to air pollutants. This reduces life expectancy on our planet and harms our economy.

If current “unsustainable” trends continue, the use of natural resources and pollution will increase severalfold over the next half century. Continuing negative environmental trends could have extremely dangerous consequences for both humanity and individual countries. By 2040, the world population will increase from 7 billion to 9 billion, and the number of consumers will increase.

Over the next 20 years, the middle class will increase by 3 billion people, and the demand for resources will increase exponentially. By 2030, the world's demand for food will increase by at least 50%, energy by 45%, and water by 30%, all of which are placing new environmental constraints on large-scale economic growth. Global food prices can be expected to increase by 30-50% in real terms over the coming decades, increasing price volatility and worsening the situation of hundreds of millions of people.

Soil, its erosion and depletion. Land fertility is declining, which, according to pessimistic scenarios, could lead to a loss of 50% of potential yields.

- Almost 1 billion people lack access to clean drinking water; 2.6 billion people lack adequate sanitation; 1.4 million children under the age of five die each year due to lack of clean water and access to basic sanitation services. Water scarcity will worsen in the future, and in 20 years, water supplies will meet only 60% of the world's needs.

- Up to 20% of the world's grain producers use water unsustainably, which will undermine future agricultural growth and increase the impact of water.

- The planet continues to lose forests. Between 2000 and 2010, the area of forests decreased by 5.2 million hectares annually.

- The arable land, where one third of the world's population lives, is at risk of desertification.

- About 2 billion people living in coastal areas and others may suffer as a result of climate change.

The formation of the raw material export model in Uzbekistan has also led to the development of “unsustainable” trends:

- depletion of natural capital;

- increasing the impact of environmental pollution on human health;

- structural changes in the economy, increasing the share of nature-exploiting and polluting industries;

- a significant decrease in the values of macroeconomic indicators that take into account the environmental factor;

- high levels of environmental intensity and intensity indicators pollution;

- environmentally unbalanced investment policy, leading to an increase in the imbalance between environmental exploiters and processing, recycling and infrastructure sectors of the economy;

- high physical obsolescence of equipment;

- underestimation of the economic value of natural resources and services;

- the natural resource nature of exports, etc.

## **2. Principles of transition to a “green economy”**

Development based on environmental degradation and depletion of natural resources cannot be sustainable in the long term. In this regard, the world is witnessing an increased search for a new model. New economic models related to taking into account environmental factors in the context of sustainability have become widespread in theory and practice: green economy, green growth economy, low-carbon economy, bioeconomy, blue economy, etc. New “hybrid” types are also emerging, for example, circular bioeconomy. The listed new economic models can be considered, to some extent, as different types of green economy.

New economic models have found their expression not only in scientific work, but also in the priority areas of practical activity of many states and private business entities. Thus, the European Community has adopted programs for the development of the "green" economy, circular economy and bioeconomy for 2030-2050. The Paris

Agreement on climate is aimed at the transition of all countries to a low-carbon economy. The reflection of sustainable development goals is becoming increasingly important in the non-financial, social and environmental reports of companies.

New views on the economy can be seen, especially in the conceptual documents of international organizations for the future.

The United Nations has placed the "green" economy as the basis of sustainable development in the economic framework of its concept for the 21st century (this issue will be discussed in more detail below).

The OECD, which unites the developed countries of the world, widely uses the term "green growth" in its documents. This term is largely consistent with the United Nations Green Economy, but at the same time it describes in more detail the economic aspects of green growth, including support for investment, innovation and competition. The term "low-carbon economy" is widely used around the world, especially in the context of combating global climate change and reducing greenhouse gas emissions. In particular, it became one of the main topics for describing the new economy and its future models at the UN Climate Conference in Paris (2015). In developed countries, huge structural and technological changes are being implemented aimed at reducing the consumption of traditional hydrocarbons, the share of renewable energy sources is increasing sharply, this is achieved through various economic instruments - taxes, loans, subsidies, etc. For the conditions of Uzbekistan, the global low-carbon trend is important due to the clearly declared priorities of reducing the consumption of traditional hydrocarbons by the main consumers of the country's energy resources - the member states of the European Community and China. In our leading hydrocarbon importer, Germany, the share of renewable energy sources in electricity generation has reached almost 40%. Low-carbon trends in Russia, according to the author, should manifest themselves, first of all, in a sharp decrease in energy intensity, energy costs per unit of final output. Despite all efforts, this indicator in the country remains one of the highest in the world and is 2-3 times higher than the rational level.

At the same time, interest is growing among states and business representatives around the world in developing a new model such as the blue economy.

The green economy, as defined by the United Nations Environment Programme (UNEP), "improves human well-being and ensures social justice, while significantly reducing the risks to the environment and its degradation." As the United Nations document "The Future We Want" emphasizes, the concept of a green economy does not replace the concept of sustainable development, but it is increasingly recognized that achieving sustainability largely depends on the right direction of the economy. In this sense, a green economy is the basis of sustainable development, and is itself based on its principles. According to UN documents, the key features of such an economic model are:

- efficient use of natural resources;
- conservation and enhancement of natural capital;
- reduction of pollution;
- low carbon emissions;
- prevention of loss of ecosystem services and biodiversity;

- growth in income and employment.

At the same time, international studies on this issue, if

To summarize them, they propose the following principles for a green economy:

1. A green economy is a means to achieve sustainable development;
2. A green economy is a means to create green jobs and decent work.

Let us consider each of these aspects separately.

The issue of the structural, technological and territorial scope of the green economy is controversial. Often this economy means only green business, which includes the production of various types of cleaning equipment, the processing of secondary resources and waste, the provision of environmental services, etc. In this case, the green economy is part of the "big" economy. However, it is clear that the "peaceful" coexistence of such a green economy and the nature-intensive "brown" economy is almost impossible. For example, for Uzbekistan, maintaining the trends of extensive development of energy and metallurgy is accompanied by the most rapid development of green business, which usually leads to the export of raw materials and the preservation of a sustainable economic model. Thus, "green" transformations should cover the entire economy, and greening processes can ultimately be effective only at the macro level.

The concept of the green economy pays great attention to the issue of social justice. The essence of this problem is clearly stated in the 2011 UNDP Global Human Development Report under the title "Sustainable development and equal opportunities: a better future for all". The problem of social justice has many aspects: equality between and within generations, between rich and poor countries, in the distribution of income within individual countries, etc. In particular, it is very difficult to combat the growing inequality between rich and poor countries. At the beginning of the 21st century, the richest 20 percent of the world's population accounted for 86 percent of consumer spending, while the poorest 20 percent accounted for 1.3 percent of spending. Currently, one resident of developed countries emits almost 30 times more greenhouse gases than a resident of poor countries. The problem of inequality in consumption is also very acute in some countries, including Uzbekistan, where the income gap between the rich and poor is growing.

The compensatory nature of natural resources and the problem of overcoming their limitation and depletion based on the process of knowledge accumulation are key features for the economy of the future and its sustainability. The term "knowledge economy" is increasingly used in scientific discourse and in the speeches of politicians

from development based on the use of natural resources to development based on the use of the most powerful renewable resource of humanity - knowledge. As T. Sakaya noted, "the only economic good that humanity has in abundance and does not seek to preserve is human abilities and knowledge".

The process of knowledge accumulation is closely related to reducing risks in the new economy. These risks can be very diverse - from financial risks that led to economic turmoil in the world economy after 2008, to social risks associated with the growth of income inequality, the "slippage" of social elevators, etc. In general

A new feature of the new green economy is a significant reduction in risks to the environment and its degradation. At present, mankind's knowledge of the laws of nature and environmental hazards is still clearly insufficient, which has led to a serious ecological crisis on the planet.

New ecologically exploitative megaprojects with an uncertain impact on the environment should also be treated with extreme caution. The major oil spill in the Gulf of Mexico (USA) in 2010 demonstrated the environmental hazard of offshore projects with energy production prospects that are relevant for Uzbekistan.

An important quality of the new economy should be the adequate inclusion of the economic assessment of nature in the economic decision-making process. The need to increase the value of natural goods (resources and services) is clearly evident both in economic theory and in practice.

The world is increasingly realizing the limitations of interpreting natural capital only as natural resources. For successful economic growth, its other functions must be taken into account. This led to attempts to take into account in theory and practice the economic significance of all its components, the ability to bring any capital a decent income and profit. In the most general form, four functions of natural capital can be distinguished:

1) resource (providing natural resources for the production of goods and services);

2) regulating ecological services (absorption of pollution and waste, regulation of the climate and water regime, etc.);

3) nature services related to aesthetic, moral, ethical, cultural, historical aspects ("spiritual" ecological services);

4) ensuring human health and the environment (this function is still new to economic science; to a certain extent, it.

### 1.3. Opportunities and limitations of the green economy

4) ensuring human health and the environment (this function is still new to economic science; to a certain extent, it is a derivative of the first three functions of natural capital, but it can be distinguished separately due to the main priority of health care in the development process).

The term green economy first appeared in the scientific literature in the 1989 work of English scientists D. Pearce, A. Markandya and E. Barbier "Project for a Green Economy", where the need for economic support for environmental policy was substantiated. The ideas presented were further developed in the works of 1991 and 1994, which already addressed such issues as climate change, ozone layer depletion, massive deforestation of tropical forests and resource depletion in developing countries. However, this concept was not developed in practice until the mid-2000s.

Recently, the world community has faced a number of new problems: the global financial crisis, recession, deteriorating environmental situation, as well as the intensification of climate change. Researchers are trying to analyze modern problems through the prism of previously existing economic models. Thus, some authors analyze the possibilities of Keynesianism and Fordism in solving existing problems. At the same time, the inadequacy of the main instruments of economic policy proposed by these schools is shown.

In general, the "green" economy is often seen as a new economic model that will replace neoliberalism and help combat urgent global problems that have taken the form of a new crisis. A distinctive feature of the recent crisis is the breadth of areas of life that it affects. Along with the disruptions in the financial markets, significant environmental problems are emerging in the food, energy and other sectors, and the impact of climate change is increasing. Thus, the possibility of using traditional economic instruments and practices is limited.

The concept of a green economy in one form or another has been adopted by many developed countries, and measures to achieve it are considered as a means of combating the global recession. However, a critical analysis based on research shows that the concept of a green economy has its advantages and disadvantages. Thus, the strengths of the concept can be considered, first of all, the possible positive impact in the form of increased household incomes and additional job creation, environmental protection and ensuring high sustainability of the world economy.

Secondly, according to existing estimates, the volume of investments required to implement the transition to a green economy on a global scale is approximately 2 percent of world GDP per year. This volume is more than the actual one. Thus, with effective public policy, funds can be allocated for the development of a "green" economy at the national and global levels.

It should be noted that the abolition of subsidies in sectors that contribute to the excessive consumption of natural capital (energy, water supply, fisheries and agriculture) can free up 1-2 percent of world GDP per year.

At the same time, in the long term, an investment of 2% of the world's GDP in the "Green" development scenario can compensate for economic losses with high profitability<sup>36</sup>. The introduction of additional environmental standards can also give a competitive advantage to business in the long term, which at the initial stage entails additional costs for firms.

Thirdly, there is already a stable positive trend in the growth of the green sector in Europe, along with the emergence of positive environmental, economic and social externalities. For example, in Austria, Switzerland, the Czech Republic, Germany and others, investments in the transport sector have brought high returns in all three areas.

Despite significant advantages, the "green" economy also has a number of disadvantages. The main "failures" of the concept include, first of all, the limited practical application of the framework that considers the world as a single region. Many conclusions and recommendations for the implementation of the principles of the "green" economy are of a universal, global nature, which does not take into account the diversity of countries, their interests, goals and objectives. Second, while some estimates suggest a global investment opportunity for a "green" transformation of the global economy, some researchers question the often-quoted 2 percent of global GDP, which is a significant amount in itself. The costs may be underestimated and the benefits overestimated.

Overall, investments in the green economy can bring significant long-term financial benefits, although growth rates may slow down in some regions of the world due to the insufficient development of appropriate mechanisms.

Third, difficulties remain in obtaining economic benefits from environmental compliance, since in one form or another there is always a trade-off between economic and environmental benefits.

This also includes the business problem of the discrepancy between consumer expectations and their actual actions. Thus, although consumers may express interest in environmentally responsible products and express their willingness to purchase them, in practice this does not always happen, which puts companies in a difficult position. In addition, some researchers do not agree with the proposed tools for implementing change. In particular, subsidies for electricity generation in renewable energy enterprises have been criticized: some results indicate a redistribution of income from this type of support (transfer to the consumer), while worsening the position of most firms in the industry.

#### **4. “Problems and prospects of transition to a green economy in Uzbekistan**

“Ensuring ecological safety is an important part of the “green” economy. This is very important in the Aral Sea region. In recent years, Uzbekistan has been striving to achieve a balance between economic growth and environmental protection. This is reflected in the introduction of environmentally friendly, energy, water and other natural resource-saving technologies.

One of the biggest problems in Central Asia, with a population of 60 million, is currently the drying up of the Aral Sea. This threatens the sustainable social and economic development of the region, as well as the health of the population.

Environmental protection is one of the important factors for ensuring sustainable economic growth. In recent years, Uzbekistan has implemented several large-scale projects in the Aral Sea region: several 10 thousand plants were planted on a total area of 700 thousand hectares in the dried-up area of the Aral Sea. More than 500 projects have been implemented to reduce the negative consequences of the Aral Sea problem. Also, a program for the development of the Aral Sea region in 2018-2021 was adopted.

The transition of Uzbekistan, along with other countries of the world, to a green economy is an objective necessity and its development remains an urgent issue. Therefore, it is necessary to answer the questions of what organizational and legal frameworks should be created and developed in our country to form such an economy, and what these efforts will give us. The green economy is considered a new stage of the socio-economic development of society and requires the study of the reasons for its origin and the laws of its development. Ideas about the transition to a green economy appeared in some developed countries at the end of the last century, and since then the issues of forming its economic, organizational, legal and scientific-practical foundations, as well as the ways to transition to it, have been increasingly pressing. The green economy is a component of the natural environment and is one of its directions. Ecological economics, which includes ideas from other areas, includes economics related to green politics, such as environmental economics, resource-based economics, population development, and feminist economics. Therefore, in our opinion, the “Green Economy” is an economic system whose main goal is to preserve

the ecology of our planet and its environment, while developing all sectors of the economy, a new direction of economic activity based on the further development of the economy related to production and service sectors, while preserving the resources necessary for human life and health, the environment and ecology, while ensuring a stable and clean air.

In the current globalization process, the rapid growth of industry and the negative consequences associated with its environmental damage require the consolidation of legal documents regulating the environmental sphere into a single integrated system, the significant improvement of existing ones and the creation of an organizational and legal framework for a green economy based on their codification. To this end, the President of Uzbekistan in his Address to the Oliy Majlis of the Republic instructed the government to develop a comprehensive program of measures to prevent the impact of industrial development on the environment until 2025, and to develop a draft of the Ecological Code, if necessary, with the involvement of reputable international experts. In this regard, to date, Uzbekistan has acceded to eleven international conventions, agreements in the field of environmental protection and seven multilateral international agreements within their framework.

In particular, as a party to the Paris Agreement, it has undertaken to reduce its specific greenhouse gas emissions by 10 percent by 2030 compared to 2010 levels. Based on this, in accordance with the relevant paragraph of the state program, a state strategy for the transition to a “green economy” in connection with Uzbekistan’s accession to the Paris Agreement has been developed. In this direction, our country is creating an organizational and legal framework for a green economy through the implementation of a number of projects to introduce environmentally friendly, resource-saving technologies. To date, Uzbekistan has joined eleven international conventions and agreements in the field of environmental protection and seven multilateral international agreements within their framework. At the new stage of our country’s development, the work being carried out to protect the environment, rational use of natural resources, and prevent the negative impact of environmental problems on human health is a guarantee of sustainable development. Of course, the legal basis for these reforms is set out in the Constitution of Uzbekistan. In particular, Article 50 of the Constitution states that “Citizens are obliged to treat the environment with care.” This requires citizens to use land, water, forests, subsoil resources, fauna, flora and other natural resources rationally, restore and protect them, and fulfill this obligation in a timely manner.

The fact that it is clearly reflected in all laws further strengthens the constitutional requirements. Also, Articles 54, 55 and 100 of our Basic Law impose the duty of environmental protection and rational use of natural resources on legal entities and individuals. Based on these constitutional norms, more than thirty laws and about three hundred by-laws have been adopted on ecology, the environment, public health protection and rational use of natural resources. In particular, such regulatory documents as the comprehensive, directly applicable Ecological Code, the Laws “On Environmental Audit”, “On Water Supply and Sewerage Services”, and the Concept for the Development of Drinking Water Supply and Sewerage Systems have been developed and implemented. The programs developed by our state

annually also set ambitious goals in the field of ecological and social development. Of course, in the current process of globalization, the rapid development of industry makes it important to codify laws that fully cover the ecological sphere in order to improve them in practice.

In this regard, the Address of the President of our Republic to the Oliy Majlis sets the task for the Legislative Chamber of the Oliy Majlis to develop a comprehensive program of measures to prevent the impact of industrial development on the environment until 2025, as well as to improve all laws and by-laws related to ecology, involving reputable international experts.

Our law clearly specifies the systematization and codification of the legislative framework on ecology, the implementation of parliamentary and public control over the activities of the authorized state body for environmental protection, the rights and obligations of citizens and public associations in environmental protection, types of environmental control and monitoring, the procedure for conducting environmental expertise, and requirements for the use of natural resources.

To date, Uzbekistan has joined eleven international conventions, agreements in the field of environmental protection and seven multilateral international agreements within their framework. In particular, as a party to the Paris Agreement, it has undertaken to reduce its specific greenhouse gas emissions by 10 percent by 2030 compared to 2010 levels. Based on this, in accordance with the relevant paragraph of the state program, a state strategy for the transition to a "green economy" in connection with Uzbekistan's accession to the Paris Agreement has been developed.

In our country, a number of regulatory documents are being adopted and various projects are being implemented in this direction on the introduction of environmentally friendly, resource-saving technologies. In particular, in recent years, the Ecological Code has been adopted, the State Committee for Ecology has been established, and most importantly, the Concept of Uzbekistan's Transition to a "Green Economy" has been adopted by the Oliy Majlis of our republic.

In Uzbekistan, a concept of transition to a "green" economy for 2019-2030 has been adopted. It includes the following tasks:

- Reducing water supply costs, increasing the efficiency of water use;
- Ensuring the transition of the population and sectors of the economy to reliable and affordable energy supply;
- Reducing greenhouse gas emissions into the air by 10 percent compared to the 2010 GDP level;
- Modernizing the infrastructure of industrial enterprises;
- Using alternative energy sources;
- Increasing energy efficiency by at least 20 percent.

In 2018, the Republic of Uzbekistan ratified the Paris Agreement (Paris, December 12, 2015) and made a quantitative commitment to reduce greenhouse gas emissions per unit of gross domestic product by 10 percent by 2030 compared to 2010 levels, in line with its nationally determined contribution. In the framework of fulfilling the obligations of the Paris Agreement, insufficient energy efficiency of the economy, irrational use of natural resources, slow technological innovation, and the lack of active participation of small businesses in the implementation of innovative

solutions for the development of a “green” economy are hindering the achievement of the priority goals of sustainable development of the national economy[2].

Three main principles of sustainability inform international and national policies worldwide: Circular Economy, Green Economy, and Bioeconomy[8]. Some scientists, as well as we, believe that the bioeconomy can be considered as part of a green economy. These concepts offer different solutions for harmonizing economic, environmental and social goals (Table 1).

In our opinion, the economic reality is changing. Climate change is ongoing, and not so much - the world is spending hundreds of billions of dollars and euros on energy conservation, and new technologies are being created in any case. Already, tens of billions of dollars and euros have been directed to a low-carbon economy (increasing energy efficiency and reducing environmental impact), not only to combat climate change, but also as part of the transition to a new economy. And this encourages us to study the interrelationship of 2 factors: climate and crisis.

The European Union plans to reduce CO2 emissions by 20%, increase energy efficiency by 20% and increase the share of renewable energy sources to 20% by 2022. The United States government intends to reduce greenhouse gas emissions by 50 percent by 2050 and by 80 percent by 2080.

**Barqarorlikni Q metodologiyasi bo'yicha tahlili Iqtisodiy barqarorlik**

Circular Economy	Increasing economic welfare at the industrial level from recycled products and services, Increasing production efficiency due to the widespread use of plastic and metal products as raw materials in the production of recycled products - “Recycling products”;
Green Economy	Green Economy Improving economic welfare at the industrial level from goods and services to preserve and improve the ecosystem and ensuring financial results through redirecting financial flows and investments in natural capital;
Bioeconomy	Increasing economic welfare through improving the production of bio-products using biotechnology and agro-ecological methods.
<b>Environmental sustainability</b>	
Circular Economy	Reducing dependence on resources and the environment due to the closure of the flow of production and consumption materials;
Green Economy	Enhancing natural capital and related ecosystem services through conservation, restoration and nature-based solutions;
Bioeconomy	Redirecting dependence from non-renewable energy sources to renewable energy sources and reducing environmental impact through the development of

	bio-based bio-additives and bio-additives using agroecological and technological approaches.
Social sustainability	
Circular Economy	Waste reduction, regional development and transformation through recycling-oriented industrial clusters;
Green Economy	Shared and equitable costs and benefits of ecosystem management; development of ecotourism and other biodiversity-based businesses;
Bioeconomy	Regional development through primary producers and bio-industrial clusters. Note. The table was developed by the author.

For example, when the wind speed exceeds 4 m/s, the amount of dust in the air reaches 5-20 µg/m<sup>3</sup> in forests, 20-100 µg/m<sup>3</sup> in steppes, and 100-150 µg/m<sup>3</sup> in the dry deserts and deserts of Central Asia. An average car used for 6 years emits 9 t of SO<sub>2</sub>, 0.9 t of SO, 0.25 t of NO<sub>x</sub> and 80 kg of hydrocarbons into the atmosphere.

From 2010 to 2018, the amount of pollutants emitted into the atmosphere increased by almost 1.3 times and in 2018 amounted to 2.442 million tons. Of this, 65% or 1 million 560 thousand tons is accounted for by motor vehicles. In large cities, for example, Tashkent, this figure is 80%.

Many atmospheric pollutants contribute to global warming. Black carbon is an example. Diesel engines, exhaust fumes, and other pollutants are very harmful to breathe. Reducing these pollutants would not only improve health, but could also reduce global warming by 0.5 degrees Celsius over the next few decades.

With the efforts of the World Bank and the United Nations, the world invented the relevant indicators 15 years ago as part of the Millennium Development Goals. On the macroeconomic side, the World Bank (WB) measures environmental pollution and the depletion of natural resources through the “Adjusted Net Savings” indicator (see Table 3). The biggest disadvantage is the depletion of natural capital. The World Bank believes that a country that has degraded natural capital and is not remunerating investments in human and physical capital is developing unsustainably. Unfortunately, this indicator is not mentioned in any sources in Uzbekistan, including in the data published by the State Statistics Committee.

The lower this indicator, the less environmental pollution and natural resources in that country.

In 2015, the “Low-Carbon Development Strategy of the Republic of Uzbekistan” was adopted in our country. According to it, by 2030, it is planned to increase the share of TEM (hydro, solar and wind energy) in the country's energy balance from 10 to 20 percent, coal from 5 to 15 percent, and reduce the share of electricity from gas from 85 to 65 percent. Well, at a time when the UN Secretary-General is calling on all countries to stop the construction of new coal plants, is it right for us to increase coal production?

Countries facing climate problems are creating a new innovative diversified, modernized model, and according to international forecasts, the need for gas and oil

will decrease sharply in 20-30 years. The energy and metallurgical sectors are among the leading sectors in the structure of the Uzbek economy. This is also called the high-carbon economy or the gray economy.

For countries with social problems, such as income inequality, high poverty rates, and large carbon capital, GDP shows a completely virtual thing that hides this degradation. A report on the measurement of economic development and social progress was published by German researchers Stiglitz and Seine. GDP does not take into account environmental change or sustainability. The focus on GDP creates contradictions: they demand maximum growth from political leaders, and citizens demand safety, reduce water and air pollution, reduce noise, and this can lead to a decrease in GDP. Therefore, GDP is a harmful indicator for Uzbekistan, along with many other countries.

The Kyoto Protocol is a wonderful theoretical invention of mankind: countries came together and agreed to trade in air. A completely artificial market: under it a price system, an exchange, climate taxes were introduced; in Europe, a wonderful tax was introduced for excess greenhouse gases. Humanity creates a completely new economic reality. On the one hand, this is a completely speculative economy. On the other hand, this may be one of the few results of the modern traditional market economy, which, in general, has an adverse effect on the environment. And if we don't finish building it with some ecological markets, institutional, social components, and modernize our traditional market economy, it won't lead to good things.

### **Conclusions and proposals**

As a result of the study of the available published scientific theoretical and practical data on the topic, the following conclusions were drawn and proposals were formulated. The green economy is considered the main driver of sustainable economic and social development of countries in the future, and efforts are being made to create its economic, organizational and legal basis. In this regard, in Uzbekistan, the green economy is also considered as a component of the natural environment and to create its organizational and legal basis, such regulatory documents as the Ecological Code, the Laws "On Environmental Audit", "On Water Supply and Sewerage Services", and the Concept for the Development of Drinking Water Supply and Sewerage Systems have been developed and implemented. Uzbekistan has joined eleven international conventions, agreements in the field of environmental protection and seven multilateral international agreements within their framework. But the transition to a green economy requires a large amount of financial resources. In this regard, it is important that the sources of financing these processes are clearly indicated in the legislation.

China and India are working to reduce energy intensity, which is associated with the same carbon intensity - and we also need to develop ways to do this. If we try to introduce the climate factor, ecology into economics in theory and practice, then we should pay attention to the problem of ecosystem services, which has been discussed globally in the last 3-4 years. There are about 30 of them - the whole world

is trying to evaluate them, monetize them, and include them in the process of economic decision-making. And for this we need to recognize a number of problems.

First: according to economic theory, there is nothing that is not mathematically evaluated. So, we need methods of evaluation. In particular, the indicators of the “Adjusted Net Savings” (JB) studied in the study, carbon intensity indicators in the country, intensity indicators and other international indicators indicating a green economy should also be calculated in Uzbekistan.

Second: the need for incentives for climate projects, enterprises producing ecologically clean products. Any economist will not invest in a project if they do not pay back within 8-10 years. In our country, this corresponds to 2-3 years. Climate projects are designed for decades. Will the private sector invest in this? So, state support is needed.

We need to announce to the world today that Uzbekistan has a sunny climate, which is very suitable for the production and processing of natural food, fruit and vegetable products, and attract foreign investors and foreign projects. It is necessary to develop incentives for them and provide them with state trust documents for tax exemptions. Therefore, all countries should come to us, make large investments in us, buy quotas, plant fruit trees, give us new technologies, and this will not only benefit Uzbekistan, but also save the world. After all, according to UN data, currently the world's natural food products reach only 60% of the world's population. The remaining 40% of the demand is covered by the production of artificial and chemical products. Using this, we have a suitable climate in Uzbekistan to create the opportunity to provide not only our own population, but also the needs of the population of other countries with natural food products.

Preventing air pollution presents a two-pronged opportunity, as reducing coal-fired power plants and promoting less polluting industry, transport and local fuels creates the need to clean the air and reduce greenhouse gases, and to organize the use of renewable energy sources, especially solar energy, rather than switching to coal instead of gas. In the context of globalization and integration, it is necessary to include in the database of the State Statistics Committee the calculation of international indicators, in particular indicators reflecting the green economy.

### **List of used literature**

1. Law of the Republic of Uzbekistan No. O'PYK—491 dated October 2, 2018 “On ratification of the Paris Agreement (Paris, December 12, 2015), adopted by the Legislative Chamber on September 25, 2018, approved by the Senate on September 27, 2018.

2. Resolution of the President of the Republic of Uzbekistan dated October 4, 2019 No. PQ-4477 “On approval of the Strategy of the Transition of the Republic of Uzbekistan to a “Green” Economy for the Period 2019-2030”

3. K. Berdenova, V. Shtang, S. Sintsov: “Green” Economy as a Driver of Sustainable Development/ Scientific Report on Economics and Economic Sciences/2012/ <https://cyberleninka.ru/article/n/zelyonaya-ekonomika-kak-dvigatel-ustoychivogo-razvitiya>

4. R. Sharafutdinov, E. Akhmetshin, A. Polyakova, V. Gerasimov, R. Shpakova, M. Mikhailova: Inclusive growth: A dataset on key and institutional foundations for inclusive development of Russian regions/ Journal Data in brief, Volume 23, April 2019, 103864. <https://doi.org/10.1016/j.dib.2019.103864>
5. Statement of the UN Secretary General on World Environment Day, 2019.
6. Ю. Булгакова, С. Набок: Взаимообусловленность понятий "зеленая" экономика, "зеленый" рост и устойчивое развитие/ 2017, Выпуск № 5(59) май 2017, Политические науки
7. European Environment Agency: Green economy [Electronic resource]. — URL: <http://www.eea.europa.eu/themes/economy/intro> (accessed: 12.03.2017).
8. D. D'Amato, N. Droste, K. J. Winkler, A. Toppinen /2019/Thinking green, circular or bio: Eliciting researchers' perspectives on a sustainable economy with Q method/ Journal of Cleaner Production / Volume 230, 1 September 2019, Pages 460-476/ <https://doi.org/10.1016/j.jclepro.2019.05.099>
9. Ю. Литвинова, 2010/ При потеплении — к технологиям/ <https://iq.hse.ru/news/177674414.html>.
10. The table was prepared based on data from the World Bank, the indicator for Uzbekistan was determined as a result of the author's calculations.
11. The carbon intensity in Uzbekistan was calculated by the author based on data provided by the State Statistics Committee for 2017.
12. World Bank data <https://data.worldbank.org/>
13. B. Alikhanov, Chairman of the Executive Committee of the Central Council of the Ecological Party of Uzbekistan, Ensuring clean air: problems and solutions/ 11.10.2019/ <http://ekolog.uz/?pq1400>
14. Gazeta.uz, 2015/The power of the energy system can increase by up to 30 percent due to TEM/ <https://www.gazeta.uz/uz/2015/10/16/tem/>
15. Kyoto Protocol to the Framework Convention on Climate Change — Official text in Russian, OON, 1998.