

**KOLYADENKO S.V.**, doctor of economics sciences, professor

**KOLYADENKO D.L.**, PhD in economics, senior lecturer

Vinnitsia National Agrarian University

e-mail: [kolyadenkosv@ukr.net](mailto:kolyadenkosv@ukr.net)

## **PROBLEMS AND PROSPECTS OF UKRAINIAN AND WORLD BIOFUELS MARKET**

*There are questions of development biofuels market and problems and prospects of study those questions in the Ukraine and in the world from economic and ecological points of view are revealed in the article*

**Key words:** *biofuel, economic efficiency, ecological efficiency, world market*

**Introduction.** One of the important features of the modern world community's increased attention to the problems of the world rational and efficient use of energy , Saving Technologies and searching renewable energy.

In modern conditions of deepening global economic problems the development of renewable energy in the world is becoming more rapid in nature. It is obvious that in the coming two to three decades, this trend will continue and be deepened because it is global in scope. On the one hand, the processes on a global scale due to the limited and exhaustive geological reserves of the main types of fuel resources - oil and gas, leading to higher prices for them, and the other - a growing negative impact of environmental factors caused by the effects of human activity.

At present, the effect of increasing the ecological crisis is felt with increasing urgency , the main environmental damage associated with global climate change Earth - the greenhouse effect , causing mainly mining , processing and burning of fossil fuels - coal , oil and gas (to 75 % of anthropogenic environmental damage). Thus, the task meet the growing needs of the world's population in the fuel , heat and electric power, along with ensuring environmental safety necessitates the development of renewable energy.

Biofuels holds a special place in the structure of renewable energy sources, it is

considered the world as an important resource for the diversification of energy sources and energy security, agricultural development, rural areas and so on.

However, the formation of the modern trends in the global biofuels market is accompanied by the development of economic contradictions at all levels - from the individual to the group of economic institutions and consumers. At the same time economic, environmental and social effects of the introduction of biofuels are subject of extensive debate, so the study of the mentioned issues require intensive analysis of the pricing process, all aspects of the impact of the production of goods as the economy of individual countries and the world at large .

In recent years, under the influence of the increasing integration of renewable energy production and various issues of biofuels have been the object of a number of scientific research, but it is mainly a question of technical, environmental and technological orientation, production and use of biofuels, the analysis of biofuel markets of individual countries , but many features of the formation and development of the global biofuels market remains unexplored.

Its appointed issues involved in many academic economists and practitioners both in Ukraine and in the world, including: G.M. Kaletnik, S.S. Dev'yatkina, V.A. Dubrovin, M. Kovalko, B.P. Varnavskyy, C. Hazard, Van den Broek, V. Dornburh E. Smyts, A. Faydzh, B. Fisher, K. Heymlynk, M. Hoohvyayk.

The aim is to study the characteristics of the formation and development prospects of the global market for biofuels in the present conditions of deepening global problems of the world economy. The subject of research the global market for biofuels as a system of relations between actors of the world's energy and agricultural systems.

Studying defined question, we concluded that the study of current trends in the global biofuels market, the following problem - the rapid growth in trade, enhancing the role of the individual in developing countries, the biofuels market and so on.

**Results.** The role of the global energy system in the economic development of society in the last decade due to the expanded solution space in its technological, environmental and social problems. Thus in the early twenty-first century in the first place put forward the problem of optimal functioning of the global energy system,

which involves a complex association of all its functions to ensure energy security and stability in the world while preserving the environment, sustainable development and improved living standards.

Perform these tasks in the strategic perspective involves the transition from industrial to post-industrial power plants, independent of traditional fossil resources of nature, and, simultaneously, more environmentally friendly. This high-tech way to energy balance, according to experts, there can be no earlier than the middle of the twenty-first century. In this regard, many countries became noticeably more active use of alternative energy sources, and in particular biological resources for energy purposes, which are able to continue to at least partially replace or supplement the hydrocarbon sources, depleted, thus making the transition from the current crisis to the future sustainable Energy and smoother as being managed.

Since 2000, the share of renewables in global primary energy consumption increased from 11 % to 19 % in 2009. According to the Renewables 2010 Global Status Report global primary energy consumption by source in 2009 (%) was: fossil fuels 78.0 % nuclear - 2.8 % renewable energy - 19.2 % of them - wind, solar, biomass and geothermal energy - 0.7 % biofuel - 0.6 % thermal energy from biomass, solar and geothermal - 1.4%, hydro - 3.2 %, traditional biomass - 13.0 %. [4].

Thus a significant place among the renewable fuel and energy in 2009 took the traditional raw plant biomass (13 %), which mainly includes the waste of agricultural and forestry production. While biofuels (deep-processing plant biomass) took a fairly small portion of the world consumption of primary energy: its share in 2009 accounted for only 0.6 % of total energy consumption, and the total contribution of biomass to heat and power (along with solar, geothermal and wind power) made in 2009 - 2.1%.

However, based on quantitative performance analysis, despite the rapid growth of the global importance of bioenergy, biomass in the coming years will not be able to perform the essential source of the growing demand of energy in the world yet because this problem affects food, environmental and social aspects, which can not be displayed on the study and implementation of the above-mentioned issues by economists of all interested countries, including Ukraine.

This raises a new problem: the development of industries for the production of bioethanol and biodiesel production requires large amounts of food raw materials , resulting in the near future to higher prices on almost all types of foods , the process will apply to all countries, regardless of whether they produce and use biofuel feedstock or not.

Very controversial is the environmental aspects of the biofuel market. Analysis of some researchers [2, 3] allows to conclude that there is an important effect, which is manifested in terms of land use change. Assessing the potential impact of expanding biofuel production on emissions, it is necessary to consider the extent to which growth in production will be provided by increasing land productivity (yield), and in which - through the expansion of cultivated areas (the latter is also important category of land , such as land unsuitable for food production - the Chernobyl exclusion Zone AC). Both of these factors largely determine the other environmental impacts of biofuel related to land and water resources and biological variations.

Also obvious is the fact that nowadays demand for energy greatly exceeds supply, which is the most active market incentives for the development of the industry, despite the food component of the problem of bioenergetics.

The basis of the continuous growth of aggregate demand for biofuels are mainly factors such as population growth , the continuous increase in world energy needs , both in the electricity sector and the transport sector, limitations and exhaustion of traditional energy resources , and high prices. Because energy is seen as the source of the traditional energy economy that is constantly getting more expensive by replacing them in the overall balance of the consumer , providing local facilities and energy consumers in remote and inaccessible areas outside the district energy networks, as well as replacing traditional sources of competitive in some sectors.

The main reasons for the growth of trade biofuel production is increasing import needs in a number of industrialized countries , mainly the U.S. and the EU, which are the most intensively implement environmental problems and environmental policies to reduce greenhouse gas emissions, but it does not have enough biological resources for production in the country.

In the exports of developing countries have traditionally dominated the supply of raw wood biomass, which is an important source of foreign exchange for their economies. Relative redundancy of cheap labor and the availability of abundant natural resources, along with favorable climatic conditions for biomass production are the basis of the current competitiveness of the majority of the group. Among the major exporters should be noted Brazil, China, India, Thailand, Philippines, Malaysia and a number of African countries south of the Sahara.

Almost all developed countries and some developing countries using advanced bioenergy programs that provide preferential rules for calculating tariffs for connecting renewable energy sources to the network, tax credits and benefits to consumers and producers of "green" electricity booking bioenergy plant acreage and land and reduce administrative barriers. Success programs crucially contributes to the fact that they are based on a detailed economic mechanism that involves, in turn , financing, economic incentives and administrative measures for bioenergy.

The analysis showed that most of the existing to date expert estimates global bioenergy potential is not enough to fully reflect the impact of environmental problems on the prospects for the production and use of biofuels.

In this situation, the possibility of sustained global biofuels market can only be achieved through fundamental changes in areas determined by the characteristics of scientific and technical progress. In bioenergy industries influence the STP on the world market will be carried out mainly by supply factors through the development of second-generation technologies that provide a broader scope and of raw materials for the production of biofuels in comparison with the use of technology to date of the first generation. The main predicted direction of technological progress in favor the transfer of biofuel production on food raw materials and expanding the amount of waste recycled.

Not always the production and use of biofuels only brings economic benefits. For example, the Colombian analysts have come to the conclusion that the intensive production of biofuel from sugar cane greenhouse gases in the atmosphere is higher than when using gasoline, but the economy and consumers will only lose.

It is well known that biofuels to conventional fuels has two advantages: it is

produced from renewable resources , and significantly less polluting environment. However , monoculture crops used as feedstock , occupying a large area, which makes it impossible to grow crops. These thoughts are supported by the results of studies of the economic efficiency of biofuel experts who conducted the Colombian Center for Economic and Social Analysis (Fedesarrollo) Calderon Laura (Laura Calderón) and Elena Garcia (Helena García).

They point: except for the profits that are the owners of sugar mills and plantations, in 2011, the Government of Colombia to hover on the production of biofuels amounted to 249 million dollars. Buyers have to pay for fuel 25.5 million more than if they bought the traditional fuel. In 2012, the plant released 0.4 gallon per cent alcohol , and the cost of ethanol tied to the price of gasoline . According to research analysts concluded that in addition to instability, implemented with the supply of fuel , the situation in the economy has worsened because of conversion of sugar factories to produce more profitable biofuels. So added another problem - the decline in exports of sugar.

As for environmental cleanliness biofuels, then the current production technology essentially it is even more harmful to the environment. Yes, the technology involves burning cane bagasse , resulting in the amount of greenhouse gases released exceed those indicators which are formed from the use of gasoline in cars with no additives alcohol. Experts point out that the production of biofuels from producers only won, but lost everything else - the government, the economy, population and the environment.

**Conclusions.** So, choosing a route and directions of development of biofuels in Ukraine as a country that is part of the global community must take into account overseas positive and negative experiences of countries that have long used energy as a source of renewable energy, it will help to quickly adapt to the new global economic environment, which prepared and get maximum benefits to the domestic economy.

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#### *Анотація*

***КОЛЯДЕНКО С.В., КОЛЯДЕНКО Д.Л.***

### ***ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ РОЗВИТКУ РИНКУ БІОПАЛИВА В УКРАЇНІ ТА СВІТІ***

*В статті розкриваються питання розвитку ринку біопалива та проблеми і перспективи вивчення цих питань в Україні та світі з точки зору економічної та екологічної ефективності.*

***Ключові слова:*** біопаливо, економічна ефективність, екологічна ефективність, світовий ринок

#### *Аннотация*

***Коляденко С.В., Коляденко Д.Л.***

***Проблемы и перспективы развития рынка биотоплива в Украине и мире***

*В статье раскрываются вопросы развития рынка биотоплива, проблемы и перспективы изучения этих вопросов в Украине и мире с точки зрения экономической и экологической эффективности.*

***Ключові слова:*** биотопливо, экономическая эффективность, экологическая эффективность, мировой рынок