JOURNAL OF ENVIRONMENTAL LAW & POLICY | 05(01) APRIL 2025
Published by The Grassroots Institute in partnership with Asia Pacific Academy of science Pte Ltd. Website: https://grassrootsjournals.org/jelp
Main Indexing: SCOPUS, EBSCO, HEIN ONLINE

ISSN 2564-016X | April 2025

M – 00532 | Analytical Article | Open Access

ENVIRONMENTAL AND LEGAL FRAMEWORK FOR IMPLEMENTING THE CONCEPT OF SUSTAINABLE DEVELOPMENT IN THE POLICY OF THE EU AND UKRAINE

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Received: 18 January 2025 | **Reviewed:** 24 February 2025 | **Revised:** 10 March 2025
Accepted: 13 March 2025 | **Published:** 14 April 2025

ABSTRACT

This study aimed to assess the state of integrating environmental legal provisions into sustainable development strategies and identify common and distinctive features in the policies applied in Ukraine and the EU. The focus was on analysing the environmental legal frameworks that influence the implementation of the concept of sustainable development in both regions. To this end, a comparative analysis of the EU and Ukraine's environmental legal standards was conducted, and a series of strategic documents were reviewed. The study employed the methods of documentary analysis, comparative study, and evaluation of implemented policies. It was found that the approaches to sustainable development in the EU and Ukraine have shared features, especially in the integration of environmental standards into

national regulations. However, the level of implementation of these standards in the EU is much greater than in Ukraine, which is conditioned by the existence of developed monitoring and control systems. Statistics show a gradual improvement in environmental performance in Ukraine due to the implementation of European standards. The findings of the study confirmed the effectiveness of the integration of environmental standards and legal norms into sustainable development policy, which positively affects the environment in both regions. However, marked differences in policy implementation suggest the need to strengthen cooperation between the EU and Ukraine to achieve common sustainable development goals. Further progress can be achieved through the exchange of practices and the expansion of joint projects.

Keywords: Environmental protection; Sustainable development; European Green Deal; Environmental policy; Environmental security; Eurointegration

How to cite this paper: Yevhenii Suietnov, Viktoriia Bredikhina, Olena Lozo, Elbis Tulina and Olena Malokhlib, 'Environmental and Legal Framework for Implementing the Concept of Sustainable Development in the Policy of the EU and Ukraine' (2025) 05 (01) Journal of Environmental Law & Policy 37-69, <https://doi.org/10.33002/jelp050102>

Environmental and Legal Framework for Implementing the Concept of Sustainable Development in the Policy of the EU and Ukraine

1. INTRODUCTION

In modern conditions of global environmental challenges, such as climate change, biodiversity loss, environmental pollution, and economic crises, sustainable development is becoming critical to ensure the long-term well-being of society. This concept not only refers to economic aspects but also includes social and environmental dimensions, which requires a comprehensive approach to its implementation. Effective environmental and legal frameworks for implementing the concept of sustainable development are key elements of both EU and Ukrainian policies. Notably, these frameworks should be adapted to the specific conditions of each country, considering its economic, social, and environmental features. Research in this field is becoming increasingly relevant, as existing legal and environmental policies are often unable to handle complex and fast-moving issues such as urbanisation, changes in the agricultural sector, and the impact of technological innovation. This underscores the need to develop new, integrated approaches to sustainable development that address all these challenges and ensure the efficient use of resources for future generations.

In the 21st century, a variety of shortcomings in the implementation of the concept of sustainable development have been identified in Ukraine and the EU. For example, in the EU, there are differences in compliance with environmental requirements among member states, which complicates the achievement of common goals[1]. In Ukraine, despite some advances in legal regulation, considerable difficulties arise in implementing the principles of sustainable development at the regional level due to insufficient coordination and lack of clear control mechanisms.

Current research in this field focuses on comprehensive analysis of regulations, comparative law, and assessment of the impact of environmental policies on socio-economic development. This approach allows researchers and practitioners to gain a deeper understanding of how legal frameworks can influence environmental policy and socio-economic outcomes. For example, Asghar et al.[2] discussed in detail how the interaction of economic, social, and environmental aspects can contribute to sustainable development, with a focus on integrating these elements into decision-making processes.

The researchers stressed the significance of a comprehensive approach to addressing contemporary social challenges, which requires interdisciplinary cooperation and the involvement of various stakeholders. They provided practical recommendations for policies aimed at achieving sustainable development in the international context, including proposals for improving legislation, developing innovative technologies, and raising

[1] Environmental compliance assurance (2024), <https://environment.ec.europa.eu/law-and-governance/environmental-compliance-assurance_en>.

[2] Asghar, M., Cheikh, N.B., Hunjra, A.I., & Khan, A., 'Assessing the impact of natural capital and innovation on sustainable development in developing countries', (2024) 460 Journal of Cleaner Production 142576, <https://doi.org/10.1016/j.jclepro.2024.142576>.

public awareness of environmental issues. These studies are important for the development of effective strategies that can strike a balance between economic growth and environmental protection.

Zhu et al.[3] focused on the impact of green cooperation within the EU on the sustainable development of member states. Their analysis identified the key factors contributing to environmental sustainability and emphasised the significance of integrating environmental aspects into policy. The findings can serve as a valuable reference point for Ukraine, suggesting ways to improve environmental policy and develop sustainable practices.

The problem of improving land relations in Ukraine to ensure sustainable development of rural areas is relevant, and in this context, Sharapova et al.[4] highlighted the need to adapt land legislation to the needs of sustainable development. The researchers emphasised the value of integrating environmental provisions into land relations, which would help improve resource management. Another major issue is the legislative regulation of climate protection. Getman et al.[5] emphasised that Ukrainian environmental policy laws should incorporate European practices to improve the environmental situation in the country. They emphasised the necessity of implementing international standards, which could become the basis for an effective response to climate challenges. Studies by Dhokpande et al.[6] and Bzainia et al.[7] highlighted the process of implementing the legal framework for sustainable development policy in the EU, with a focus on the environmental component.

Levstek et al.[8] investigated the use of immersive storytelling to change environmental behaviour through augmented reality. This study focused on the role of educational technologies in promoting sustainable development, which should be implemented in EU and Ukrainian policies. Ahmad et al.[9] examined the role of natural resources, economic growth, risks, and energy transitions in achieving environmental sustainability in the G7 countries,

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3 Zhu, Q., Xie, X., Li, Y., & Shao, X., 'Orchestrating network resources: How European Union green cooperation affects member states' sustainable development', (2024) 459 Journal of Cleaner Production 142499, <https://doi.org/10.1016/j.jclepro.2024.142499>.

4 Sharapova, S., Lisova, T., Bredikhina, V., & Lialiuk, O., 'Improvement of land relations in the context of sustainable development of rural areas in Ukraine', (2021) 12 Journal of Environmental Management and Tourism 1899-1905, <https://doi.org/10.14505/jemt.12.7(55).15>.

5 Getman, A.P., Getman, Y.A., & Lozo, V.I., 'Climate protection laws: European reality and Ukrainian prospects', (2019) 49 Environmental Policy and Law 190-195.

6 Dhokpande, S.R., Deshmukh, S.M., Khandekar, A., & Sankhe, A., 'A review outlook on methods for removal of heavy metal ions from wastewater', (2024) 350 Separation and Purification Technology 127868, <https://doi.org/10.1016/j.seppur.2024.127868>.

7 Bzainia, A., Igrejas, G., Pereira, M.J., Costa, M.R., & Dias, R.C., 'Purification of stilbenes from grape stems in a continuous process based on photo-molecularly imprinted adsorbents and hydroalcoholic solvents', (2024) 349 Separation and Purification Technology 127798, <https://doi.org/10.1016/j.seppur.2024.127798>.

8 Levstek, M., Papworth, S., Woods, A., Bennett, J., & Dalton, P., 'Immersive storytelling for pro-environmental behaviour change: The Green Planet augmented reality experience', (2024) 161 Computers in Human Behaviour 108379, <https://doi.org/10.1016/j.chb.2024.108379>.

9 Ahmad, M., Ahmed, Z., Khan, S.A., & Alvarado, R., 'Towards environmental sustainability in E-7 countries: Assessing the roles of natural resources, economic growth, country risk, and energy transition', (2023) 82 Resources Policy 103486, <https://doi.org/10.1016/j.resourpol.2023.103486>.

which provided valuable insights for comparative analysis of policies across countries. Animashaun et al.[10] focused on the implementation of environmental and legal technologies for sustainable development in developing countries, pointing out the importance of integrating environmental policies into strategic plans. On the other hand, Raman et al.[11] explored the Sustainable Development Goals, namely the 12 goals, and their interrelationships with other goals, which may help to develop more integrated approaches to sustainable development policy. However, existing studies often do not include an in-depth analysis of the implementation of these environmental legal provisions in the context of concrete countries or regions, and do not address dynamic processes in environmental and legal systems.

The principal issue addressed in this study was the identification of effective environmental and legal mechanisms aimed at improving the implementation of the concept of sustainable development in EU and Ukrainian policies. The purpose of this study was to identify and analyse the environmental and legal aspects of implementing the concept of sustainable development in the EU and Ukrainian political processes, as well as to provide recommendations for improving the existing approaches. Specifically, the study was aimed at assessing the effectiveness of existing legal mechanisms, identifying shortcomings, and developing proposals for improving legal regulation.

2. MATERIALS AND METHODS

2.1 Data Collection

The study employed a comprehensive approach consisting of several stages. At the initial stage, the key goals and objectives of the study were identified. A literature review and search for relevant sources of information were conducted. This included a review of scientific publications, regulations, and official documents related to sustainable development in the EU and Ukraine. The EU regulations included Directive of the European Parliament and of the Council No. 2008/50/EC "On Ambient Air Quality and Cleaner Air for Europe",[12] which regulates the state of the air and measures to improve it in the EU, and Directive of the European Parliament and the Council No. 2019/904 "On the Reduction of the Impact of Certain

[10] Animashaun, E.S., Familoni, B.T., & Onyebuchi, N.C., 'Implementing educational technology solutions for sustainable development in emerging markets', (2024) 12 International Journal of Science and Research Archive 2428-2434, <https://doi.org/10.30574/ijsra.2024.12.1.1045>.

[11] Raman, R., Lathabai, H., & Nedungadi, P., 'Sustainable development goal 12 and its synergies with other SDGs: Identification of key research contributions and policy insights', (2024) 5 Discover Sustainability 150, <https://doi.org/10.1007/s43621-024-00289-0>.

[12] Directive of the European Parliament and of the Council No. 2008/50/EC "On Ambient Air Quality and Cleaner Air for Europe". (2008), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32008L0050>.

Plastic Products on the Environment",[13] which mandates the reduction of the adverse environmental impact of plastic products. The European Green Deal[14] is a strategic document for the transition to a green economy and climate neutrality. The Biodiversity Strategy for 2030[15] describes goals and measures for biodiversity conservation, while the Circular Economy Action Plan[16] sets out methods for transitioning to a closed cycle of resource use. Ukraine's legal framework included the Law of Ukraine No. 1264-XII "On Environmental Protection",[17] which defines the legal, economic, and social framework for the organisation of environmental protection in the country. The Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment"[18] regulates the process of environmental assessment of planned activities, and the Law of Ukraine No. 2320-IX "On Waste Management"[19] sets out the rules for waste management. The Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030"[20] is a key strategic document for the progress of environmental policy. Official reports and documents include the European Commission's reports[21] covering the implementation of environmental strategies in the EU, the State Statistics Service of Ukraine (n.d.) reports on the environmental situation in the country, and the United Nations (n.d.) national reports on progress towards the Sustainable Development Goals in Ukraine.

2.2 Research Methods

The initial stage of data collection was performed in April-June 2024, which provided up-to-date information for further analysis. The next stage was the survey, which was conducted between July and September 2024, ensuring a comprehensive approach to the assessment of environmental policies. The following methods were employed to achieve the objectives:

1. Comparative analysis. This method involved a detailed comparison of environmental and legal frameworks and sustainable development policies implemented in Ukraine and the EU. This analysis revealed both

[13] Directive of the European Parliament and of the Council No. 2019/904 "On the Reduction of the Impact of Certain Plastic Products on the Environment". (2019), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32019L0904>.

[14] European Green Deal (2019), <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en>.

[15] Biodiversity Strategy for 2030 (2020), <https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en>.

[16] Circular Economy Action Plan (2020), <https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en>.

[17] Law of Ukraine No. 1264-XII "On Environmental Protection" (1991), https://zakon.rada.gov.ua/laws/show/1264-12#Text.

[18] Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment". (2017), <https://zakon.rada.gov.ua/laws/show/2059-19#Text>.

[19] Law of Ukraine No. 2320-IX "On Waste Management" (2023), <https://zakon.rada.gov.ua/laws/show/2320-20#Text>.

[20] Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030". (2019), <https://zakon.rada.gov.ua/laws/show/2697-19#Text>.

[21] Waste and recycling. n.d. <https://environment.ec.europa.eu/topics/waste-and-recycling_en>.

common and distinctive features in the approaches to environmental policy, which contributed to the development of recommendations for improving the national strategy.

2. Assessment of the effectiveness of existing legal mechanisms. Based on the collected data, the effectiveness of existing legislative acts and regulations was assessed. This stage helped to identify the strengths and weaknesses of the existing mechanisms, as well as to identify opportunities for their improvement.

3. Content analysis. The content analysis method was applied to the analysis of regulatory documents, scientific articles, and reports. This allowed identifying key topics that require attention, as well as problem areas that need to be urgently addressed in the context of environmental policy.

4. Case study analysis. This method involved reviewing concrete cases of successful implementation of environmental policies in different EU countries, such as Sweden, Germany, the Netherlands, Italy, Greece, and Poland, as well as in Ukraine. The analysis of these examples revealed best practices that can be adapted and implemented in the Ukrainian context to improve the environmental situation in the country.

This comprehensive approach provided an in-depth understanding of the environmental challenges and opportunities that exist in both Ukraine and the EU and formed the basis for further recommendations for the development of effective environmental policies.

3. RESULTS

In the modern world, sustainable development issues are becoming increasingly important as countries face environmental, economic, and social challenges, particularly within the framework of European integration and Ukraine's policy. The study of the environmental and legal framework for the implementation of the concept of sustainable development in EU and Ukrainian policy is an essential step in exploring the mechanisms that can ensure a balance between environmental protection and economic progress.

Directive of the European Parliament and the Council No. 2008/50/EC[22] is the key document regulating air quality in the EU and is essential for ensuring environmental safety. This regulatory document was adopted to ensure comprehensive protection of public health and the environment from the harmful effects of air pollution. A key task of the Directive is to create an effective air quality monitoring and control system that enables prompt detection and response to exceedances of permissible levels of pollutants.

The Directive sets limit values for the major pollutants, such as nitrogen dioxide, ozone, and fine particles, which are critical for maintaining

[22] Directive of the European Parliament and of the Council No. 2008/50/EC "On Ambient Air Quality and Cleaner Air for Europe" (2008), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32008L0050>.

public and ecosystem health. Table 1 shows the permissible levels of pollution that should not be exceeded to create a safe living environment. Notably, EU member states are obliged to implement measures to improve air quality and report on monitoring results, which underscores the shared responsibility for environmental safety in the region.

Table 1: Limit values for pollutants (under Directive No. 2008/50/EC)

Pollutant	*Limit value*	*Control method*
Nitrogen dioxide (NO_2)	40 µg/m^3 (annual average)	Qualimetric analysis
Ozone (O_3)	180 µg/m^3 (8-hour average)	Optical method
Particles PM10	50 µg/m^3 (daily average)	Filtration method

Source: Compiled by the authors of this study based on the Directive of the European Parliament and of the Council No. 2008/50/EC On ambient air quality and cleaner air for Europe,[23] Waste and recycling (n.d)[24]

This directive, which aims to ensure strict control of air pollution levels, sets out clear obligations for EU members, including requirements for monitoring, reporting, and taking measures to improve air quality. It foresees mechanisms to promote cooperation between countries and the exchange of best practices in environmental policy. The analysis of its implementation has shown considerable progress in reducing pollution in some countries (Germany, France), where effective programmes and initiatives aimed at reducing pollutant emissions have been implemented. However, the study found that there are problems with compliance in certain countries, which requires further efforts by the relevant authorities to improve the situation. This underscores the need for more active monitoring and support from the EU to ensure a level playing field and achieve common goals in the fight against air pollution.

Directive of the European Parliament and the Council No. 2019/904,[25] also known as the EU Plastic Waste Directive, aims to considerably reduce the harmful impact of plastic waste on the environment, which has become a major issue in the context of global environmental challenges. This directive prohibits the manufacture and distribution of certain types of plastic products, including single-use plastic containers such as plates, cutlery, and straws, which reduces the amount of waste that ends up in oceans and other ecosystems.

Importantly, the directive sets out clear requirements for EU members to reduce the use of plastic packaging and bottles. This includes the introduction of plastic waste recycling and collection systems and support

[23] Directive of the European Parliament and of the Council No. 2008/50/EC "On Ambient Air Quality and Cleaner Air for Europe". (2008), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32008L0050>.

[24] Waste and recycling. n.d. <https://environment.ec.europa.eu/topics/waste-and-recycling_en>.

[25] Directive of the European Parliament and of the Council No. 2019/904 "On the Reduction of the Impact of Certain Plastic Products on the Environment" (2019), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32019L0904>.

for initiatives that promote the transition to alternative, more environmentally friendly materials. These measures improve the environmental situation and promote the development of sustainable economic models that consider environmental aspects in production and consumption processes (Table 2).

Table 2: List of plastic products prohibited by Directive No. 2019/904

Product	*Prohibition*	*Alternatives*
Disposable plastic containers	Prohibited since 2021	Biodegradable materials
Plastic straws	Prohibited since 2021	Metal or paper straws
Plastic food containers	Prohibited since 2023	Durable paper packaging

Source: Compiled by the authors of this study based on the Directive of the European Parliament and of the Council No. 2019/904 "On the Reduction of the Impact of Certain Plastic Products on the Environment"[26]

The analysis performed within the framework of the impact assessment of the new environmental directive revealed that its implementation substantially affects both positive and negative aspects of the reduction of plastic waste. However, overall, it is improving the environment in the regions where the directive has been implemented. The following countries are vivid examples of positive changes: Sweden has achieved remarkable success in reducing plastic waste. The country has introduced strict limitations on plastic products and encouraged the use of alternative materials. The key reasons for this success include effective institutional control mechanisms, a prominent level of environmental awareness among the population, and a well-developed infrastructure for waste collection and recycling.[27]

Germany has been successful in reducing the use of disposable plastic products.[28,29,30] The country has introduced the widespread use of reusable

[26] Directive of the European Parliament and of the Council No. 2019/904 "On the Reduction of the Impact of Certain Plastic Products on the Environment" (2019), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32019L0904>.

[27] Raman, R., Lathabai, H., & Nedungadi, P., 'Sustainable development goal 12 and its synergies with other SDGs: Identification of key research contributions and policy insights', (2024) 5 Discover Sustainability 150, <https://doi.org/10.1007/s43621-024-00289-0>.

[28] Koshkinbaeva, A.S., Shaigaliyev, M.G., Buribayev, Y.A., Khamzina, Z.A., & Khamzina, S.S., 'International legal regulation of environmental safety: In focus – Kazakhstan', (2019) 1 Rivista di Studi sulla Sostenibilita 121–142, <https://doi.org/10.3280/RISS2019-001008>.

[29] Lyubchik, S.B., Lyubchik, A.I., Lygina, E.S., Lyubchik, S.I., Makarova, T.L., Vital, J., Rego, A.M.B.D., Fonseca, I.M. 'Simultaneous removal of 3d transition metals from multi-component solutions by activated carbons from co-mingled wastes', (2008) 60 Separation and Purification Technology 264-271, <https://10.1016/j.seppur.2007.08.020>.

[30] Kubiczek, J., Hadasik, B., Krawczyńska, D., Przedworska, K., Madarász, E.Z., & Ryczko, A., 'Perspective of Created Value in Consumer Choice: Comparison of Economic and Ecological Dimensions', (2024) 14 SAGE Open, <https://doi.org/10.1177/21582440241238516>.

and biodegradable products, driven by a strong regulatory framework, an efficient recycling collection system, and public awareness efforts.[31,32]

The Netherlands is reducing plastic waste and promoting sustainable development through innovative recycling approaches.[33,34,35] The key to the successful implementation of these projects was innovation in recycling technologies and significant support from the government and NGOs.

Although the implementation of the Directive has yielded positive results, there have also been negative effects in some countries: Italy has faced problems in implementing the Directive, especially in the southern regions where the infrastructure for waste collection and recycling is underdeveloped. The primary reason for these difficulties was the lack of financial resources and uneven implementation of policies in different regions.

Greece has experienced obstacles due to economic and structural problems that have affected the efficiency of waste management. Economic hardships and weak enforcement of environmental standards were the major reasons for the obstacles. Poland has demonstrated slow progress in implementing the Directive due to problems with infrastructure modernisation and a lack of support from the government. The reasons for the problem were the lag in the introduction of modern recycling technologies and weak enforcement.

Directive of the European Parliament and the Council No. 2019/904[36] has had a substantial positive impact in countries with developed recycling infrastructure and a prominent level of environmental awareness. However, countries facing economic and structural challenges face negative impacts due to difficulties in the practical application of the Directive. For example, financial constraints and uneven infrastructure development often lead to uneven impacts of the Directive on different regions. Therefore, further measures at the national level, including educational campaigns and funding

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31 Animashaun, E.S., Familoni, B.T., & Onyebuchi, N.C., 'Implementing educational technology solutions for sustainable development in emerging markets', (2024) 12 International Journal of Science and Research Archive 2428-2434, <https://doi.org/10.30574/ijsra.2024.12.1.1045>.

32 Akhatov, U.A., Bekturova, A.G., Madaliyeva, A.A., Sharipov, S.M., & Tursynkulova, D.A., 'Harmonization of environmental legislation', (2018) 21 Journal of Legal, Ethical and Regulatory Issues, 1-6, <https://www.abacademies.org/articles/Harmonization-of-environmental-legislation-1544-0044-21-1-127.pdf>.

33 Lis, A., Oleksy-Gębczyk, A., Szeląg-Sikora, A., & Kowalska-Jarnot, K., 'On the Path to Sustainability: Seeking New Competences to Face Challenges of Implementing Sustainable Processes', (2024) 609 Polish Chemical Industry Case Study. Lecture Notes in Civil Engineering 254-261, <https://doi.org/10.1007/978-3-031-70955-5_28>.

34 Melnikova, L.N., 'Lean innovation in the textile industry, as a tool for solving problems in the field of waste disposal and recycling', (2021) 392 Izvestiya Vysshikh Uchebnykh Zavedenii, Seriya Teknologiya Tekstil'noi Promyshlennosti 17–21, <https://doi.org/10.47367/0021-3497_2021_2_17>.

35 Lyubchyk, A., Lygina, O., Lyubchyk, S., Fonseca, I., Tulepov, M., Mansurov, Z., & Lyubchik, S., 'Activated carbons from co-mingled liquid and solid organic wastes', (2015) 17 Eurasian Chemico-Technological Journal 47-65. <https://doi.org/10.18321/ectj339>.

36 Directive of the European Parliament and of the Council No. 2019/904 "On the Reduction of the Impact of Certain Plastic Products on the Environment". (2019), <https://eur-lex.europa.eu/legal-content/UK/TXT/?uri=CELEX%3A32019L0904>.

for environmental technologies, are necessary to ensure effective implementation of the Directive.

The European Green Deal[37] is an ambitious initiative that aims to make the EU the first continent to become climate-neutral by 2050 (Table 3). The key goal of the Deal is to achieve zero greenhouse gas emissions, reduce pollution, conserve natural resources, and improve public health through sustainable environmental practices.

Table 3: Key components, positive and negative outcomes of the European Green Deal

Category	*Components/Outcomes*
Key components	
Climate neutrality	Reduction of greenhouse gas emissions to zero by 2050
Clean energy	Shift to renewable energy resources and improvement of energy efficiency
Transportation	Development of carbon-free transport and infrastructure
Financing	Implementation of the Just Transition Mechanism to assist the regions most affected by the transition
Positive outcomes	
Environmental	Pollution reduction and improvement of water and air quality
Economic	Introduction of new employment opportunities in the field of innovation and green economy
Negative outcomes	
Economic	Prohibitive implementation costs, which can pose challenges for the less developed countries of the EU
Social	Possible social disparities resulting from the transition to new forms of employment

Source: Compiled by the authors of this study based on the European Green Deal[38]

In 2020, within the framework of the European Green Deal, the Biodiversity Strategy 2030 was presented, which aims to substantially improve the environmental situation in the EU. The primary goal of this Strategy is not only to stop the loss of biodiversity but also to actively restore natural ecosystems that have been negatively affected by human activity and climate change. This approach involves the integration of environmental principles into all spheres of the economy and social life, which is crucial for

[37] European Green Deal (2019), <https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en>.
[38] Ibid.

sustainable development. Specifically, table 4 shows the principal areas and measures planned to achieve these goals in all EU countries.

The Circular Economy Action Plan[39] is a key element of The European Green Deal, which aims to achieve sustainable development within the EU. The Plan intends to fundamentally change the way resources are managed, shifting from the conventional linear economy of production, use, and disposal to a more innovative circular economy. The circular economy focuses on the reuse, repair, recycling, and disposal of resources, which reduces the adverse environmental impact and cuts raw material costs.[40,41,42]A crucial aspect of this approach is the efficient use of resources, which includes the introduction of innovative technologies, the development of environmentally friendly products and services, and the active participation of all economic stakeholders, from producers to consumers. This will not only preserve natural resources, but will also contribute to economic growth, job creation, and a better quality of life. Table 5 provides a more detailed comparison between the linear and circular economies, illustrating the advantages of the new approach.

Table 4: Key components, positive and negative outcomes of the Biodiversity Strategy 2030

Category	*Components/Outcomes*
Key components	
Protection of territories	30% of EU territory is protected, including 10% in strict nature reserves
Restoration of ecosystems	Restoration of degraded ecosystems by 2030
Biodiversity integration	Integration of biodiversity principles into all policies and strategies, including agriculture and fisheries
Positive outcomes	
Environmental	Improvement of natural ecosystems and conservation of species
Economic	Long-term economic benefits from conservation of natural resources and ecosystem services
Negative outcomes	
Implementation challenges	Requirement of considerable efforts and financial resources to protect and restore natural environments

[39] Circular Economy Action Plan (2020), <https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en>.

[40] Ciuła, J., Sobiecka, E., Zacłona, T., Rydwańska, P., Oleksy-Gębczyk, A., Olejnik, T.P., & Jurkowski, S., 'Management of the Municipal Waste Stream: Waste into Energy in the Context of a Circular Economy—Economic and Technological Aspects for a Selected Region in Poland', (2024) 16 Sustainability (Switzerland) 6493, <https://doi.org/10.3390/su16156493>.

[41] Nunes, P., & Sytnychenko, K., 'Strategic forecasts for circular economy transition: Evaluation of the role of technology in economic development', (2024) 11 Economics, Entrepreneurship, Management 25-36, <https://doi.org/10.56318/eem2024.01.025>.

[42] Shebanin, V., Shebanina, O., & Kormyshkin, Y., 'Implementation of circular economy principles to promote the development of rural areas', (2024) 31 Ekonomika APK 51-59, <https://doi.org/10.32317/2221-1055.202402051>.

Source: Compiled by the authors of this study based on the Biodiversity Strategy for 2030[43]

The review of environmental regulations showed that all initiatives represent a comprehensive approach to environmental issues, but their implementation will require considerable financial and organisational efforts. Effective application and coordination of these policies are necessary to achieve the set objectives and reduce possible negative effects on the economic situation and social sphere.

Table 5: Key components, positive and negative outcomes of the Circular Economy Action Plan

Category	*Components/Outcomes*
Key components	
Product design	Development of products that are easier to repair, recycle, and reuse
Waste management	Improvement of the efficiency of the system of waste collection, recycling, and disposal
Recycled materials market	Use of recycled materials for industrial purposes
Education and innovations	Raising awareness and stimulating innovation in the circular economy
Positive outcomes	
Environmental	Reduction of waste and use of less raw materials
Economic	Reduction of raw material and waste costs, stimulation of innovation
Negative outcomes	
Implementation challenges	Requires considerable changes in production processes and consumer habits

Source: Compiled by the authors of this study based on the Circular Economy Action Plan[44]

The Law of Ukraine No. 1264-XII[45] is the principal legal act that governs environmental issues in the country and creates a legal framework for environmental protection. It defines the key principles of environmental policy at the national level, such as sustainable development, pollution prevention, and rational use of natural resources. The law also establishes the rights and obligations of individuals and organisations in the field of environmental protection, including the right to access environmental information and take part in decision-making, and obliges them to respect

[43] Biodiversity Strategy for 2030. (2020), <https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en>.

[44] Circular Economy Action Plan. (2020), <https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en>.

[45] Law of Ukraine No. 1264-XII "On Environmental Protection" (1991), <https://zakon.rada.gov.ua/laws/show/1264-12#Text>.

environmental standards. Furthermore, the document stipulates mechanisms for monitoring compliance with environmental requirements, which is critical to ensuring environmental safety and preserving natural resources for future generations (Table 6).

The analysis showed that legislation underlies the creation and implementation of environmental policy in Ukraine, but there are substantial problems with its implementation and monitoring of compliance with environmental and legal norms. Specifically, the low efficiency of control and monitoring mechanisms, as well as the lack of resources for their implementation, hinder the achievement of environmental goals. There is an urgent need to review existing approaches and develop new strategies to improve natural resource management and ensure sustainable development in Ukraine.

Table 6: Key provisions of the Law of Ukraine No. 1264-XII

Provision	*Description*
Principles of environmental policy	Fundamentals of pollution prevention and environmental restoration
Rights and obligations of citizens	The right to a safe environment for life and health, the obligation to follow environmental standards
Control and oversight	Bodies responsible for monitoring compliance with environmental standards

Source: Compiled by the authors of this study based on the Law of Ukraine No. 1264-XII "On Environmental Protection"[46]

The Law of Ukraine No. 2059-VIII[47] defines the legal framework for environmental impact assessments for projects that may substantially affect the environmental situation in Ukraine. This Law implements EU directives in this area (Table 7).

Table 7: Key provisions of the Law of Ukraine No. 2059-VIII

Category	*Description*
Impact assessment	Identification of potential negative impacts of planned activities on the environment at the early stages of planning
Procedure	Description of the procedure for conducting an environmental impact assessment, including public consultations and conclusions of authorised bodies
Documentation	Requirements for assessment documents, including environmental impact reports

[46] Law of Ukraine No. 1264-XII "On Environmental Protection" (1991), <https://zakon.rada.gov.ua/laws/show/1264-12#Text>.

[47] Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment" (2017), <https://zakon.rada.gov.ua/laws/show/2059-19#Text>.

Purpose	Ensuring environmental safety through systematic assessment of possible negative impacts of planned activities

Source: Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment"[48]

The Law of Ukraine No. 2320-IX[49] establishes the legal framework for integrated waste management in Ukraine. It covers all stages of waste management, from collection and transportation to treatment, recycling, and disposal. The Law also defines the fundamental principles of environmental safety that must be followed in waste management, including prevention of waste generation, reduction of adverse environmental impact, and ensuring the rational use of natural resources. A significant aspect of this Law is the regulation of the responsibility of business entities for proper waste management, as well as control over compliance with environmental standards (Table 8).

Table 8: Key provisions of the Law of Ukraine No. 2320-IX

Category	*Description*
Waste classification	Definition of waste classes: hazardous waste, non-hazardous waste
Management procedures	Procedures for waste collection and treatment, responsibilities of business entities
Environmental provisions	Requirements for waste disposal and treatment to minimise adverse environmental impacts
Financing	Financing mechanisms for waste management projects, including payments for recycling services
Purpose	Improvement of the environmental situation through effective waste management and resource efficiency

Source: Law of Ukraine No. 2320-IX "On Waste Management"[50]

The key areas of environmental policy for the coming years are detailed in the Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030".[51] This strategic document, developed to ensure the country's sustainable development, includes crucial tasks related to improving air and water quality, effective waste management, and preserving biodiversity. Specifically, the document states that improving air quality involves the introduction of

[48] Law of Ukraine No. 2059-VIII "On Environmental Impact Assessment" (2017), <https://zakon.rada.gov.ua/laws/show/2059-19#Text>.

[49] Law of Ukraine No. 2320-IX "On Waste Management" (2023), <https://zakon.rada.gov.ua/laws/show/2320-20#Text>.

[50] Law of Ukraine No. 2320-IX "On Waste Management" (2023), <https://zakon.rada.gov.ua/laws/show/2320-20#Text>.

[51] Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030" (2019), <https://zakon.rada.gov.ua/laws/show/2697-19#Text>.

advanced emission treatment technologies and reducing air pollution from industrial emissions and road transport. In terms of water resources, the document emphasises the necessity of modernising water supply and sewage systems and preserving natural aquatic ecosystems. Waste management focuses on implementing the principles of waste-free production and recycling secondary raw materials, which will aid in reducing the volume of waste sent to landfills. Furthermore, the preservation of biodiversity involves the development and implementation of programmes to protect natural areas, as well as support for environmental initiatives aimed at preserving rare species of flora and fauna. Table 9 details the concrete objectives and measures to be implemented under this strategy, which underlines the comprehensive approach to addressing environmental issues in Ukraine.

Table 9: Principal goals of the Strategy of State Environmental Policy of Ukraine until 2030

Goal	*Description*	*Deadline*
Air quality improvement	Reduction of pollution levels	Until 2030
Water quality improvement	Treatment of water resources	Until 2030
Waste management	Transition to a circular economy	Until 2030
Biodiversity preservation	Protection and restoration of natural ecosystems	Until 2030

Source: Compiled by the authors of this study based on the Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030"[52]

Ukrainian legislation has laid the foundations for environmental management and integration of environmental aspects into various areas of activity.[53,54] Regulations and strategic documents covering waste management, environmental impact assessment, and rational use of natural resources offer a comprehensive approach to environmental protection. Implementation of these documents can positively affect the environmental situation in the country, which will in turn improve public health and preserve natural resources. Improving environmental management standards can stimulate innovation and the development of advanced

[52] Law of Ukraine No. 2697-VIII "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the Period up to 2030" (2019), <https://zakon.rada.gov.ua/laws/show/2697-19#Text>.

[53] Skydan, O.V., Fedoniuk, T.P., Pyvovar, P.V., Dankevych, V.Ye., & Dankevych, Y.M., 'Landscape fire safety management: the experience of Ukraine and the EU', (2021) 6 News of the National Academy of Sciences of the Republic of Kazakhstan, Series of Geology and Technical Sciences 125–132, <https://doi.org/10.32014/2021.2518-170X.128>.

[54] Kuybida, V.V., Nekrasova, O.D., Kutsokon, Yu.K., Lopatynska, V.V., & Truskavetska, I.Ya., 'Summer fish kills in the Kaniv Reservoir', (2019) 55 Hydrobiological Journal 103-106. <https://doi.org/10.1615/HydrobJ.v55.i1.110>.

technologies.[55,56,57] However, the implementation and effectiveness of environmental regulations face challenges, such as insufficient funding, the need to improve waste management infrastructure, and the need for adequate environmental risk assessment. For the successful implementation of environmental policy, it is critical to overcome these challenges by ensuring adequate support from the state and society.

A comparative analysis of approaches to sustainable development shows that the EU has a well-structured environmental policy that includes clearly defined provisions, rules, and control mechanisms. These elements ensure a prominent level of environmental protection, which contributes to the preservation of natural resources and improves the quality of life of the population. The EU is actively implementing environmental initiatives that include measures to combat climate change, reduce pollutant emissions, and support sustainable use of resources.[58,59,60]

In Ukraine, despite the existence of progressive documents and strategies, the implementation of environmental initiatives faces major challenges. The key obstacles include insufficient financial capacity, which limits the ability to implement environmental projects, and an imperfect institutional structure that complicates coordination between multiple government agencies. This leads to delays in the implementation of critical environmental programmes and reduces the effectiveness of environmental protection measures. Thus, Ukraine must strengthen its institutional framework and ensure sufficient funding to successfully implement environmental initiatives in the context of sustainable development (Table 10).

Table 10: Comparative analysis of environmental policy in the EU and Ukraine

Indicator	*EU*	*Ukraine*

[55] Kalaganov, B., Madiyarova, A.S., Sartayeva, K.R., Kim, E.P., Apakhayev, N., & Buribayev, Y.A., 'Legal fundamentals of the Kazakhstan's environmental international cooperation: New vectors of legislative reforms', (2018) 9 Journal of Environmental Management and Tourism 1525-1538, <https://doi.org/10.14505/jemt.v9.7(31).16>.

[56] Romanchuck, L.D., Fedonyuk, T.P., & Fedonyuk, R.G., 'Model of influence of landscape vegetation on mass transfer processes', (2017) 25 Biosystems Diversity 203–209, <https://doi.org/10.15421/011731>.

[57] Gudkov, D., Shevtsova, N., Pomortseva, N., Dzyubenko, E., Yavnyuk, A., Kaglyan, A., & Nazarov, A., 'Aquatic plants and animals in the chernobyl exclusion zone: Effects of long-term radiation exposure on different levels of biological organization', (2017) Genetics, Evolution and Radiation: Crossing Borders, The Interdisciplinary Legacy of Nikolay W. Timofeeff-Ressovsky 287-302, <https://doi.org/10.1007/978-3-319-48838-7_24>.

[58] Skarbøvik, E., Shumka, S., Mukaetov, D., & Nagothu, U.S., 'Harmonised monitoring of Lake Macro Prespa as a basis for integrated water resources management', (2010) 24 Irrigation and Drainage Systems 223-238, <https://doi.org/10.1007/s10795-010-9099-1>.

[59] Buribayev, Y.A., Khamzina, Z.A., Suteeva, C., Apakhayev, N.Z., Kussainov, S.Z., & Baitekova, K.Z., 'Legislative regulation of criminal liability for environmental crimes', (2020) 8 Journal of Environmental Accounting and Management 323-334, <https://doi.org/10.5890/jeam.2020.12.002>.

[60] Mokwena, R.J., & Maphaka, M.P., 'Climate Change Challenges on Environmental and Sustainable Development', (2025) 3 Review of Law and Social Sciences 39-49, <https://doi.org/10.71261/rlss/3.1.39.49>.

Regulations	Well-developed, with clearly defined standards	The main acts are in place, but implementation is weak
Control mechanisms	Efficient, with regular inspections	Insufficient, often ineffective
Financing	Extensive, with numerous programmes	Limited, requires improvement
Institutional capacity	Strong, with a clear division of responsibilities	Weak, lacking coordination
Public engagement	Active, and supported at all levels	Limited, insufficient information support
Strategic initiatives	Clearly outlined and integrated	Often absent or fragmented

The study analysed in detail concrete cases that illustrate both positive and negative aspects of environmental policy implementation. This enables not only an assessment of the progress already made but also the identification of opportunities for further development in this crucial area. Specifically, table 11 presents key examples that demonstrate the effectiveness of the various approaches to environmental policy, as well as the challenges arising in their implementation. Thus, the findings of this analysis can serve as a basis for formulating recommendations to improve environmental strategies in the future.

Table 11: Case studies on the environmental and legal framework for implementing the concept of sustainable development in EU and Ukrainian policy

Stage	*EU*	*Ukraine*	*Cooperation between EU and Ukraine*
Problem identification	Growing environmental threats: climate change, loss of biodiversity	Low level of environmental protection, imperfect legislation	Distinct levels of environmental standards and their implementation
Solution development	Creation of sustainable development strategies, integration of environmental aspects into all policies	Adaptation of EU environmental standards into national legislation to improve	Creation of joint initiatives, such as the Eastern Partnership

		environmental protection	
Implementation	Legislation, e.g., the European Green Deal, to reduce greenhouse gas emissions by 55% by 2030	Reforms, new Law on Strategic Environmental Assessment	Implementation of joint projects in the field of sustainable development and ecology
Evaluation of results	Positive changes in environmental policy, criticism of insufficient implementation at the local level	Growing environmental awareness, compliance issues, and lack of funding	Improved cooperation, achievement of some successes, need for more investment

The environmental and legal frameworks for implementing the concept of sustainable development in the EU and Ukraine demonstrate the critical role of integrating environmental aspects into political decisions and development strategies. This includes not only legislative initiatives, but also the active engagement of the public, business, and government institutions in shaping environmentally sustainable policies. However, to be successful in this area, it is necessary to consider in detail the specifics of each country, its economic, social, and cultural background, and to ensure proper implementation of norms and standards governing environmental activities. This involves establishing effective monitoring and evaluation mechanisms, as well as active cooperation between various sectors of society to achieve common sustainable development goals.

The study identified key challenges, such as insufficient integration of environmental aspects into general policy, lack of funding, and weak enforcement of environmental regulations. The analysis showed that the EU has made great strides in implementing the concept of sustainable development through clear standards and effective control mechanisms, while Ukraine faces major challenges in implementing its environmental strategies. The study confirmed that the EU environmental policy is more structured and effective than Ukraine's. The identified shortcomings and problems in Ukrainian policy require attention and improvement to achieve environmental goals.

4. DISCUSSION

The findings of this study suggest that the European sustainable development policy, especially in the context of environmental law, has formulated environmental legal principles aimed at implementing environmental standards in all areas of economic activity. Specifically, the

EU is implementing policies such as the European Green Deal, which supports the mitigation of environmental impacts through the introduction of strict environmental regulations and policies. In Ukraine, despite some advances in sustainable development, there are numerous problems with the implementation of European standards due to insufficient legal regulation and limited integration of environmental norms into national legislation.

Comparison with the studies of other researchers confirms these findings. For example, Anisimova et al.[61] conducted a thorough study of the mechanism of legal regulation of environmental risks, which was aimed at preserving biological diversity in the context of sustainable development. In their study, the researchers provided a detailed analysis of the existing legal provisions and mechanisms that can be effectively used to prevent environmental threats. Their findings highlighted the critical role of legal mechanisms in preventing environmental risks, which is consistent with the findings that environmental regulations should be integrated into national legislation. This creates the preconditions for sustainable development, as without proper legal regulation it is impossible to effectively manage natural resources and protect the environment.

As emphasised by Ahmad et al.,[62] technological innovation and economic growth can substantially affect the ecological footprint. This is consistent with the findings of the present study, which highlighted the significance of integrating technological innovations into sustainable development policies, especially in the context of EU and Ukrainian strategies. The findings showed that in the EU, technological innovations are effectively integrated into environmental policy, which contributes to the reduction of the ecological footprint, while in Ukraine, these processes must be further improved. Aloui et al.[63] focused on the impact of geopolitical risks on natural resource prices, which is directly related to the findings obtained. The researchers also noted that geopolitical factors can influence sustainable development policies, especially in Ukraine, where instability complicates the effective implementation of environmental strategies.

Asteriou and Spanos[64] found a significant link between financial development and economic growth during the crisis, which is supported by their analysis. They found that financial development is a key factor for achieving the Sustainable Development Goals, especially in the context of

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61 Anisimova, H.V., Shekhovtsov, V.V., & Donets, O.V., 'Mechanism of legal regulation of environmental risks for the preservation of biological diversity in conditions of sustainable development', (2022) 10 Astra Salvensis 311-327.

62 Ahmad, M., Jiang, P., Majeed, A., Umar, M., Khan, Z., & Muhammad, S., 'The dynamic impact of natural resources, technological innovations and economic growth on ecological footprint: An advanced panel data estimation', (2020) 69 Resources Policy 101817, <https://doi.org/10.1016/j.resourpol.2020.101817>.

63 Aloui, D., Benkraiem, R., Guesmi, K., & Mzoughi, H., 'Managing natural resource prices in a geopolitical risk environment', (2023) 83 Resources Policy 103628, <https://doi.org/10.1016/j.resourpol.2023.103628>.

64 Asteriou, D., & Spanos, K., 'The relationship between financial development and economic growth during the recent crisis: Evidence from the EU', (2019) 28 Finance Research Letters 238-245, <https://doi.org/10.1016/j.frl.2018.05.011>.

integrating environmental standards into the financial systems of both the EU and Ukraine. This underscores the need to create and implement effective financial mechanisms that will contribute not only to economic growth but also to environmental sustainability in the face of current challenges.

Ben-Salha et al.[65] also confirmed that natural resource revenues can positively affect economic development. This is in line with the findings that in Ukraine, natural resource revenues have a considerable potential to stimulate economic progress. However, their impact on environmental performance is still limited due to insufficient integration of environmental standards into natural resource management processes. Therefore, to achieve balanced development, optimum solutions must be found, which would combine economic interests with environmental requirements.

Boikos et al.[66] focused on the impact of financial progress and reforms on economic growth. They emphasised the relevance of these aspects in the context of current challenges. The study conducted within the framework of this subject confirmed that financial development is a key factor for the implementation of effective sustainable development policies not only in Ukraine but also in the EU countries. It was noted that in the context of economic instability, which is typical for Ukraine, as well as in the context of insufficient integration of environmental standards, financial reforms can become instrumental in achieving sustainable development goals. Specifically, these reforms can help attract investment in green technologies and environmental initiatives, which is critical for improving the country's environmental situation. The findings suggest that countries that actively implement financial reforms and develop financial institutions achieve better performance in terms of sustainable development and environmental policy. This underscores the necessity of integrating financial strategies with environmental goals, which can ensure not only economic growth but also an improved quality of life and the preservation of natural resources for future generations.

Deng et al.[67] highlighted the major changes in the role of financial institutions in the context of environmental quality, which are becoming increasingly relevant in the modern world. The data collected shows that financial institutions in the EU play a key role in supporting environmental initiatives, providing not only the necessary resources but also the tools to implement sustainable projects that contribute to environmental protection. These institutions are actively attracting investments in projects related to carbon emissions reduction, renewable energy, and other environmentally

[65] Ben-Salha, O., Dachraoui, H., & Sebri, M., 'Natural resource rents and economic growth in the top resource-abundant countries: A PMG estimation', (2021) 74 Resources Policy 101229, <https://doi.org/10.1016/j.resourpol.2018.07.005>.

[66] Boikos, S., Panagiotidis, T., & Voucharas, G., 'Financial development, reforms and growth', (2022) 108 Economic Modelling 105734, <https://doi.org/10.1016/j.econmod.2021.105734>.

[67] Deng, X., Yang, J., Ahmed, Z., Hafeez, M., & Salem, S., 'Green growth and environmental quality in top polluted economies: The evolving role of financial institutions and markets', (2023) 30 Environmental Science and Pollution Research 17888-17898, <https://doi.org/10.1007/s11356-022-23421-x>.

friendly technologies. At the same time, Ukraine must improve its financial instruments and mechanisms for promoting sustainable development to ensure more effective implementation of environmental programmes and initiatives. This includes not only attracting investments in environmental technologies but also creating favourable conditions for their implementation, which may include the development of innovative financial products tailored to the needs of environmental projects, as well as establishing a clear regulatory framework. It is also vital to intensify cooperation between the public sector, private investors, and international organisations to achieve common environmental sustainability goals.

Hunjra et al.[68] identified the impact of political risk and macroeconomic uncertainty on sustainable development. The findings suggest that political instability in Ukraine is a substantial barrier to the implementation of effective environmental strategies. This underlines the significance of a stable political environment for the successful implementation of environmental initiatives and the achievement of sustainable development goals. Thus, the issues of political stability and economic confidence must be addressed to improve the environmental situation in Ukraine.

Khan et al.[69] noted that geopolitics can substantially influence the formation and implementation of EU environmental policy. This study confirmed that this influence is an essential factor that determines priorities and strategies in the sphere of environmental protection. In Ukraine, in the context of current challenges, it is also necessary to consider geopolitical factors when developing environmental strategies, as they can substantially affect the effectiveness of environmental initiatives. Khraiche et al.[70] investigated the relationship between geopolitical risks and stock market development. The findings of their study showed that financial markets can be vulnerable to various geopolitical risks, which could negatively affect the implementation of environmental policy. This highlights the need for a comprehensive approach to analysing economic and environmental strategies, considering the risks associated with the global political situation.

Koseoglu et al.[71] investigated the relationship between green innovation and ecological footprint. The study confirmed that active implementation of green innovation is critical for reducing the ecological footprint, especially in the context of the EU and Ukraine. Green innovation

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[68] Hunjra, A.I., Azam, M., Bruna, M.G., Verhoeven, P., & Al-Faryan, M.A., 'Sustainable development: the impact of political risk, macroeconomic policy uncertainty and ethnic conflict', (2022) 84 International Review of Financial Analysis 102370, <https://doi.org/10.1016/j.irfa.2022.102370>.

[69] Khan, K., Khurshid, A., & Cifuentes-Faura, J., 'Is geopolitics a new risk to environmental policy in the European Union?' (2023) 345 Journal of Environmental Management 118868, <https://doi.org/10.1016/j.jenvman.2023.118868>.

[70] Khraiche, M., Boudreau, J.W., & Chowdhury, M.S., 'Geopolitical risk and stock market development', (2023) 88 Journal of International Financial Markets, Institutions and Money 101847, <https://doi.org/10.1016/j.intfin.2023.101847>.

[71] Koseoglu, A., Yucel, A.G., & Ulucak, R., 'Green innovation and ecological footprint relationship for a sustainable development: Evidence from top 20 green innovator countries', (2022) 30 Sustainable Development 976-988, <https://doi.org/10.1002/sd.2294>.

not only contributes to reducing the adverse environmental impact but can also become a catalyst for economic growth and competitiveness of national economies.[72,73,74]

Ciot[75] performed a detailed analysis of the impact of the Russian-Ukrainian conflict on the implementation of The European Green Deal in Central and Eastern Europe, which is crucial in the context of current geopolitical challenges. This study confirms the observation that security and stability are key factors for the implementation of environmental programmes in Ukraine, as instability can substantially complicate the implementation of environmental initiatives and projects that require long-term investment and planning.

Öztürk and Durak[76] focused on the adaptation of EU environmental policies in the face of new challenges faced by member states and neighbours. The researchers' findings support the opinion that Ukraine should adapt its environmental regulations to European standards to ensure sustainable development, as integration into the European space requires compliance with strict environmental standards, which can help improve the quality of life and preserve natural resources.

Amann et al.[77] investigated sustainable governance practices in the housing sector, focusing on European examples that demonstrate effective strategies to reduce the environmental impact of housing construction and operation. While their findings highlight the significance of sustainable management, the present study focused more on the legal aspects of sustainability, which suggests the need for a deeper analysis of housing policy, as the legal framework can greatly influence the implementation of sustainable practices and provide the necessary conditions for their implementation in Ukraine. Al Azzam et al.[78] stressed the value of optimising international trade to achieve sustainable development, which is crucial in

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72 Skliar, V., Smoliar, N., Kozak, M., Liubynskyi, O., & Skliar, Y., 'Ecological and cenotic features of natural regeneration of forests in the Left-Bank Polissya of Ukraine', (2024) 15 Ukrainian Journal of Forest and Wood Science 118–134, <https://doi.org/10.31548/forest/2.2024.118>.

73 Komilova, N., Egamkulov, K., Hamroyev, M., Khalilova, K., & Zaynutdinova, D. 'The impact of urban air pollution on human health', (2023) 28 Medicni Perspektivi 170–179, <https://doi.org/10.26641/2307-0404.2023.3.289221>

74 Kovach, D., Kullolli, B., Djaparova, S., Mikhnevych, L., & Myskovets, I., 'Legal aspects of environmental sustainability and climate change: the role of international and national legislation', (2024) 4 Journal of Environmental Law and Policy 149-179, <https://doi.org/10.33002/jelp040206>.

75 Ciot, M. G., 'The impact of the Russian-Ukrainian conflict on Green Deal implementation in central-southeastern Member States of the European Union', (2023) 15 Regional Science Policy & Practice 122-144, <https://doi.org/10.1111/rsp3.12591>.

76 Öztürk, T., & Durak, İ.N., 'EU environmental policies in the context of green theory and Türkiye's adaptation process', (2024) 8 Alanya Academic Review 224-226, <https://doi.org/10.29023/alanyaakademik.1324780>.

77 Amann, W., Anisimov, O., Lawson, J., Mundt, A., & Tyshchenko, I., Housing for the common good: Sustainable governance from European best practice for recovery in Ukraine (Vienna 2024).

78 Al Azzam, F.A., Khomko, L., Mykhailyk, N., Maslak, O., & Danchak, L., 'Optimization of international trade for sustainable development marketing strategy: Economic and legal EU regulations', (2023) 18 International Journal of Sustainable Development & Planning 2615-2621, <https://doi.org/10.18280/ijsdp.180834>.

the current globalisation context. The researchers noted that EU legal regulations can positively affect Ukraine's economic development, as they form the framework for trade relations and can help promote the competitiveness of Ukrainian goods on international markets. These findings are in line with the results obtained, which stressed that the integration of international norms and standards into national policies is a crucial step for ensuring the sustainable development of the country. Specifically, it allows Ukraine to adapt to new challenges, improve the investment climate, and promote environmental sustainability, which opens new opportunities for economic growth and social progress.

The findings of this study confirm the significance of technological innovations, financial progress, and geopolitical threats in shaping an effective sustainable development strategy. These findings are in line with other scientific studies and highlight the urgent need to adapt policies to dynamically changing circumstances and global trends that affect economic and social stability. Prospects for further research open new opportunities, such as a more in-depth analysis of the impact of geopolitical risks on environmental policy. This involves exploring how international conflicts, economic sanctions, and other geopolitical factors can affect the implementation of environmental initiatives. Furthermore, it is necessary to explore the potential of adapting financial instruments such as green bonds and investment funds to support sustainable development, which will ensure effective financing of environmental projects amid global challenges.

5. CONCLUSIONS

The EU has a comprehensive and organised environmental strategy, which contains articulated regulations, directives, agreements, and plans aimed at achieving sustainable development. This strategy covers a wide range of issues, including improving water and air quality, reducing greenhouse gas emissions, and preserving biodiversity. Despite having relevant documents and strategies in place, Ukraine still needs to overcome numerous difficulties in implementing these initiatives, due to many socio-economic and political challenges.

The EU has made great strides in reducing pollution and improving the environmental situation through the implementation of effective oversight mechanisms, extensive funding for environmental programmes, and active public engagement in environmental initiatives. In Ukraine, however, there are serious difficulties with financing environmental projects, insufficient control over compliance with environmental regulations, and ineffective implementation of existing environmental standards. The key challenges in Ukraine include insufficient integration of environmental aspects into the overall strategy, lack of finance to implement environmental initiatives, and imperfect control and monitoring mechanisms. This is contrary to the EU, which has more developed monitoring and support systems, such as funding and technical aid programmes, which have led to

better environmental outcomes. Ukraine must take steps to improve its environmental strategies, strengthen control and attract greater financial resources to ensure sustainable development and improve the environmental situation in the country.

The principal limitation that affected this study was the limited time available for its implementation. This factor could substantially affect the data collection and analysis, as insufficient time can lead to incomplete information or bias in the findings. It is also necessary to consider external factors that may significantly affect the results of the study. For example, the war in Ukraine may have both a direct and indirect impact on the socio-economic aspects under study. This highlights the need for a thorough analysis of the context of the study to ensure a more accurate interpretation of the data. To achieve its sustainable development goals, Ukraine must focus on improving its waste management infrastructure, increasing the effectiveness of monitoring compliance with environmental standards, and ensuring adequate funding for environmental projects. Investing in and raising environmental awareness among citizens can also contribute greatly to improving the situation.

ACKNOWLEDGEMENT

This article was published as a part of the RE-GREEN Project (Advancing European Green Deal Implementation in Ukraine, 101176210) funded by the European Union's Erasmus+ programme.

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AUTHORS' DECLARATION AND ESSENTIAL ETHICAL COMPLIANCES

Authors' Contributions (in accordance with ICMJE criteria for authorship)

Contribution	*Author 1*	*Author 2*	*Author 3*	*Author 4*	*Author 5*
Conceived and designed the research or analysis	Yes	No	No	Yes	Yes
Collected the data	Yes	Yes	No	No	No
Contributed to data analysis and interpretation	Yes	Yes	Yes	Yes	Yes
Wrote the article/paper	Yes	Yes	Yes	Yes	Yes
Critical revision of the article/paper	Yes	No	Yes	Yes	No
Editing the article/paper	Yes	Yes	Yes	Yes	Yes
Supervision	Yes	No	No	No	No
Project administration	Yes	No	No	No	No
Funding acquisition	No	No	No	No	No
Overall contribution proportion (%)	20	20	20	20	20

Funding
No funding was available for the research conducted for and writing of this paper.

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