THE GREEN ECONOMY – UPGRADING THE CONCEPT OF SUSTAINABLE DEVELOPMENT

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Abstract. The article examines the problems posed by changes in the components of the natural factor to social and economic development. They are the focus of researchers from different countries, governments and international organizations, especially after the middle of the 20th century. This is evidenced by the analyses and program documents developed by various organisations, which highlight the main aspects of intervention and regulations in the field of environmental protection with all its components. In this sense, the purpose of the development is to review the concept of sustainable development and the changes that have occurred in it in the direction of focusing attention on the environmentally friendly aspects of economic behavior on a global scale. The object of the research is the concept of sustainable development and the subject – its transformation towards establishing a "green" economy with a view to preventing the loss of biodiversity and ecosystem services.

Keywords: sustainable development; natural capital; ecosystem services; green economy

JEL: **Q01, Q56, Q57**

Introduction

In recent years, we have witnessed large-scale changes in all spheres of human existence. One of the main challenges today is related to climate change, biodiversity loss, the spread of various virus infections and the resulting economic and social tensions. Under these conditions, it becomes even more difficult for countries to maintain such rates of economic growth as to guarantee an increase in the quality of life of the world's population. Despite the technological and technical advances made at the global level in the last 100 years, the pandemic situation with Covid-19 in the last three years is evidence that problems such as food shortages, deficits in health and social welfare systems, energy security and the efficient use of natural resources remain unsolved. In this situation, the problem of deteriorating climatic conditions and the related ecological characteristics of the planet is

particularly acute. Data from the Global Risks Report 2023. puts environmental issues at the forefront of long-term concerns. In this context, it is increasingly necessary to ensure sustainable development. It should be borne in mind here that sustainable development is not a static state.it has an intrinsic dynamic that is based on meeting the needs of today's generations without limiting the opportunities of future generations. (Our Common Future: The Report of the International Commission on Environment and Development. 2010)

1. A chronology of ideas to form the ecological foundations of development

In developing ideas for the transition from sustainable development to a green economy, several stages can be tentatively identified. Each of the stages is characterized by a particular understanding of the relationship between the state of the environment and the functioning of the economy.

The first stage covers the time of the 50-60s of the 20th century. Its ideological hallmark is **the awareness of the dangerous impact of the economy of the natural environment**. In the result of the research conducted on this impact, the established understanding is that it has global rather than local dimensions. (Colby 1989, 3-6) Chemical and radiation pollution are considered to be the main causes of negative environmental effects in this period. This is due to the fact that since the mid-twentieth century the world has faced a constant nuclear threat as a result of the race between the US and the former USSR in the field of nuclear technology, as well as the geopolitical environment in the Cold War. On the one hand, the catastrophic consequences for the world of the use of nuclear weapons are increasingly on the public agenda. On the other hand, the negative impact of human economic activity on the environment is at the forefront. Taken together, these issues become the basis for the creation of international movements and a global environmental consciousness.

The immediate aftermath of the Second World Ear completed the process of disintegration of the colonial empires that emerged after the Great Geographical Discoveries. Its consequence is the emergence on the world map of many new countries, mostly in the so-called "Third World". These countries have a serious need to create and develop their economic potential to ensure the social well-being of their populations. Achieving such goal involves intensive use of its natural resources, especially the extraction, processing and export of mineral and raw materials. Under these conditions the correlation between economic development and environmental depletion is well understood by national governments, but environmental rhetoric is limited to acknowledging the need to protect the environment, but in the context of economic development. In other words, **preserving the ecological backdrop should be in the context of economic development, but without hindering it**.

In this period, several important events were identified that testify to the fact that environmental issues are coming into the public focus. In 1955, the first international conference on air pollution was held. The forum drew attention to the reported high mortality from respiratory diseases resulting from industrial air pollution in a number of major cities around the world. (Brighton 2017, 209-233)

Another notable event was the 1962 publication of Rachel Carson's book "Silent Spring". This is one of the first studies to address **the issue of the danger to flora and fauna from synthetic pesticides used in agriculture (including DDT).** In the book, the author focuses on the levity of man to sacrifice the purity and richness of nature at the expense of profit. Moreover, R. Carson strongly criticized the use of synthetic chemistry products in US agriculture, causing the development of deadly diseases in humans and other living beings. The message of her book is addressed to the conscience of global society, because "the duty to tolerate gives us the right to know the truth". (Carson 1987,226)

Also in 1962, the United Nations General Assembly, in its resolutions of 18 December on "Economic Development and the Conservation of Nature", recognised that economic development, including industrialisation and urbanisation, was damaging natural resources, flora and fauna, especially in developing countries. It is therefore recommended that it should be accompanied by measures to "protect, restore, enrich and rationally use natural resources and increase productivity". (Sukhdev, Stone, Nuttall 2010,5)

The second stage extends from the late 1960s and especially in the 1970s. the ideas of the researchers of the problems on the axis "economic development - environment" unite around the thesis that **the extremely intensive use of natural resources and pollution caused by economic development have a disruptive role for the economy as a whole**. Subversion destroys the material-resource base of production and limits human well-beings. In other worlds, the economy torpedoes itself.

Building on these ideas, it is understood that once global in nature, global action will be need to address the pollution and depletion of the natural component of economic development. Fundamental to this period is the view that economic action in all spheres of social life must be rational. This will ensure the protection of nature and the provision of a safe environment for humans. The adoption of such a model of economic development requires and emphasis on science-based planning and centralised environmental regulation of economic activity in order to prevent dangerous environmental changes. The approach is known in scientific circles as "administrative rationalism". Applied to environmental issues, it is reflected in the establishment of a number of international, national and regional formal institutions, in the development, adoption and implementation of adequate environmental legislative initiatives. (Strizhov, Abramovich 2017, 958-965)

The emergence and permanent establishment of this type of view is associated with the publication of a number of papers and the holding of important international forums. At the end of 1968, the famous photograph "The Rise of the Earth" was published, taken during an orbit around the Moon by the Apollo 8 astronauts. To this day, this photo is defined as a symbol of awakening of global environmental consciousness. (Cavalcanti 2010, 53-67)

In 1972, the first report of the Club of Rome was published, called Limits to Growth. It presents for the first time the results of extrapolating world population growth, industrialisation, environmental pollution, food production growth and natural resource depletion over time to 2100 (Von Weizsäcker, Weijkman 2018, 17-23)

In the same year on June 5th opened the United Nations Conference on the Human Environment in Stockholm. The Forum adopted the famous Declaration on the Human Environment and Action Plan, which sets out 26 principles of environmental policy. A decision is taken to establish the United Nations Environment Programme (UNEP). (Von Weizsäcker, Weijkman 2018, 26-30)

The third stage of shaping views on the conservation component of global development spans the last two decades of the twentieth century. This is the time of rapid development and implementation of "green" technologies mainly in developed countries. The idea of an ecological modernisation of economic processes is coming to the fore. The basis on which this idea rests is the economic viability of industrial development through the ecological adaptation of growth. This implies resource savings and competitive advantages for companies that implement green technologies and production innovations.

This understanding is being rapidly adopted and is finding application in the business sphere as well as in government measures and actions taken by developed countries. Its adoption is due to the specificity of the approach applied for its practical use. Namely, the contradictions between economic and environmental interests within the market system are removed. In other worlds economic growth may not be environmentally damaging if technologies are developed and deployed that substantially reduce damage per unit of output, in this way, ecological modernization becomes politically and economically acceptable to developed country governments.

In the same period, the concept of **sustainable development** took shape in expert circles. It emerged in the midst of the conflict between the interests of the developed countries in the "North" and the developing countries of the "South". While the former insist on bringing environmental concerns to the forefront of the global agenda, the latter assert their rights to accelerate the pace of economic growth, fearing the adoption by developing countries of protectionist non-market actions linked to excessive environmental demands. (Runnalls, Mainguy 2011, 2)

At the heart of the concept of sustainable development is the trinity of economic, environmental and social development goals. Its establishment is linked to the adopted documents of international forums held in the 1980s and 1990s. in 1987, the World Commission on Environment and Development, known as the Bruntland Commission, published its report Our Common Future. It defines for the first time the concept of "sustainable development": development that "meets the needs of the present without compromising the ability of the future generations to meet their own needs". Furthermore, it noted that climate change is not purely environmental. Rather, they are a consequence of the application of the inefficient energy consumption patterns, and energy is the basis of the economy. (Our Common Future – Report of the World Commission on Environment and Development 2015)

More specifically, the concept of sustainable development integrates the resources and processes of natural systems with the human needs and economic activities of social systems. (Stoyanova 2021, 15-19)

In 1992, the United Nations Conference on Environment and Development is held in Rio de Janeiro. In the framework of the forum, representatives of the 179 countries were united around a document named "Agenda 21". This document addresses all aspects of sustainable development and the integration of environmental

protection into economic sectors. The international conventions on climate change and biodiversity conservation adopted at the conference certified the environmental obligation of the participating countries. A significant part of the commitments made are primarily declarative in nature, and their practical implementation requires more specific definition of objectives and measures for their implementation.

Another important event at the end of the 20th century was the signing of the Kyoto Protocol in 1997. This was one of the first documents that clearly spelled out practical actions requiring countries to make specific commitments to reduce greenhouse gas emissions. CO_2 emissions in 1990 were adopted as the baseline indicator. Also at the Kyoto conference, a decision is taken to establish a global trading system.

The fourth conditional period covers the first two decades of the 21st century. its main feature is the permanent establishment in theory and the economic practice of the concept of sustainable development and its improvement in the context of new realities. The social component of sustainable developments is at the forefront. Climate change is a fundamental aspect of environmental issues, especially its impact on growth and economic development.

The financial and economic crisis of 2008 – 2013 has illuminated the acuteness of another major problem that has remained on the sidelines of the world's agenda for the last century or wrongly assumed to be solved by widely implemented economic growth strategies. This is the global instability of the economic system.

As is known from economic theory, the economic life of society does not move in a straight line trajectory. Cyclicality is an intrinsic property of the system of economic relations. After the global financial-economic crisis it became clear that free market is not capable of self-regulation both in terms of preserving and efficient use of biosphere resources and achieving social justice in their consumption, as well as in ensuring the long-term stability of the economic system. (Prodanov 2021, 135-140) Under these circumstances, a new concept **– the "green" economy**- finds its place in the global agenda.

There have been a number of key developments since the beginning of the 21st century that have fixed a new global agenda based on the green development. At the Millennium Summit in New York in September 2000 – the largest gathering of the world leaders in history – UN Millennium Declaration is adopted. It commits countries to engage in a new global partnership to reduce extreme poverty and achieve series of goals, each with a target date to 2015. These became known as the Millennium Development Goals. A major focus among them is on reducing the lag of developing countries in the quality of life of their populations compared to developed ones. To this end, measures are envisaged to fight o=poverty and hunger, expand access to education and health, reduce material inequality, curb morbidity and mortality, and lower the external debt of the poorest countries.

To address the problems thus outlined, the World Summit on Sustainable Development was held Johannesburg in 2002, known as Rio +10. With the importance of a practical form of interaction to achieve the Millennium Development Goals, the meeting decided to establish the so-called "partnership of the second type". It envisages more active more participation of private business, non-profit

organisations and civil society structures in decision-making on the most pressing development issues

In 2006, N. Stern's report The Economics of Climate Change was published. It provides a detailed and convincing presentation of all aspects of the economic dimension of global warming. According to the figures presented in the report, the magnitude of the negative impacts of climate change – up to 5% of global GPD in the near term and up to 15-20% by the end of the century – far outweigh the costs of securing measures to reduce greenhouse effects emissions. The latter are estimated at 1% of global GPD. A few years later (2008) – taking into account the new more pessimistic projections of the speed and effects of climate change, N. Stern revised these figures, identifying the need to allocate 2% of global GPD to limiting emissions. The conclusion of the study is that if the world does nothing about the unexpectedly fast-moving "melting" of the planet, in a few years humanity will be losing twenty percent of the world's gross product in fighting its effects. If, however, it decides to act, the effort to save the Earth will cost one percent of the world's gross product. (Krastev et al. 2021, 4-13)

In 2007 was published the Fourth Report of the Environmental Panel on Climate Change. It argues that with a probability of about 90%, observed climate change is the result of human activity. Among these, the main contributor is the release of greenhouse gases into the atmosphere, which began to increase markedly with the start of the Industrial Revolution. (Yashalova 2012, 26-34)

The post-2008 global financial and economic crisis has accelerated action towards "greening" the preconditions for economic development and growth. Key among them are: stimulating investment in resource- and energy-efficient production, preferential tax regimes for the development of green sectors and industries, support for the creation of green jobs, etc. (Krastav et al. 2021, 14-28)

In this direction are also the theses of the document published in 2009 by the United Nations Environment Programme (UNEP. It systematically sets out ideas for transforming the world economic system towards environmentally sustainable development. The section entitled "Global Green New Deal" outlines the overall goals and objectives for reforming national economies, international trading system and global financial markets in line with the view of the experts of the UNEP Green Economy Initiative (Barbier 2009). At its core, the concept of the green economy was conceived as a reaction to the aftermath of the 2008-2013 global crisis.

2.The transition from sustainable development to a green economy

UNEP's Green Economy Initiative (GEI) analyses show that the urgency of the task of greening the economy is not only driven by the environmental requirements of development. The concept of green economy is perceived as a new paradigm that offers ways to overcome a number of crises – financial, economic, food, climate, water, energy and biodiversity (Our Common Future: Report of the International Commission on Environment and Development.1987). The need for a new paradigm is predetermined by the fact that the current market model demonstrates a number of shortcomings, creating conditions for humanity's vulnerability to such crises. One of the most serious of these is the irrational allocation

of capital in the global economy, with extractive industries, real estate and the financial sector attracting a significant share of investment. On the other hand, a number of important sectors remain on the periphery of investment interests. These include renewable energy, energy and resource efficiency technologies, agriculture and the conservation of vital resources such as soil and water. Under these conditions, trends of movement and accumulation of physical, financial and human capital towards the former and, along with it, depletion of natural resources and capacity of natural ecosystems are permanently established. (Ocampo 2011, 3-15)

The [resented imbalance is a consequence of the inability of the market model, on the one hand, to account for the real value and worth of natural stocks – the biodiversity of species and ecosystems. On the other hand, to take into account the flow of the most important ecosystem goods and services that natural resources perform and serve as the foundation for the sustainable functioning of the economy. The results of this imbalance are a number of negative environmental and social externalities – costs form the activities of economic actors that are passed in to society as a whole. For this reason, global crisis states affect all of humanity, and the severe negative effects are felt overwhelmingly by the most economically and socially vulnerable segments of the world's population.

The above predetermines that natural capital and the ecosystem services it provides become the pillars of the green economy. A proportion of ecosystem services are credibly reported. Such are the products obtained from them in the form of agro farm crops and animals, herbs, aquaculture, etc. Another part of these services either cannot be accounted for or is only conditionally done. Ecosystem services have the following effects:

- regulating and balancing effects – filtering pollution, regulating water regimes, pollinating plants, absorbing greenhouse gases, limiting soil erosion, etc.;
- cultural effects – recreation, education, cultural and spiritual value on natural resources;
- ancillary effects – soil formation, nutrient cycling, photosynthesis, providing habitat for plant and animal species.

The distortion of the real value of natural capital within the traditional system of market relations could be demonstrated by the following example. In Switzerland, it has been reported that bees provide more than 200 million euros of agricultural production annually through pollination dollars. The contribution is 5 times the value of the honey they produce. (TEEB 2019, 9-12)

Numerous studies haves been conducted to provide an economic and methodological rationale for the need to "green" the economy (Merino-Saum, Clement, Wyss, Baldi 2020, 188-139; Textbooks for sustainable development: a guide to embedding. 2017: 78 – 90; Brown, Cloke, Gent, Johnson, Hill 2014, 245 – 259) reviewing methods for estimating losses from biodiversity loss and ecosystem service decline. On the basis, comparisons are made of the assumed loss with the value of the inputs required for the conservation and sustainable use of natural capital.

The analyses carried out have as a basis a multidimensional approach to the integration of the economic value of natural capital and ecosystem services in the decision-making process, which goes through the following stages:

- recognition of value – including cultural and spiritual, and not always represented in monetary form;
- visual demonstration of value with market and contingent valuation – considering the costs and benefits of decisions, asserting the consequences of different decision options, etc.;
- value fixing – changes in incentives and price signals, subsidies and tax breaks, etc.

The conclusions of the analyses are generalizable with respect to the choice and application of specific methods. The integration of assessment procedures in the decision-making process should take into account, on the one hand, national and local specificities – ecosystem types and conditions, socio-economic condition, cultural traditions, etc. On the other hand, attention must be paid to the specifics of the particular situation, taking into account the benefits and the costs for different societal groups and their interests over time. For example, businesses can use these methods to manage risk more effectively. As the British Petroleum oil ring disaster in the Gulf of Mexico more than 10 years ago showed, understanding the potential environmental and social damage can cause serious financial and reputational losses.

The environmental and economic assessment, including a set of defined tools, allows to identify the shortfall of investments in natural capital and ecosystem services and presents their appropriateness. Similar tools were used in the preparation of the 2011 UNEO report (UNEP 2011, 6-9). In doing so, it shows that the tasks of environmental protection are at odds with those of achieving recovery and growth after the global financial and economic crisis that began in 2009. In comparing the results if modelling development under green and traditional scenarios, the authors of the report concluded that investing in "greening" the economy at just 2% of global GDP annually for the next 40 years will not cause a decline in the rate of economic growth. On the contrary, it will contribute to minimizing the risks associated with climate change, resource scarcity and the loss of ecosystem services (UNEP 2011, 24). In truth, it should be noted that we are still talking about long-term actions and expected effects. However, with optimistic developments, green growth rates are expected to be even higher in the next 15-20 years.

Conclusion

Since the mid-twentieth century, the problems of accelerating the pace of economic development at the global level and achieving a higher level of social welfare have been on the radar of researchers. This generally means a more intensive use of all types of production factors, including natural factors. However, the effects of intensification of production also have their negative sides, primarily due to the depletion of natural component of development. It is reflected in environmental pollution, biodiversity loss and reduced ecosystem services.

The trajectory of sustainable development adopted since the middle of the twentieth century has proved insufficient to solve the problems that have arisen due to the few real actions towards greening of economic processes. This brings to the fore the need to develop a new doctrine and social development, in which a major component would be natural capital and its effective use.

The idea of the green economy is based on the principles of long-term sustainability of development. They are intended to meet the needs of today's generations on an equitable basis, without preventing future generations from meeting their own. The practical implementation of this idea involves a complex and comprehensive assessment of natural capital using traditional and new ecological methods. The green economy is thus defined by researchers and a number of international organisations as a practical approach to achieving sustainable development.

The novelty behind this approach is that the first time at the global level, the need to recognize the value of biodiversity and ecosystem services and to consider it at all functional levels of the economy is being addressed. Whereas in earlier periods environmental responsibility was expressed only through the "polluter pays" formula, today it is now understood that it is not only industrial enterprises that pay for "pollution from the source".

The real and full nature and its resource-providing, regulatory and other important functions need to be incorporated into the pricing process at all stages of the product life cycle. This will ensure a balance in the allocation of capital across sectors of the economy, giving preference to cleaner, energy- and resource-efficient technologies, goods and services. Solving such a problem requires talking unpopular action. It is not only the introduction of direct environmental taxes that is being considered, but also the change in consumer spending as a result of the increase in prices of final products.

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