DEVELOPMENT OF THE EUROPEAN MARKET FOR ENVIRONMENTAL GOODS AND SERVICES AND ITS FINANCIAL SUPPORT

Iryna Skorokhod * Daryna Skorokhod **

Abstract

The purpose of the article is to analyze and assess the situation of the market for environmental goods and services in the EU as well as the formation of its support and regulation system.

Methodology: The market for environmental goods and services has experienced the dynamic growth and development in the last two decades, especially in economically developed countries. The research concerns the peculiarities of the development of the organic products market, sources of support for the development of organic production in the EU. The research uses the desk research method, which provides a possibility of using a wide range of materials in various areas and periods. Additionally, relevant legal acts, official documents and reports were used in the study.

Results of the research: The structure of certified agricultural lands in the EU is thoroughly analyzed in the article. Emphasis is placed on the study of the EU market for organic products development peculiarities, which include a constant growth of demand for these products and their rising prices. The main elements of the ecological goods and services market regulation system are also characterized. The conclusions contained in the article refer to the possibility of using one of these instruments: financing from the European Agricultural Guarantee Fund and the European Agricultural Fund for Rural Development, crediting, venture financing, green bonds, fundraising, crowd funding, crowd landing as well as own means of enterprises. Generally, financial support should be more flexible and tailored to the needs of beneficiaries.

Keywords: market for environmental goods and services, organic products, European Union, sources of funding, regulation.

JEL Class: Q5, Q15, Q32.

* Doktor of Economics, Professor, Department of International Economic Relations and Project Management, Lesya Ukrainka Volyn National University, e-mail: Iryna.Skorohod@vnu.edu.ua, https://orcid.org/0000-0001-8628-3715
** Student, Faculty of Economics and Management, Lesya Ukrainka Volyn National University, e-mail: Skorokhod.Daryna2021@vnu.edu.ua, https://orcid.org/0000-0002-8931-3729
INTRODUCTION

Environmental issues are extremely important today at the national and international level. The EU has become the essential platform for shaping a unified environmental strategy and developing European rules and national environmental legislation systems, as well as establishing and implementing green production standards. The issue of researching development trends in the market of ecological goods and services in the European Union still remains valid.

The purpose of the article is to analyze and assess the situation of the market for environmental goods and services in the EU as well as the formation of its support and regulation system. In the presented paper market for environmental goods and services is considered as a complex, open and dynamic system of socio-ecological-economic relations arising between its subjects in the process of production of organic products, provision of ecological services and developing under the mechanisms of market, state and international regulation. The market for environmental goods and services has the following advantages: encouraging producers to minimize environmental damage; efficient allocation of limited resources; obtaining economic benefits as a result of the use of environmentally friendly technology.

An important premise of structural changes in the country's economy is the development of ecological entrepreneurship. European countries have indicated a significant role of the green goods and services sector in ensuring their economic growth. Currently, the market for environmental goods and services in the EU is growing dynamically, as consumer environmental demands concerning manufactured products and the quality of the environment have increased. The processes of investing in energy efficiency, development and implementation of environmentally friendly technologies and waste management have been significantly intensified. Therefore, the development of common ecological market in the European Union is a priority.

1. THEORETICAL BASIS OF RESEARCH ON THE DEVELOPMENT AND REGULATION OF THE MARKET FOR ECOLOGICAL GOODS AND SERVICES

Taking into account the European experience in the creation and implementation of the Sustainable Development Strategy until 2030, the development of the market for ecological goods and services is becoming increasingly important in order to improve health and quality of life as well as to achieve ecological safety.

In line with the implementation of the Association Agreement with the European Union and the Ukrainian support for the goals of the European Green Course, it is important to comply with the norms and standards for the organiza-
tion of production of ecological goods and services. Solving this problem requires qualitatively new changes in management methods in the areas of modernization and greening of industry and sustainable agriculture.

The market of ecological goods and services is a complex, open, dynamic system of socio-ecological and economic relations that arise between its entities in the process of producing organic products, and providing ecological services. This market develops within the framework of market, state and international regulation mechanisms.

What must be noted here is the link between the market for ecological goods and services and the market for raw materials and energy technologies. Therefore, the development of energy- and resource-saving, low-waste and non-waste technologies, in fact, means the simultaneous development of the market for environmental goods and services, as the market for relevant technologies or technological resources is the market for environmental products and services. The introduction of each new technological line requires, in modern conditions, supplementing it with appropriate ecological devices, which in turn creates a demand for products of the ecological industry.

The main functions of the market for ecological goods and services are the following: a price for manufactured ecological products (services) is determined in accordance with the costs of enterprises and the costs of environmental remediation, while carrying out the necessary environmental measures; forecasting future demand for ecological services; creating a system for the effective allocation of limited resources of various types; creating a competitive environment between producers; application of incentive methods to reduce costs, improvement of the quality of manufactured products to ensure environmental safety; stimulating the implementation of innovative technologies.

The introduction of the concept of clean production is the basis for the development of ecological entrepreneurship. The application of this principle in the economic system, on the one hand, transforms and reorientates existing enterprises, and on the other, creates conditions for the creation of new segments of entrepreneurial activity.

The development of the market for ecological goods and services results from various factors: deterioration of the environment, the emergence of significant environmental problems in all sectors of the economy; increase in the demand of enterprises in the developed field of ecological services, i.e. in companies dealing with market research, marketing development, environmental and technical consulting, lending, environmental licensing, certification, etc.;

- a significant diversification and an increase in the number of diseases in the world;
- as a result of the improvement in the economic well-being of the population, the willingness of consumers to buy safer goods increases;
competition, market requirements and business opportunities motivate them to focus their activities on highly specialized industries.

Taking into account the environmental situation in the world, the EU governments attach great importance to the safety of products and their environmental performance. Therefore, in recent decades, it has become particularly relevant to improve the regulatory framework to control the environmental friendliness of products.

Globally, the requirements for organic production are defined in the international IFOAM Basic Standards. They are guidelines for national governments on minimum requirements for organic production and certification. Based on them, national standards for the ecological production of goods and services are developed.

Pan-European standards for environmental protection play an important role in regulating the EU organic market. The issues of environmental protection and
its improvement are settled by the European Ecological Agency which monitors, collects and analyzes the environment in order to assess a degree of ecological threat, and create conditions for the development of legislation and implementation of environmental protection programs.

In the EU, the legal regulation of the production of ecological goods and services is carried out in accordance with the EU Council Directive № 834/2007 and the EU Commission Directive № 889/2008.

In order to intensify activities in the field of environmental protection, the list of available legal instruments regulating the organic market has been extended. In parallel with the adoption of the framework legislation to ensure a high level of environmental protection, the Community introduced instruments to regulate the organic market. One of the strategy’s seven key initiatives is the transition to a low-carbon economy, greater use of renewable energy sources, modernization of the transport sector and improved energy efficiency.

Environmental legislation at the European Union level has been significantly improved in recent decades. As a result, air, water and soil pollution has decreased significantly, the use of many toxic and hazardous substances has been reduced, water quality has improved, and the area of protected areas has increased. However, many environmental issues still need to be resolved.

The main principles of the EU regional policy in terms of the development of the market of ecological goods and services include:
- application of the latest scientific and technical achievements for the implementation of low-waste and non-waste technologies;
- comprehensive processing of material and raw material resources;
- encouraging enterprises to produce environmentally friendly products;
- state support for the provision of ecological services.

2. ANALYSIS OF THE DEVELOPMENT OF MARKET FOR ECOLOGICAL GOODS AND SERVICES IN THE EU COUNTRIES

The EU market for environmentally friendly goods and services is developing dynamically. According to the experts’ data, in 2020 the European Union was the second largest single market for organic products in the world (EUR 41.4 billion), after the United States (EUR 44.6 billion) and ahead of China (EUR 8.5 billion), which is the third player in the global organic market (Figure 2).
The European environmental market is constantly evolving. In 2018, it increased by almost 11% compared to 2017 and reached 37.3 billion euros, and in 2020 - it amounted to 41.4 billion euros, 10% more than in 2018. Accordingly, in the EU countries, there is a tendency for the annual growth of the market of ecological goods and services by 10%.

The amount of organic land in the European Union in 2019 increased by 6.4% compared to the previous year. The greatest increase is observed in France - more than 200,000 hectares. The size of the increase in the area of ecologically clean agricultural land in the EU is shown in Figure 3. There is a positive tendency to increase the area of certified land, which has a direct proportional impact on the scale of the organic market development and the export orientation of this area.
The share of certified land in the total agricultural area in the EU is the highest in the world. Ecological agricultural land in the European Union accounted for 7.2% of the total agricultural area. Austria is the country of the European Union with the highest proportion of organic matter (24%), in Europe it is surpassed only by non-EU Liechtenstein with a share of 38%. Overall, in the period between 2009-2019, the number of ecologically clean land increased by 75%. The EU countries have the largest share of the organic food market as a percentage of the world food markets (The environmental goods and services sector, 2019).

One of the characteristics of the EU organic market is a steady increase in demand and prices by 20-50%, as opposed to the traditional market. The main European sales channels for organic products are the retail network (70%); direct sales from businesses and sales through markets that provide about 15% of trade; sales in specialized stores up to 15%. On average, buyers overpay 40-60% for organic products.

The market share of environmental goods and services in the total GDP of the EU countries slightly varies (Figure 4). The most important items in the organic market are waste treatment, purified water supply and treatment. Germany, France and Great Britain have been leaders in this field for decades. The highest share of consumed ecological goods and services among traditional products is observed on the markets of Denmark, Sweden and Switzerland.
The countries with the largest markets for environmental goods and services are Germany, France, Italy and Switzerland. In 2020, France and Germany accounted for 50% of the organic market.

The growth and expansion of the green goods and services sector is a key factor in the transition to a low-carbon economy. The policy in the field of energy efficiency, renewable energy sources and waste disposal is included in the Sustainable Development Strategy "Europe 2030", which provides for long-term growth in the development of the sector of environmental goods and services. Renewable energy and green growth policies at the EU and national level can further enhance this sector.

Figure 4. Market share of ecological goods and services in terms of the total GDP of the EU countries in 2019.

Source: Own study based on Study on the Competitiveness of the EU eco-industry, 2020.

In 2019, organic agricultural land accounted for 8.1% of the total agricultural land area of the European Union. In Europe, Liechtenstein has the highest share of organic land - 41.0%, Austria - 26.1%, other European countries have about 10% of organic agricultural land. It is expected that by 2030 the area of ecologically arable land will increase to 25% (FIBL-AMI surveys, 2006-2021).

It should be noted that recently the European organic market has been developing dynamically (Figure 5). Estonia, France and Belgium are the leaders in this field. The market is characterized by a steady increase in the area used for the organic production of agricultural products.
An important element in the development of the market for environmental goods and services in individual EU countries is the introduction of local certification and standardization programs. In 2019, 58 standards were validated under eco-certification programs to assess the environmental benefits of goods and services of various categories; 12,000 certified goods and services. The aspect that is the most popular in European countries is ecological certification of chemical products (detergents, paints, adhesives, etc.), textiles, construction materials and wooden products, cosmetics and household appliances. Among the range of services, the certification of hotels, restaurants and shops is popular (Masum et al, 2007).

The production of ecological products is one of the priority directions for the development of the ecological market in Ukraine. In 2020, Ukraine was second among 123 countries supplying organic products to the EU with 10% share. The first place belonged to China with a share of 13% (FiBL Statistics, 2020).

Raising awareness of the need to combat environmental pollution and to protect natural resources in the EU, as well as the compliance with environmental legislation, have led to an increased demand for green goods and services, i.e. products to prevent, measure, control, reduce, minimize or restore the environment and resources.

Important tools to stimulate consumer demand for green goods and services are certification and eco-labels, which guarantees their safety.

The strategic directions of the ecological market development in the European Union include:
- increase in the area of certified ecological land;
- increase in a number of certified organic farms;
- increase in the production of ecological goods in the country;
- the provision of an eco-label;
- creation of an ecological product certification system.
Considering the ecologically oriented innovation development of the region, it can be argued that this is the process of activity of economic activities, which is aimed at introducing resource-saving and non-waste technologies in order to achieve social and ecological-economic effect. This is the process of creation, introduction and using of innovations related to changes in production technology and management methods in the direction of ensuring the environmental safety of the region. (Skorokhod and Horbach, 2021).

3. REGULATION AND FINANCIAL SUPPORT FOR THE MARKET FOR ECOLOGICAL GOODS AND SERVICES IN THE EU

Based on the study of the experiences of the EU countries in the development of the market of environmental goods and services, the authors have defined a conceptual framework for the regulation of the market of environmental goods and services in the conditions of the European integration, based on the creation of an open, dynamic system of market, national and international forms of regulation, in accordance with the Action Program of the European Commission for
the transition to a climate-neutral Europe by 2050, to meet social needs, low-carbon growth and environmental security.

The main elements of the market regulation system for ecological goods and services are: international, market and state regulations, the interaction of which influences the processes of ecological entrepreneurship development and the introduction of circular business models (Figure 6).

International regulation of the market for ecological goods and services takes place through the coordination of market participants by international organizations, based on the conclusion of international agreements and treaties, as well as taking into account the binding international conventions in this area. International environmental regulation can also develop through the exchange of information and documentation; development of international ecological entrepreneurship in the field of technology, engineering, production of control and measurement equipment; utilization, waste processing, etc.

Market regulation of the production and sales of environmental goods and services rely on the interaction of supply and demand and the establishment of a price balance, creating a competitive environment.

In modern conditions, the production of ecological goods and services is subject to state regulation, and is carried out in order to organize and improve the activities of economic entities, to comply with applicable law, to protect the rights of consumers and the interests of the state. An important aspect of these processes is the state regulation of the market of ecological goods and services, as this requires the coordination of the state's economic policy, environmental development strategy and an appropriate regulatory framework. Solving the existing problems in this area requires the development and clear implementation of the state policy in the field of market regulation of environmental goods and services. State regulation of the market for environmental goods and services is based on environmental, fiscal and financial policies.
Thus, when examining the experiences of the European Union in the development of the market of ecological goods and services, the following trends are identified: increasing the quantity of ecological products and services in line with market needs; expanding the scale of ecological entrepreneurship; the need to solve environmental problems and fierce competition in the market; development of completely new environmentally friendly products, and the creation of specialized companies; attracting foreign investments from countries with developed markets for environmental goods and services; development of ecological services in the form of information, consultations, in the form of expert assistance in solving environmental problems, towards training environmental protection specialists.

Regulation of the European environmental goods and services market based on the interaction of management mechanisms at all levels in order to achieve
the socio-economic efficiency of clean products, to preserve and to restore the quality of the environment, to ensure environmental and human life safety.

Co-financing of agricultural activities with certain form of aid has evolved. There were radical changes generated by the common agricultural policy and various reforms, which eventually saw the historical development of the common policy from the market orientation to support for farmers and related measures for sustainable development and environmental protection.

Moreover, an important argument in favor of financial support for organic production is the fact that, by nature, agricultural production is characterized by a certain degree of unpredictability. As a result, prices are often more volatile over time than for industrial goods. The problem related to the financing of organic production is investments in water protection infrastructure, which is one of the basic instruments for improving the efficiency and adapting agriculture to the climate change. Another need for funding is in the field of agricultural technology as research potential is generally low. The area requiring support concerns building adaptation abilities of agricultural entrepreneurs in changing conditions and skills in risk management.

The agricultural sector in the EU-27 invested around EUR 56.0 billion in 2019, accounting for 30.9% of gross value added. About 70% of this investment was made in five countries: France (19.7% of the total EU), Germany (17.1%), Italy (15.0%), the Netherlands (9.1%) and Spain (8, 4%). Investments in the EU agriculture in 2019 were by 1.8 billion euros higher than in 2018, and by 7.3 billion euros higher than in 2016. While there were strong annual fluctuations at the EU level, some clear trends were observed at the level of member states. In 2009-2019, the investment growth was particularly strong in Lithuania (average annual growth rate of 12.6%), Cyprus (average annual growth rate of 8.2%, Bulgaria, Ireland and Czechia (all with an average annual growth rate between 7.5 and 7.7% (Agriculture, forestry and fishery statistics, 2020: 27–28).

The development of the market for green goods and services is largely related to the financial support. The CAP for 2014-2020 is a continuation of activities under the previous agricultural support system (Table 1).

Table 1. Selected allocations from the EU budget for environmental protection and eco-friendly climate practices and ecological agriculture within the CAP for 2014-2020

<table>
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<tr>
<th>Budget allocation</th>
<th>billion Euros</th>
<th>% of the total EU budget for agriculture</th>
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<tr>
<td>Pillar 1 – European Agricultural Guarantee Fund (EAGF)</td>
<td>312.7</td>
<td>76</td>
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<tr>
<td>Pillar 2 – European Agricultural Fund for Rural Development (EAFRD)</td>
<td>99.0</td>
<td>24</td>
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The new common agricultural policy will be of key importance in securing the future of agriculture and forestry and in achieving the goals of the European Green Deal. In December 2021, the agreement on the reform of the common agricultural policy (CAP) was formally adopted. The new rules, due to enter into force in 2023, pave the way for a fairer, greener and more performance-driven CAP. It will seek to ensure a sustainable future for the European farmers, to provide more targeted support to smaller farms and to offer more flexibility for the EU countries to adapt measures to their local conditions. Agriculture and rural areas are critical to the European Green Deal, and the new CAP will be a key tool to achieve the ambition of the “from farm to fork” strategy and biodiversity.

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<tr>
<td><strong>Total EU budget for agriculture (Pillar 1 and Pillar 2)</strong></td>
<td>411.7</td>
<td>100</td>
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<tr>
<td><strong>Greening component (Pillar 1)</strong></td>
<td></td>
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<tr>
<td>Total national ceilings for direct payments (2014-2020)</td>
<td>297.6</td>
<td>72.3</td>
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<tr>
<td>Greening component (30% of direct payment)</td>
<td>89.3</td>
<td>21.7</td>
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<tr>
<td><strong>Climate and environmental issues (Pillar 2)</strong></td>
<td></td>
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<tr>
<td>Contribution to environmental and climate issues – including organic farming (minimum 30% of EAFRD)</td>
<td>29.7</td>
<td>7.2</td>
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<tr>
<td><strong>Support for organic farming (conversion and maintenance fees)</strong></td>
<td></td>
<td></td>
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<tr>
<td>EAFRD support for organic farming</td>
<td>6.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Total public expenditure on organic products and agriculture support</td>
<td>9.9</td>
<td></td>
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<tr>
<td><strong>Total expenditure on the environment and climate changes in agriculture (Pillar 1 and Pillar 2)</strong></td>
<td></td>
<td></td>
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<tr>
<td>EU budget for the transition to the environment and climate friendly agriculture</td>
<td>119</td>
<td>28.9</td>
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</table>

Source: Stolze, M., 2016: 11.
Interventions are financed by the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). The EAGF will finance the following types of interventions: direct payments: (a) decoupled direct payments: basic income support for sustainability; complementary redistributive income support for sustainable development; complementary income support for young farmers; climate and environmental schemes; (b) direct payments linked to production. Sector interventions include: the sector of fruit and vegetables; the sector of bee products; wine sector; hop sector; the sector of olive oil and table olives; other sectors.

The EAFRD will finance the following types of interventions: environmental, climate and other management commitments; natural or other site-specific constraints; site-specific defects due to mandatory requirements; investments; setting up small farming businesses in rural areas; risk management tools; cooperation; exchange of knowledge and information.

Source: Own study based on *Common Agricultural Policy - Performance, 2021*
CONCLUSIONS

The common ecological market of the European Union is one of the most developed in the world. Its pace of development is expected to accelerate rapidly, which in turn will make the environmental industry promising for the future. The volume of supply in the environmental protection market significantly exceeds the demand, thus giving producers an opportunity to create new products and expand traditional sales. Western European companies dealing with ecological entrepreneurship successfully use the current trends in environmental policy to increase their profits. The main factors influencing the shaping of supply and demand in this market are the development of ecological technologies, the emergence of new market segments and support for the environmental protection sector through public procurement, benefits and other economic instruments.

Funding is also needed to promote green goods and to educate consumers, as the demand must be guaranteed to enable their production. Growing consumer awareness has been reflected in the market performance for several years. As shown in the study, the area of organic land in the EU has increased in all countries, so organic products easily find buyers. The organic sector responds to the growing demand for sustainable food production and as such, it fits perfectly into the objectives of the CAP. Financial support for the market for environmental goods and services can be provided by funding from the EAGF, EAFRD, lending, venture financing, green bonds, fundraising, crowdfunding, crowd landing along with enterprises’ own funds.

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ROZWÓJ RYNKU EUROPEJSKIEGO TOWARÓW I USŁUG EKOLOGICZNYCH ORAZ JEGO WSPARCIE FINANSOWE

**Streszczenie**

**Celem artykułu** jest analiza i ocena sytuacji na rynku towarów i usług środowiskowych w UE oraz kształtowania się systemu wsparcia i regulacji tego rynku.

**Metodyka:** Rynek towarów i usług środowiskowych wykazuje dynamiczny wzrost i rozwój w ostatnich dwóch dekadach, zwłaszcza w krajach rozwiniętych gospodarczo. Badania dotyczą specyfiki rozwoju rynku produktów ekologicznych, źródeł wsparcia rozwoju produkcji ekologicznej w UE. W badaniach wykorzystano metodę *desk research*, która stwarza możliwość wykorzystania szerokiej gamy materiałów z różnych obszarów i okresów. Wykorzystano akty prawne, dokumenty urzędowe i raporty.

**Wyniki badań:** W artykule przeanalizowano strukturę certyfikowanych gruntów rolnych w UE. Nacisk kładziony jest na badanie rynku UE pod kątem specyfiki rozwoju produktów ekologicznych, wśród których jest stały wzrost popytu na te produkty i rosnące ceny. Scharakteryzowano główne elementy systemu regulacji rynku towarów i usług ekologicznych. Wnioski zawarte w artykule odnoszą się do możliwości skorzystania z jednego ze wskazanych instrumentów: finansowanie z Europejskiego Funduszu Rolniczego, Gwarancji i Europejskiego Funduszu Rolnego, Rozwoju Obszarów Wiejskich, kredytowanie, finansowanie przedsięwzięć, zielone obligacje, *fundraising, crowdfunding, crowdfunding*, środki własne przedsiębiorstw. Wsparcie finansowe powinno być bardziej elastyczne i dostosowane do potrzeb beneficjentów.
Słowa kluczowe: rynek towarów i usług środowiskowych, produkty ekologiczne, Unia Europejska, źródła finansowania, regulacja.

JEL Class: Q5, Q15, Q32