PUBLIC ADMINISTRATION FOR SUSTAINABLE DEVELOPMENT

MECHANISMS AND STRATEGIES OF STATE AND REGIONAL ADMINISTRATION IN THE CONDITIONS OF WAR AND RECONSTRUCTION OF UKRAINE

Mariupol State University (Ukraine)

University of Economics and Humanities (Poland)

PUBLIC ADMINISTRATION FOR SUSTAINABLE DEVELOPMENT

MECHANISMS AND STRATEGIES OF STATE AND REGIONAL ADMINISTRATION IN THE CONDITIONS OF WAR AND RECONSTRUCTION OF UKRAINE

Collective Monograph

https://doi.org/10.36228/PASD24

Kyiv-Bielsko-Biala, 2025

UDC 316/352
P 78

Recommended for publication by the Academic Council of Mariupol State University (Protocol number 7 from 26.02.2025)

Scientific Editor:

Chechel Anna, Doctor of Economic Sciences, Associate Professor, Head of the Department of Public Administration and Administration of the Donetsk State University of Management of Ministry of Education and Science of Ukraine ((Ukraine)

Zharova Liubov, Doctor of Economics Sciences, Professor of University of Economics and Humanities (Poland)

Sleziak Michał, Rector, University of Economics and Humanities (Poland)

Reviewers:

Chaplynska Natalia Ph.D.in Economics, Assistant Professor, Ng Teng Fong Sino Group Belt and Road Research Institute, Hong Kong Chu Hai College (Hong Kong SAR, China)

Klopov Ivan Doctor of Economics, Professor, Head of the Department of Information Economics, Entrepreneurschip and Finance, Yu.M.Potebnia Engineering Educational and Scientific Institute of Zaporizhia National University (Ukraine)

Orlova Nataliia Doctor of Science in Public Administration, Professor of the Department of Public Managemant and Alministration, Hryhorii Skovoroda University in Pereiaslav (Ukraine)

Public Administration for Sustainable Development: Mechanisms and Strategies of State and Regional Administration in the Conditions of War and Reconstruction of Ukraine: Collective Monograph / The general ed. Chechel A., Zharova L., Śleziak M. Kyiv - Bielsko-Biala (Poland): University of Economics and Humanities, 2025. 285 p.

ISBN 978-83-63649-18-0 (online edition)

The monograph is dedicated to the pressing issues and prospects of Ukraine's recovery after the armed conflict. The study focuses on public administration reforms aimed at strengthening the country's potential during the war and in the reconstruction phase, as well as the role of these reforms in the process of European integration. The authors examine a wide range of topics, from the organizational and legal mechanisms for engaging citizens in local governance to strategies for managing public finances in wartime. Attention is given to decentralization, sustainable regional development, crisis management in the field of water use, and the restoration of key economic sectors. Particular emphasis is placed on the analysis of women's social entrepreneurship and its impact on social processes in conflict and post-conflict situations, as well as a comparative study of migration policies in Ukraine and EU member states. This monograph represents a contribution from scholars and experts, offering a critical perspective and comprehensive approaches to addressing public administration and economic development challenges in the post-war recovery period of Ukraine. It aims to serve as a guide for policymakers, researchers, and all those involved in the process of recovery and sustainable development of the country, providing a solid foundation for long-term changes. The monograph is designed for scientists, graduate and undergraduate students who are researching these above-mentioned problems in the Public Administration scientific sphere.

CONTENT

2.5. «Green entrepreneurship» in the context of developing policies for the advancement of modern social business [1]

https://doi.org/10.36228/PASD24/2/5

In the contemporary world, green business and social entrepreneurship serve as significant tools for achieving sustainable development, addressing environmental and social challenges. The formulation of policies to support and develop green entrepreneurship has become one of the key aspects of economic transformation on a global scale. This trend encompasses the active implementation of environmentally sustainable technologies and socially responsible business practices aimed at meeting societal needs and minimising negative environmental impacts.

The green entrepreneur plays a vital role in the processes of transitioning towards sustainable development, creating innovative business models that integrate economic objectives with environmental and social outcomes. Development policies for social business focused on green initiatives provide substantial opportunities for achieving the United Nations Sustainable Development Goals (SDGs). In particular, the research highlights that the green economy stimulates increased access to resources and generates new employment opportunities, which are critical for addressing social inequality and ecological crises.

Among the critical aspects of policies promoting green business is the establishment of appropriate legislative and financial instruments, such as green bonds and social stock exchanges (for instance, India actively utilises the Social Stock Exchange to achieve sustainable development goals). These measures provide entrepreneurs with access to financing for environmentally and socially responsible initiatives. Thus, the development of green entrepreneurship becomes a key factor in enhancing corporate social responsibility, fostering conditions for sustainable societal development.

Green entrepreneurship represents an innovative business model that integrates principles of environmental responsibility with traditional economic aspirations for profitability. The primary characteristics of green entrepreneurs include a strong focus on sustainable development, ensuring the preservation of natural resources, reducing environmental

[1] The author of the chapter: ***Anna Chechel,*** *Mariupol State University, Department of Public Administration (Ukraine), Visiting Academic, Cambridge Judge Business School (United Kingdom).*

footprints, and improving the quality of life for present and future generations. They strive to minimise environmental impact using renewable resources, energy-efficient technologies, and the reduction of greenhouse gas emissions.

The principles of green entrepreneurship are grounded in the triad concept of "people-nature-profit," which seeks a balance between economic interests and social and environmental responsibilities. On the one hand, entrepreneurs generate economic benefits by developing innovative technologies and products that meet consumer needs while minimising adverse effects on ecosystems. On the other hand, they actively contribute to addressing global environmental challenges such as climate change, environmental pollution, and biodiversity loss[2].

A key characteristic of green entrepreneurs is their strategic approach to integrating environmental aspects into production and consumption processes, fostering the creation of sustainable business models (Figure 1).

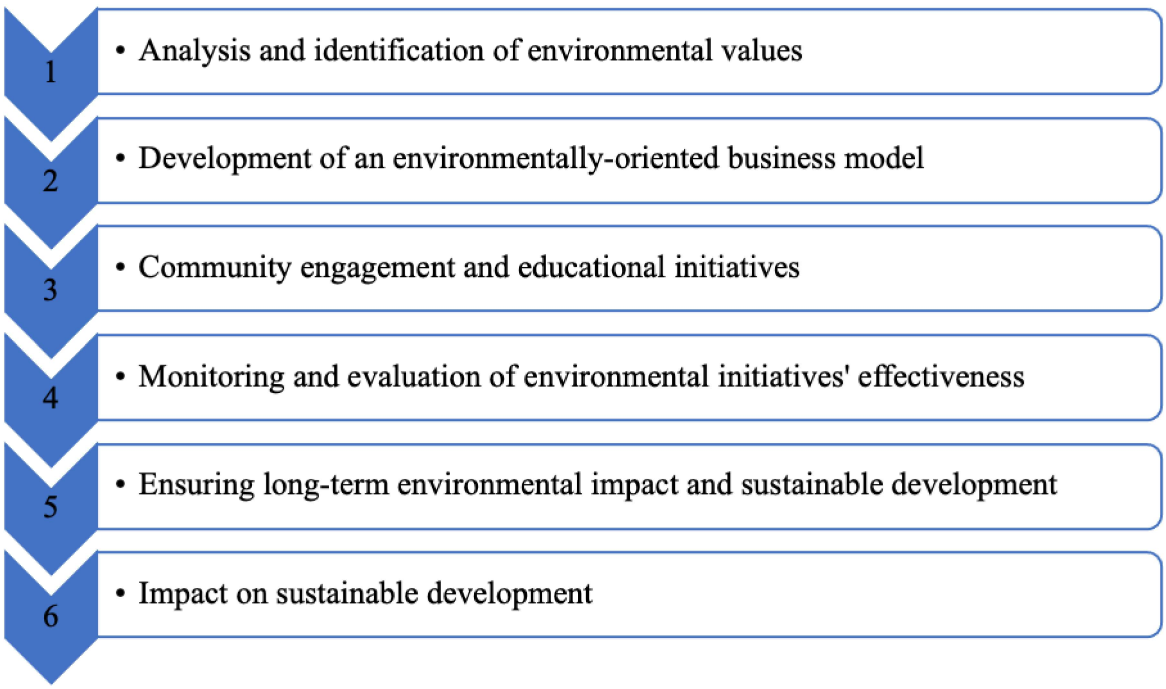

Fig. 1. – Algorithm for the integration of environmental values within social enterprise business models

They invest in green innovations that not only reduce energy and resource costs but also enhance market competitiveness due to growing

[2] Shkarupa, O.V. *Indicators of Environmental Modernisation of Socio-Economic Systems in the Context of Green Economic Growth in the Region. Mechanism of Economic Regulation,* 2015, No. 1, pp. 9–20.

demand for environmentally friendly products and services. Thus, the green entrepreneur acts as an agent of change with the capacity to transform economic processes through the lens of environmental responsibility and social significance.

1. Analysis and Identification of Environmental Values. Social enterprises begin by analysing their environmental impact and defining core environmental values and standards, such as emissions reduction, resource conservation, and waste minimisation. Drawing from these principles, a strategic environmental strategy is developed, encompassing defined ecological aims that harmonise with the social business's fundamental objectives.

2. Development of an Environmentally-Oriented Business Model. Social enterprises adapt their business models to integrate ecological principles across all activities, from sourcing raw materials to waste management. This may involve using eco-friendly materials, transitioning to renewable energy sources, or implementing a circular model that minimises waste.

3. Community Engagement and Educational Initiatives. Engaging the community and target audience in the enterprise's ecological initiatives is a critical phase. This can involve educational programmes that promote environmental awareness and collaborations with local environmental organisations. Teaching consumers about responsible consumption and partnering with non-profits to strengthen ecological efforts can have a significant social impact.

4. Monitoring and Evaluating the Effectiveness of Environmental Initiatives. To ensure continuous improvement and alignment with the enterprise's ecological objectives, systematic monitoring, and evaluation of the impact of environmental initiatives are conducted. Through a structured process of ongoing assessment and critical reflection, the enterprise maintains a dynamic approach to monitoring environmental interventions, facilitating continuous refinement of its ecological strategy. Metrics such as carbon footprint reduction, decreased water and energy consumption, and waste minimisation are used to measure performance and adjust actions as needed.

5. Ensuring Long-Term Environmental Impact and Sustainable Development. Social enterprises aim to achieve sustainable development by embedding environmental values into their strategies and cultural

practices. This fosters positive ecological impact, reduces environmental harm, and simultaneously supports social justice, resource accessibility, and improved community quality of life.

6. Impact on Sustainable Development. The integration of environmental values by social enterprises contributes to achieving the Sustainable Development Goals by promoting responsible consumption, reducing environmental footprints, and enhancing ecological awareness. Social enterprises that proactively advocate for environmental values create a multiplier effect in local communities, driving the growth of the green economy and fostering sustainable societies[3].

Legislative initiatives, standards, and regulatory acts play a crucial role in stimulating the development of green business by providing the legal framework for implementing principles of sustainable development, environmental responsibility, and social entrepreneurship. These regulatory mechanisms, encompassing requirements for environmental compliance, ESG reporting, and corporate social responsibility, incentivise businesses to pursue not only financial outcomes but also adherence to high environmental and social standards.

Legislative initiatives on environmental compliance establish mandatory norms and standards aimed at minimising the negative environmental impact of enterprises. These include requirements for emissions management, the use of renewable energy sources, the rational use of natural resources, and the reduction of water and air pollution levels. For instance, in many European and North American countries, climate change laws and other regulatory acts obligate businesses to comply with standards for reducing greenhouse gas emissions. Such regulations require the adoption of technologies that preserve ecosystems and reduce environmental footprints, thereby fostering innovation in sustainable technologies[4].

One of the key tools for enhancing corporate environmental responsibility is ESG standards (Environmental, Social, and Governance criteria), which set requirements for sustainable development

---

[3] Hura A.O., Hutsan T.H. Green Economy: Essence, Factors and Prospects for Development in Ukraine. *Collection of Scientific Papers of H.S. Skovoroda Kharkiv National Pedagogical University "Economics",* issue 17, 2017. pp. 42-52.

[4] Bryzhan, I. A. Conditions and Factors of Ukraine's Transition to a Sustainable Development Model. *Bulletin of PDAA*. 2013. No. 1. pp. 128-133. Retrieved from http://www.pdaa.edu.ua/sites/default/files/visnyk/2013/01/128.pdf

management at the company level. In most developed countries, legislation already mandates transparency in ESG reporting for businesses. ESG standards provide companies with the tools needed to measure, monitor, and report progress in areas such as energy efficiency, biodiversity conservation, labour rights compliance, and ethics in governance and finance[5].

For instance, in the European Union, large enterprises are required to submit reports containing ESG elements in compliance with the Non-Financial Reporting Directive (NFRD), which has been updated through the Corporate Sustainability Reporting Directive (CSRD). This regulation mandates companies to disclose information about their environmental impact, as well as social and governance aspects.

Additionally, certain legislative tools, such as tax incentives, subsidies, or grants for the implementation of environmentally friendly technologies, also promote the growth of green business. Namely, many countries operate programmes to support sustainable business, enabling companies to reduce costs for innovative ecological solutions, such as renewable energy production, waste recycling, or the use of low-carbon resources.

As for corporate social responsibility (CSR), its advancement is also supported through legislative acts that encourage companies to incorporate socially responsible practices into their business models. Laws and regulations governing issues such as human rights, occupational safety, anti-corruption measures, and adherence to ethical norms ensure that companies integrate social and environmental considerations into their development strategies. Many countries have introduced obligations for large enterprises to comply with CSR standards, which include not only ethical treatment of employees but also support for local communities, investment in social projects, and active incorporation of sustainable development principles into corporate strategy[6].

Transparency and reporting in the context of corporate social responsibility (CSR) are critical tools that compel companies to clearly

[5] Ecological Modernisation of the Economy in the Discourse of the Fourth Industrial Revolution. *Economics of Nature Management and Sustainable Development*. Kyiv: State Institution "Institute of Environmental Economics and Sustainable Development of the National Academy of Sciences of Ukraine", 2018. No. 1–2 (20–21). pp. 15-19.

[6] Shuliak B.V. Theoretical Foundations of Environmental Entrepreneurship in the Context of Sustainable Development of Rural Areas. Effective Economy. 2018. No. 4. Retrieved from http://www.http://www.economy.nayka.com.ua/?op=1&z=6269

communicate their actions in the social and environmental domains. This enables stakeholders—including investors, consumers, and non-governmental organisations—to assess the actual impact of a company's activities on society and the environment. Legislation mandating open reporting on corporate environmental and social impacts creates additional incentives for green initiatives and enhances corporate accountability.

Thus, legislative initiatives, standards, and regulatory acts serve as key drivers for the development of green business. They not only provide an incentivising effect for companies seeking to reduce their environmental impact but also foster trust among consumers, investors, and other stakeholders[7]. By implementing principles of environmental compliance, ESG reporting, and corporate social responsibility, businesses can not only mitigate risks but also generate added value for society and the environment through various financial instruments (see Table 1).

Table 1

The Impact of Financial Instruments on the Development of Enterprises Utilising Environmentally Friendly Technologies

Instrument	Description	Advantages
Financing of environmental projects	Green bonds and investment funds provide stable and targeted financing for enterprises implementing projects in renewable energy, energy efficiency, water resource management, and ecological infrastructure. They enable investors to directly allocate funds to environmentally friendly technologies, which is a key factor in supporting sustainable development.	• Promote the growth of green technologies within industry. • Enhance the competitiveness of enterprises through access to environmentally oriented investments. • Attract private investment for large-scale environmental projects.
Attraction of long-term investments	Green bonds serve as an effective instrument for attracting long-term investments on favourable terms, allowing enterprises to advance innovative technologies without requiring full funding from internal sources.	• Reduce the cost of capital for businesses. • Provide access to the global market of sustainability-focused investors. • Enable financing for large-scale environmental initiatives.

[7] Kosovych B. Environmental Entrepreneurship as an Important Component of the Modern Economy. *Economic Analysis*. 2020. Vol. 30, No. 3. pp. 109-118.

Reduction of environmental risk	Investment funds focused on environmentally friendly technologies enable investors to mitigate environmental risks associated with traditional industries. They also support the implementation of environmental standards and the reduction of greenhouse gas emissions.	• Increase transparency in environmental management. • Reduce corporate carbon footprints through investment in low-carbon technologies. • Support environmentally sustainable business models.
Enhancement of social responsibility and ESG reputation	Green bonds and investment funds that promote sustainable development assist enterprises in enhancing their social responsibility and ESG reputation. These instruments allow companies to attract investors who value ethical business practices and a commitment to sustainability.	• Improve corporate image through participation in green initiatives. • Attract investors with high standards of social and environmental responsibility. • Advance sustainable development by integrating ESG principles into business strategies.
Growth in global demand for environmentally friendly products	The growing demand for environmentally friendly technologies and products creates opportunities for companies to secure financing through green bonds and funds that cater to this demand.	• Expand markets for environmental innovations. • Increase interest from consumers and partners. • Facilitate the development of environmentally friendly industries and technologies that become competitive in the global market.
Innovation and technology development	Investing in green bonds and environmentally oriented funds stimulates the development of innovations that help reduce the environmental impact of enterprises.	• Support scientific advancements in environmentally clean technologies. • Draw investment into start-ups and enterprises focused on green innovations. • Improve resource efficiency and reduce costs related to energy and materials.

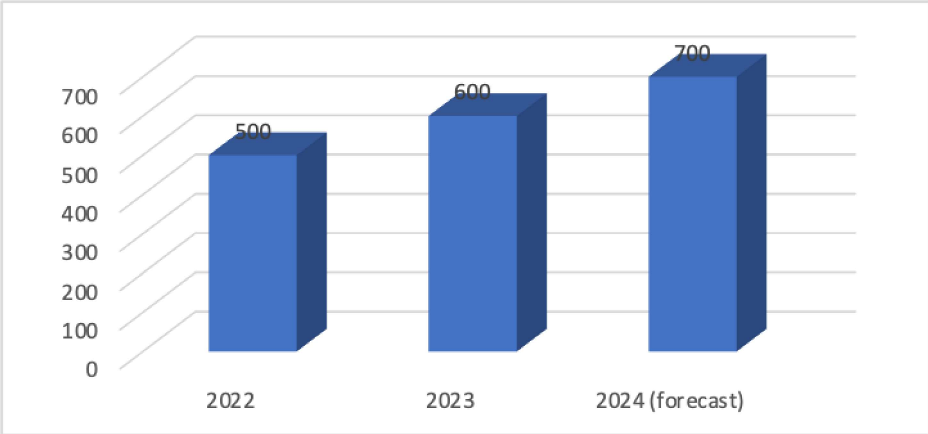

Fig. 2. Global volume of green bonds (billion £)

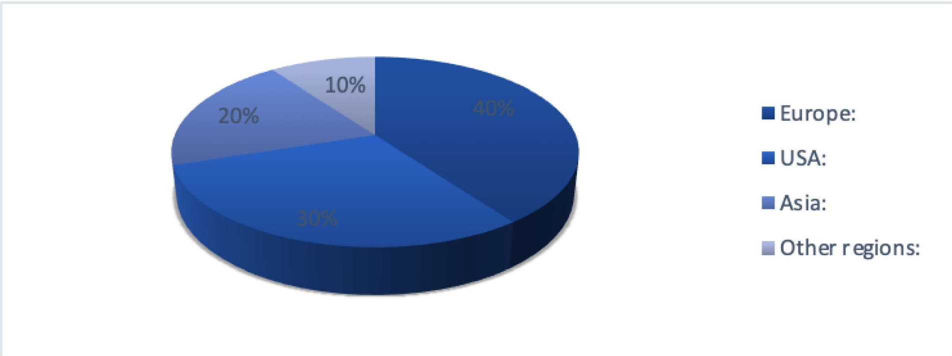

Fig. 3. Regional data (as % of total volume)

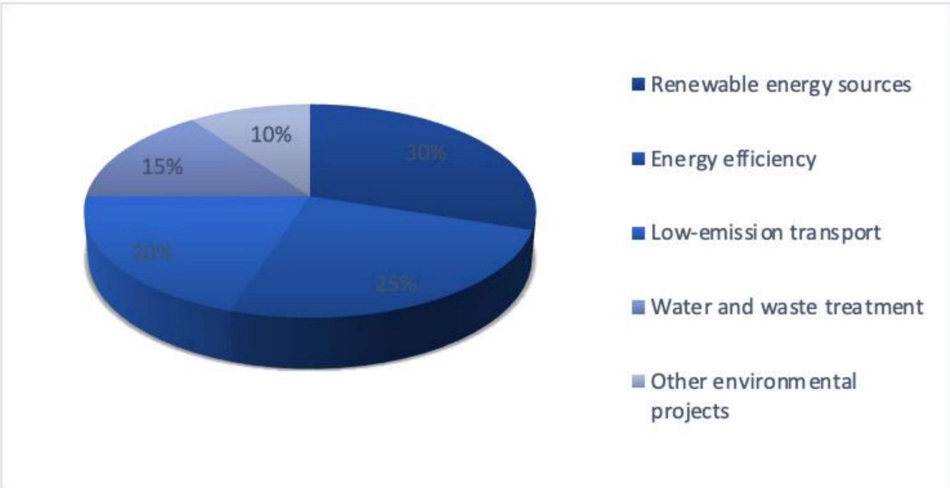

Fig. 4. Key sectors receiving funding

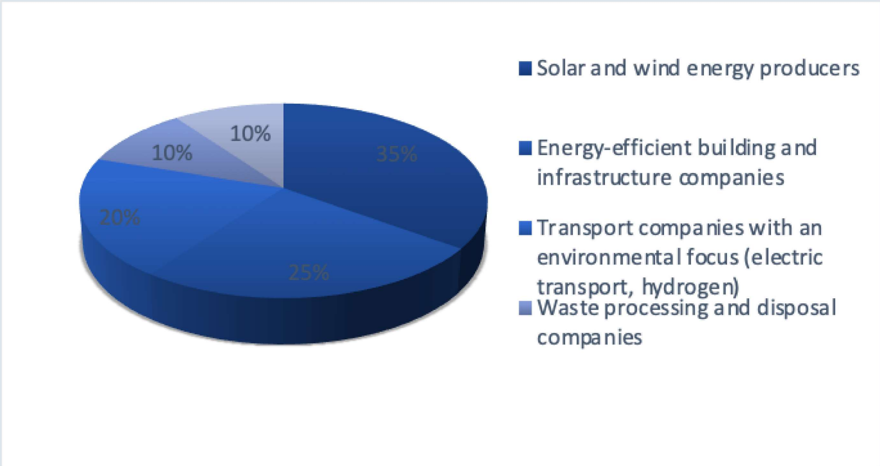

Fig. 5. Types of enterprises that received funding
through green bonds (2024)

Green business, guided by the principles of sustainability, is increasingly recognised not only as an economic activity but also as a vital mechanism for achieving the United Nations' Sustainable Development Goals (SDGs)[8]. Green business is seen as a tool for ensuring low-carbon economic growth, paving the way for the development of a "green" economy. Importantly, green business is focused not solely on profit but also on creating value for communities, contributing to environmental and social justice. For instance, companies in the renewable energy sector provide not only environmental benefits but also generate employment opportunities, often in regions with high poverty levels.

One of the most significant contributions of green business lies in achieving responsible consumption and production (SDG 12). Rather than relying on a linear production model that involves extraction, production, and disposal, green business fosters a transition to a circular model. This approach emphasises the reuse, recycling, and responsible disposal of products, minimising waste. Such practices reduce environmental pollution and preserve resources for future generations.

Green business actively supports the achievement of SDG 7, which aims to ensure access to reliable, sustainable, and modern energy for all. Investments in renewable energy sources such as solar, wind, and hydroelectric power exemplify how green business contributes significantly to sustainable development. Green energy not only reduces

[8] Poyasnyk H.V. The Role of Environmental Entrepreneurship in the Context of Post-War Reconstruction. *Economy and Society*. 2023. No. 47. Retrieved from https://economyandsociety.in.ua/index.php/journal/article/view/2093/2022

reliance on fossil fuels but also creates new job opportunities, promoting social equity and economic stability[9].

SDG 13 highlights the importance of combating climate change, and green business plays a central role in this effort. Companies that reduce carbon emissions, adopt energy-efficient technologies, and implement environmental protection measures contribute to mitigating global warming. For example, businesses engaged in clean technologies and green construction help lower air and water pollution levels, which in turn positively impacts public health.

The future foresees an expanded role for green business in achieving the SDGs as the need for responsible and sustainable resource use grows. Governments increasingly support green enterprises through tax incentives, subsidies for ecological initiatives, and public investment programmes. This creates favourable conditions for green business to become a central component of the economy. The role of green entrepreneurship in achieving the SDGs can be strengthened through close partnerships between governments and businesses, fostering policies and investment programmes aligned with the 17 SDGs.

The synergy between green entrepreneurship and social business lies in integrating environmental and social goals to achieve sustainable development. Such collaboration involves creating a unified mechanism where business processes focus on reducing negative environmental impacts, ensuring responsible resource utilisation, and improving social conditions for communities (Fig. 6).

Fig. 6. Interaction Between Green Entrepreneurship and Social Business

[9] Successful Practices of Eco-Transformation: The Contribution of Business and Communities. ECOBUSINESS: Website. Retrieved from https://ecolog-ua.com/news/uspishni-praktyky-ekozmin-pro-vnesok-biznesu-ta-gromad

At the initial stage, it is crucial to establish shared goals for both areas of activity. This requires consideration of aspects such as emissions reduction, waste minimisation, support for local communities, and inclusion of socially vulnerable groups. Subsequently, resources and tools necessary for implementing environmental initiatives within the framework of social business are identified, including financial and human resources, technologies, and innovations.

The next step involves integrating environmental standards into the production and operational processes of social business. Achieving this entails adapting supply chains, materials, energy consumption, and logistical schemes. Special attention should be placed on zero-waste production, energy efficiency, and environmentally friendly materials. Social businesses must account for not only economic benefits but also environmental factors.

Additionally, monitoring and evaluating the outcomes of environmental and social initiatives becomes a mandatory component of this interaction. It is essential to systematically track changes and assess the effectiveness of measures undertaken. Scientific methods for data collection, such as carbon footprint analysis and the calculation of environmental impact, help identify the most effective areas for collaboration. This mechanism of interaction also requires continuous adaptation and refinement in response to changing socio-economic conditions and emerging environmental challenges.

Analysing the current state of green entrepreneurship in the context of social business development reveals significant growth, driven by the active implementation of sustainable development policies by countries and international organisations. In 2023, the global market for green business was valued at over USD 10 trillion, with annual growth rates of 5–8%. This growth is attributed to the increasing popularity of the ESG (Environmental, Social, and Governance) framework, which has become a critical criterion for investors and businesses seeking sustainable financing[10].

Green entrepreneurship encompasses several core sectors, including alternative energy, waste management, eco-innovations in manufacturing, and organic agriculture. For instance, the global renewable energy market

[10] Lomachynska I.A. Conceptual Approaches to Defining the Essence of Impact Investments. *Business Information.* 2020. No. 2. pp. 16-22.

exceeded USD 1 trillion in 2023, with green energy accounting for 30% of total electricity production. In terms of social impact, companies are progressively engaging vulnerable communities in environmental initiatives, generating employment, and fostering opportunities for local development.

Projections for the next five years indicate continued growth in the green innovation market, driven by supportive government policies and rising interest in sustainable investments[11]. It is expected that green investments in social business will grow by 10–15% annually, enabling an increase in the share of eco-friendly enterprises while simultaneously attracting additional resources for social programmes (Table 2, Fig. 7). By 2028, the spectrum of green projects in social business is forecasted to expand, encompassing social cooperatives in renewable energy and waste recycling sectors.

Table 2

Market Size of Green Entrepreneurship Worldwide (2023-2028) (2023-2028)[12]

Country	2023	2024	Forecast Value			
			2025	2026	2027	2028
USA	1200	1272	1348.32	1429.219	1514.972	1605.871
China	900	972	1049.76	1133.741	1224.44	1322.395
Germany	450	472,5	496.125	520.9313	546.9778	574.3267
India	300	327	356.43	388.5087	423.4745	461.5872
France	250	260	270.4	281.216	292.4646	304.1632
Ukraine	50	53.5	57.245	61.25215	65.5398	70.12759

[11] Prokopenko, O.; Chechel, A.; Koldovskiy, A.; Kldiashvili, M. (2024). Innovative Models of Green Entrepreneurship: Social Impact on Sustainable Development of Local Economies. *Econ. Ecol. Socium*, 8, p. 89-111.

[12] TOP 15 Most Environmentally Friendly Countries in the World. Retrieved from https://ecopolitic.com.ua/%20ua/news/top-15-najbilsh-ekologichnih-krain-svitu/

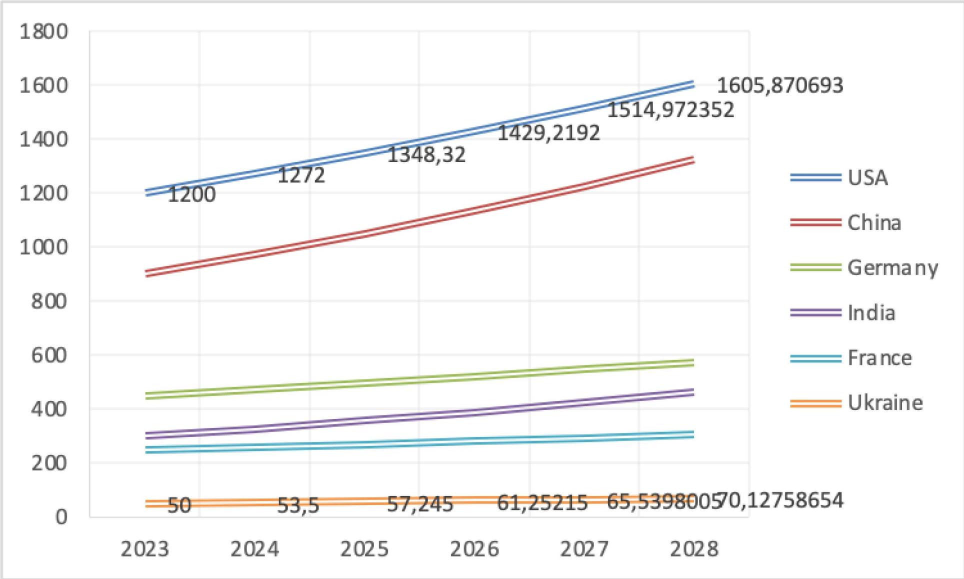

Fig. 7. Forecast of the Market Size for Green Entrepreneurship (2023-2028), Including Ukraine

Political incentives, such as tax benefits and support for green start-ups, will continue to encourage the interaction between green and social business models, particularly through the establishment of government funds to support environmentally focused social projects.

Research into the role of financial institutions in supporting businesses oriented towards ecological sustainability is also a crucial aspect of understanding how financial resources can facilitate the growth of enterprises implementing sustainable development strategies. In this context, financial institutions act not only as providers of capital but also as strategic partners, offering the resources needed for businesses to adopt innovations in environmentally friendly technologies, energy efficiency, renewable energy, and other areas of sustainable development.

Financial institutions have a direct impact on businesses operating in environmentally clean sectors by providing credit resources, investments, as well as consulting and assistance in meeting environmental compliance requirements. Banks, investment funds, insurance companies, and other financial entities are vital partners for such enterprises. They not only offer access to financing but also play a supervisory role, ensuring businesses adhere to international standards and regulations regarding environmental sustainability[13].

One of the key tools financial institutions use to support environmentally friendly businesses is green bonds. This financial instrument enables enterprises to attract funding for environmentally beneficial projects, such as developing renewable energy sources, constructing energy-efficient buildings, investing in waste recycling, and other initiatives that reduce environmental impact.

In addition, investment funds focused on sustainable development contribute to financing companies engaged in ecological projects. This approach pools resources from investors interested not only in financial returns but also in achieving environmental and social objectives. These funds support businesses implementing sustainable development strategies by providing capital for innovative projects, creating favourable conditions for their growth.

Banks, as primary participants in the financial system, significantly influence the growth of green businesses. They not only provide credit resources for implementing eco-friendly technologies but also actively encourage enterprises to adopt sustainable practices through specialised credit products designed to protect the environment.

One way to support green businesses is to offer discounted loans for companies undertaking projects aimed at energy conservation, the use of renewable energy sources, and the reduction of greenhouse gas emissions. Banks may also provide financing on more favourable terms for companies adopting technologies that minimise environmental impact, thereby incentivising investments in sustainable development[14].

Another important aspect is banking programmes that help businesses reduce their carbon footprint. Banks can analyse the environmental efficiency of projects, offer advisory services on ecological standards, and even assist businesses in obtaining certifications under

---

[13] Chechel A., Zhara I. Modern Challenges of Ukraine's State Agricultural Policy in the Context of European Integration. *Public Administration: Concepts, Paradigms, Development, Improvement.* 2024. No. 7. pp. 143–152. URL: https://doi.org/10.31470/2786-6246-2024-7-143-152

[14] Popova, O., Chechel, A., Fomina, O., Myroshnychenko, G., Medvedieva, M., Hoholieva, N., Tomashevska, O., Chernyshov, O., Nesterov, Y., & Molodchenko, O. (2023). Assessment of relationships between smart technologies, corporate sustainability, and economic behaviour of companies. *Eastern-European Journal of Enterprise Technologies,* 2(13 (122)), 41–51. https://doi.org/10.15587/1729-4061.2023.275731

international environmental standards, such as ISO 14001 or the Green Bond Principles.

Insurance companies also play a crucial role in the development of environmentally responsible enterprises. Beyond traditional property and business risk insurance, they can provide specialised products tailored to green technology companies, mitigating risks for such enterprises, and making them more attractive to investors. For instance, innovative insurance products for green businesses may include coverage for risks associated with natural disasters, such as floods or hurricanes, which could adversely affect ecological projects in specific regions. Additionally, insurance companies may support enterprises working to reduce environmental impact by offering policies for technologies that prevent ecological disasters, such as water purification and waste disposal systems.

Investment funds that specialise in environmentally sustainable projects can significantly contribute to the development of enterprises engaged in green initiatives. These funds focus on investing in companies that meet ESG (Environmental, Social, and Governance) standards and facilitate the attraction of capital for environmentally oriented projects[15].

Green investment funds finance companies operating in areas such as renewable energy, energy conservation, sustainable transport, waste recycling, and other environmentally friendly technologies. These funds not only provide capital for project implementation but also actively attract investors, guiding them towards long-term environmental and financial benefits. Moreover, by promoting sustainable development investments, these funds play a pivotal role in implementing innovative solutions across various economic sectors, fostering the transformation of business processes and enhancing the environmental efficiency of companies.

An overview of opportunities for Ukrainian producers to secure capital for green initiatives through investment funds, venture capital, and international support programmes is crucial for the development of environmentally sustainable enterprises in Ukraine. Such opportunities provide access to the financial resources necessary for adopting innovative and energy-efficient technologies (Table 3). Capital acquisition is a critical

[15] Chala V.S., Hlushchenko A. Key Directions for the Development of European Integration Policy in the Context of a Green Economy. *Achievements of the Economy: Perspectives and Innovations*. 2024. No. 9. https://doi.org/10.5281/zenodo.13347171.

step in transitioning Ukraine's economy towards sustainable development and integrating it into global environmental initiatives[16].

Table 3

Opportunities for Attracting Capital for Green Initiatives

Resource	Advantages
1. Investment Funds and Their Role in Financing Green Initiatives	1. **Funds Focused on Renewable Energy and Energy Efficiency:** In Ukraine, there is a growing interest in projects related to solar, wind, and bioenergy. Investment funds specialising in these sectors can provide financing for projects aimed at transitioning to renewable energy sources. 2. **Sustainable Development and Clean Technology Funds:** These funds often support innovative enterprises that implement energy-saving technologies, water resource management systems, waste recycling, and the development of "green" manufacturing processes. 3. **Global Sustainable Development Funds:** International investment funds such as the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), and private funds can provide capital for projects in sectors that positively impact the environment in Ukraine. These organisations often offer not only financial support but also technical assistance and consultancy services.
2. Venture Capital for Clean Technologies	1. **Local Venture Funds**: Ukraine hosts local venture funds such as U.Ventures and SME Finance, which facilitate the financing of enterprises engaged in "green" innovation. These funds can provide financial support at the early stages of project development and contribute to the capitalisation of start-ups specialising in eco-technologies. 2. **International Venture Funds and Investors:** Investors from the EU, the United States, and other regions show interest in supporting Ukrainian start-ups operating in sustainable technologies. Organisations such as GreenTec Capital and Blue Horizon invest in innovative Ukrainian companies that develop technologies aimed at reducing environmental impact. 3. **Start-up Programmes and Incubators:** Ukraine also features accelerators and incubators that support start-ups in the environmental sector. Programmes such as GreenStart assist entrepreneurs implementing innovative projects in clean technologies, offering not only funding but also mentorship, training, and networking opportunities.
3. International Support Programs and Grants	**1. European Union Programmes:** Initiatives like Horizon Europe, EU4Environment, and other EU-driven projects actively fund environmentally sustainable development in Eastern Partnership countries, including Ukraine. These programmes provide financial support for innovations in renewable energy, environmental management, and sustainable technologies.

[16] Kupalova H.I. Environmental Entrepreneurship as an Integral Component of Sustainable Development in Ukraine. *Bulletin of Taras Shevchenko National University of Kyiv. Military Special Sciences*. 2011. No. 26. pp. 35-39.

	2. Global Financial Institutions: International organisations such as the World Bank, the International Monetary Fund (IMF), and the International Finance Corporation (IFC) frequently grant funding for sustainable initiatives in Ukraine. For instance, their programmes may support greenhouse gas emission reductions, modernisation of energy systems, and energy-efficient projects. **3. UN Funds and International Environmental Organisations:** Entities like the United Nations Development Programme (UNDP) actively grant support for environmentally sustainable projects in Ukraine, particularly in combating climate change and preserving biodiversity. These grant programmes often back initiatives in energy saving, renewable energy, water supply, and resource conservation. **4. Climate-Focused Funds:** Global funds like the Green Climate Fund and the Adaptation Fund offer financial resources to countries tackling climate change. These funds target enterprises implementing adaptive measures and employing environmentally friendly technologies.
4. Potential for Ukrainian Producers in the Field of Green Financing	**1. Awareness and Education:** Many Ukrainian enterprises lack sufficient knowledge of available financial instruments. Educational initiatives and information campaigns on green financing can significantly enhance their ability to attract capital. **2. Transparency and Compliance with International Standards:** Adhering to international standards in environmental sustainability is critical for Ukrainian businesses to appeal to investors and financial institutions.

Expanding clean businesses and achieving greater social impact requires overcoming several barriers. These barriers can be economic, technological, legislative, or social[17]. Let us examine the main barriers faced by enterprises operating in the field of sustainable development:

1. Financial Barriers:

- insufficient access to financing: many environmentally-friendly businesses encounter difficulties in securing capital, especially in the early stages of development. Investors often question the long-term profitability of such projects;

- high initial investment costs: enterprises that utilise cutting-edge environmentally clean technologies often face significantly higher start-up costs for the development and implementation of these technologies, which can hinder their growth without adequate financing;

- limited availability of financial instruments: although new financial instruments, such as green bonds and specialised investment

[17] Palasevych M.B., Murza P.A. Renewable Energy as a Factor in Increasing the Energy Efficiency of the National Economy. *Achievements of the Economy: Perspectives and Innovations.* 2024. No. 8. DOI: https://doi.org/10.5281/zenodo.13166251

funds, have emerged in recent years, their accessibility remains limited for many businesses, particularly in developing countries.

2. **Technological Barriers:**

- low availability of technologies: a challenge for many eco-friendly businesses is the limited access to effective technologies for reducing environmental impact, such as energy-saving technologies or waste disposal methods;

- **high costs of implementing new technologies:** even when technologies are available, their implementation requires significant expenditure, which is not always recouped in the short term;[18]

- insufficient level of innovation: sustainable development for many environmental initiatives requires new, more efficient technologies. However, investments in R&D (research and development) may be limited due to high costs and the unpredictability of outcomes.

3. Legal and Regulatory Barriers:

- imperfect legislation: in Ukraine and other developing countries, the legislative framework for supporting environmentally clean initiatives is often underdeveloped or does not provide adequate support for businesses operating in environmentally sustainable sectors;

- inconsistency of regulations at the international and national levels: businesses often face issues due to the lack of clear standards or requirements for environmental compliance, creating barriers to business development and attracting international investors;

- high bureaucracy and complexity in obtaining permits: the process of obtaining environmental licences, permits, or certifications can be very time-consuming and complicated, which slows down business development and increases costs;

- lack of incentives for businesses: many governments do not provide sufficient tax or financial incentives for businesses that aim to integrate environmentally clean practices into their production processes.

4. **Social Barriers:**

- low awareness among the population and businesses: few people in Ukraine and many other developing countries have a deep understanding of the importance of environmentally clean technologies

[18] Orlovska Y.V., Yakovyshyna T.F., Orlovskyi Y.S. Green Building as a Component of EU Policy on the Development of the Circular Economy. *Eastern Europe: Economy, Business, and Management.* 2016. Issue 5 (05). pp. 365-371. URL: https://easterneurope-ebm.in.ua/journal/5_2016/70.pdf.

and sustainable development. Insufficient awareness in society can lead to limited demand for such technologies;

- insufficiently developed environmental practices within society: many consumers and businesses continue to view traditional methods of production and consumption as more convenient and cheaper, reducing demand for green products and services;

- **resistance to change:** both consumers and businesses show resistance to change due to habitual reliance on old approaches, which complicates the implementation of environmentally clean solutions in the market.

5. **Market Barriers:**

- **uncertainty in demand for environmentally clean products:** the lack of sustained demand for environmentally clean products, due to low consumer awareness of their benefits, may limit the growth of businesses operating in this sector;

- **competition from traditional industries:** businesses operating in traditional, less environmentally friendly industries may offer cheaper products due to lower production costs, creating competition for environmentally clean alternatives.

6. **Management and Organisational Barriers:**

- necessity for a shift in corporate culture: many businesses are not prepared for changes in corporate culture, particularly in implementing sustainability strategies or transitioning to environmentally clean technologies;

- **lack of qualified personnel:** managing environmental projects requires specialists with experience in implementing sustainable technologies, environmental auditing, and project management in this field. Many countries face a shortage of such specialists.

7. **Infrastructure Barriers:**

- **underdeveloped 'green' infrastructure:** infrastructure for renewable energy, waste recycling, electric vehicles, and other environmental solutions may be insufficiently developed, which complicates the operation of such businesses;[19]

- high costs of modernising existing infrastructure: for businesses

---

[19] Lipych L.H., Khilukha O.A., Kushnir M.A. Eco-Innovations in the Context of a Circular Economy. *Scientific Notes of Lviv University of Business and Law. Economic Series. Legal Series*. Issue 32/2022. pp. 16-23. DOI: http://dx.doi.org/10.5281/zenodo.6094672.

operating in clean sectors to function effectively, the existing infrastructure needs to be modernised, which requires significant financial investment.

8. **Barriers to International Cooperation:**

- issues with international funding and attracting investors: businesses in Ukraine may face difficulties in attracting foreign investments due to political instability, uncertainty in legal regulations, or the lack of global recognition of some Ukrainian 'green' initiatives.

9. **Political Barriers:**

- lack of political support: environmentally clean businesses may face an unstable political situation, a lack of government support for the development of ecological technologies, and the ineffective implementation of national environmental policies.

Therefore, in order for environmentally friendly businesses to grow and create a larger social impact, these obstacles need to be addressed. This will require comprehensive efforts from governments, businesses, investors, and civil society to create a favourable environment for sustainable development.

Green entrepreneurship, which combines profitable activity with environmental responsibility, is one of the key elements in the transition to a low-carbon economy. In this context, the role of such businesses is becoming increasingly important, as they can stimulate innovation, reducing negative environmental impacts, and promoting sustainable socio-economic development. Forecasting the development of green entrepreneurship, particularly its impact on the transition to a low-carbon economy and the further growth of social businesses, requires careful analysis of current trends, challenges, and opportunities.

Considering global efforts aimed at achieving climate goals, such as reducing greenhouse gas emissions by 45% by 2030 and achieving net-zero emissions by 2050, green entrepreneurship is becoming a primary driver of these changes. There is already significant interest in renewable energy sources, such as solar and wind energy, hydrogen energy, as well as energy-efficient technologies in industry and construction. According to forecasts by the International Renewable Energy Agency (IRENA), the share of renewable energy in the global energy mix could rise from 28% in 2020 to 50% by 2030, which would be a significant step towards achieving a low-carbon economy.

Green entrepreneurship is already playing an important role in the development of new business models aimed at sustainable development. An important aspect is that these businesses often combine environmental interests with social ones. A sustainable development strategy requires consideration of environmental, social, and economic factors, which provides businesses with additional advantages in conditions of market instability. According to estimates by the World Economic Forum, by 2030, global investments in green infrastructure could reach USD 2.5 trillion, creating up to 85 million new jobs, particularly in the areas of renewable energy, energy-efficient technologies, and waste recycling.

The trend towards social entrepreneurship is also reflected in green business. Social businesses, particularly those focused on addressing environmental and social issues, have great potential for growth in the future. It is predicted that by 2030, over 50% of young people in developed countries will seek employment in companies focused on sustainable and responsible business practices, reflecting the growing demand for social entrepreneurship. Investors are increasingly paying attention to ESG (Environmental, Social, and Governance) criteria, which require companies not only to achieve financial profitability but also to actively engage in social and environmental initiatives[20].

According to the latest data, by 2023, the global social investment market exceeded $30 trillion, indicating that financial flows are increasingly orientated towards supporting responsible businesses. Social investment funds, which finance environmentally clean and socially responsible projects, have experienced significant growth due to the increased focus on sustainable development by major investors such as BlackRock and Vanguard, who are already actively seeking opportunities for investments in sustainable businesses. It is forecasted that by 2025, the market for green and social bonds will grow to $1 trillion, which is a powerful indicator of achievements in this direction.

One of the key factors driving the development of green entrepreneurship is the continuous improvement of technologies that reduce greenhouse gas emissions. It is expected that in the next 5-10 years, new technologies in renewable energy, electric vehicles, energy-efficient

[20] Lipych L.H., Khilukha O.A., Kushnir M.A., Koshovyi B.-P.O. Complementarity of the Sustainable Development Economy Concept and the "Green Economy." *Academic Visions*. Issue 19/2023. http://dx.doi.org/10.5281/zenodo. 79520481.

buildings, and waste recycling will significantly lower production costs and make these technologies more accessible to small and medium-sized enterprises. For instance, the cost of solar panels and batteries is expected to decrease by 30-40% by 2030, making these technologies more affordable for entrepreneurs.

Moreover, the increasing support from government and international institutions will help stimulate the transition to a more sustainable economy. Governments are increasingly using financial instruments to support environmentally clean businesses, such as subsidies, tax incentives, green bonds, and funding through international organisations like the European Union and the World Bank. Green project funding programmes help mitigate risks for investors and attract additional financial resources for the development of sustainable businesses. By 2030, it is expected that the number of countries introducing green financing instruments will increase by 50%, which will facilitate the development of green entrepreneurship worldwide.

It is anticipated that, as a result of the integration of new financing tools and the development of green technologies, the market for environmentally clean products and services could grow by 20-25% annually by 2030. This will create significant potential for the growth of small and medium-sized enterprises, which will actively implement innovations in ecology and social responsibility. In this context, we can expect an increase in the number of social businesses that focus on solving issues related to climate change, water resource management, energy efficiency, and biodiversity conservation.

Consequently, the potential for the advancement of green entrepreneurship is highly encouraging. It is forecasted that in the future, these businesses will not only contribute to reducing greenhouse gas emissions and maintaining ecological stability, but will also become important drivers of social change, creating new jobs, stimulating innovation, and improving people's quality of life. In conclusion, the shift towards a low-carbon economy, alongside the expansion of social enterprises, is likely to result in sustainable economic growth, enhanced environmental quality, and beneficial social transformations on a global scale.