

BIOECONOMY – A MODEL FOR EFFECTIVE MANAGEMENT AND STRATEGIC DEVELOPMENT

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Bioeconomy is a high-tech sphere of economic activity that allows to increase energy efficiency, efficient use of waste, develop renewable energy based on biomass, ensure greening of the industrial sector, sustainability of agriculture, production of new food, development of medical technologies.

Building a new type of economy – bioeconomy, is becoming a priority, strategic and innovative direction of development of a growing number of countries [1, p. 451].

Bioeconomy is the economy of restoring natural resources in the production of food, energy, goods and services, and so on. Bioeconomy is considered as an economic mechanism for the implementation of biotechnology, ie as a new branch of the existing world economy.

Any economic system, like an ecosystem, seeks to spread, develop and grow. However, this raises the question of the principles of development and growth, as the rampant illogical consumption of modern society also stimulates economic growth, but leads to the destruction of the biosphere. According to Josef Schumpeter's theory of economic growth and development, growth is quantitative change, and development is qualitative positive change aimed at growth and, most importantly, at improving the quality of life.

Thus, economic growth is determined by the principles of development based on ideological, moral and ethical aspects. It is impossible to limit growth, and it does not make sense, the necessary principles governing development.

Bioeconomy has a significant impact on the innovative development of economies and is interrelated with the goals of sustainable development.

Human economic activity in all periods of historical development has been aimed at meeting their own needs without realizing the consequences for the environment and future generations. Uncoordinated economic and social policies of

the world, divergence of their interests, strategic orientations, significant gap in the levels of socio-economic and technological development have led, especially in recent decades, global problems threatening the lives and health of the population, imbalance in environmental and economic system, the emergence of irreversible processes in the environment. At the same time, the population of the planet is constantly growing. This creates the need to increase consumption by 50% of food, 45% of energy and 30% of water. In such conditions, sources of renewable natural resources are extremely important. Therefore, there is a strong need for close cooperation between the world and even continents, the integration of their research and production in finding solutions to global problems in various sectors and areas of society, such as environmental systems, food and energy security, health, industrial location. projects, etc. The common denominator of these problems is that they are systemic, ongoing, extremely complex, open and characterized by uncertainty about how to overcome them. A partial solution can cause further problems due to the feedback effect. In view of the above, the need to study the bioeconomic system as a crucial qualitative characteristic of the existence of society and a key determinant of its development.

The scientific works of domestic researchers offer a broad approach to defining the bioeconomy as a high-tech sphere of economic activity that allows to increase energy efficiency, efficient use of waste, develop renewable energy based on biomass, green the industrial sector, agricultural sustainability, new food production and medical development technologies.

There is a connection between categories such as biotechnology, bioenergy and bioeconomics. It should be noted that they have some similarities and differences. Biotechnology is a science that transforms micro- and bioorganisms into a certain end result through chemical, physical and microbiological processes (genetic and cellular engineering, cloning). Unlike biotechnology, which is a science, bioenergy and bioeconomics are the branches of energy and economics, respectively. At the same time, they cannot exist without a biotechnological process that makes it possible to transform biomass into bioenergy. The essential difference between bioenergy and bioeconomy is the different end results: for bioenergy it is biofuel (solid, liquid or

gaseous), and for bioeconomy it is any product of food or industrial nature, including biofuel.

Common to these industries is the source of energy, ie raw material, which is biomass as a biodegradable substance of organic origin, capable of biodegradation. It takes the form of remnants of agriculture, fisheries, forestry and technologically related industries, as well as household solid and food waste of organic origin. Most scientific papers, especially foreign ones, include energy crops in the list of biomass components. These are certain species of trees and plants that are specially grown for further production, ie they are fast-growing trees, perennial grasses (miscanthus, shavnat), annual grasses (sorghum, triticale). Energy crops also include traditional crops grown for the production of biofuels (rapeseed, sunflower, corn, wheat). Thus, energy crops are biodegradable raw materials for production. The source of bioenergy is biological renewable resources and biomass.

As for Ukraine, we have all the prerequisites and significant potential for the development of the bioeconomic system. Domestic producers have the opportunity to become the leading suppliers of biomass to the international market. The implementation of this direction in Ukraine is primarily associated with the formation of appropriate legislative and institutional frameworks. Through government incentives and innovation programs, it is necessary to focus on attracting investment in relevant research, optimization and effective risk management for the implementation of innovative projects in the bioeconomy, etc.

References:

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