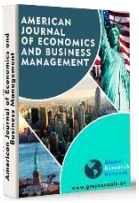

American Journal of Economics and Business Management

Vol. 8 Issue 12 | **pp.** 6521-6526 | **ISSN:** 2576-5973

Available online @ https://www.globalresearchnetwork.us/index.php/ajebm

Article

Prospects for Improving Green Products of Commercial Banks in the Context of Sustainable Development

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Abstract: This article examines prospects for improving commercial banks' green products in a sustainable development environment. It substantiates the role of commercial banks as key financial intermediaries in the redistribution of resources in favor of environmentally oriented and socially significant projects. Based on an analysis of scientific sources and summarized international data, the article identifies the main types of green banking products, their economic and environmental effects, and quantitative trends in their development from 2019 to 2024. It is established that the expansion of green lending, the issuance of green bonds, and the implementation of digital ESG instruments contribute to increasing banks' financial stability and reducing long-term risks. The article identifies key limitations to the development of green products, including insufficient standardization of green financing criteria and limited long-term resources. Practical recommendations are formulated for integrating green products into commercial bank strategies and improving the institutional environment for sustainable financing.

Keywords: Green Finance, Green Banking Products, Sustainable Development, Commercial Banks, ESG, Green Lending, Sustainable Finance

Citation: Makhmudov U. D. Prospects for Improving Green Products of Commercial Banks in the Context of Sustainable Development. American Journal of Economics and Business Management 2025, 8(12), 6521-6526.

Received: 20th Nov 2025
Revised: 30th Nov 2025
Accepted: 21st Dec 2025
Published: 31th Dec 2025

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1. Introduction

In the context of the global transition to sustainable development, commercial banks are transforming from traditional financial intermediaries into key drivers of environmentally oriented economic growth. Increasing climate risks, stricter international environmental standards, and growing social demand for responsible finance are shaping a new banking paradigm, in which green financial products are becoming not an additional, but a strategically significant element of a bank's business model.

The vision for the development of green products by commercial banks is based on the integration of sustainable development (ESG) principles into lending, investment, and operational activities. Banks are viewed as institutions capable of channeling financial resources into environmentally significant economic sectors—renewable energy, energy efficiency, sustainable agriculture, green construction, and low-carbon technologies. Moreover, green products should not only help reduce negative environmental impacts but also ensure the long-term financial stability of the banks themselves. The strategic vision envisions a transition from the fragmented implementation of individual green instruments (green loans, green bonds, and green deposits) to the development of a comprehensive green banking ecosystem, incorporating digital technologies, climate risk

assessment systems, borrower environmental scoring, and transparent reporting. In this context, the digitalization of banking processes and the development of FinTech solutions are viewed as key factors in scaling up green products and increasing their accessibility for businesses and the public.

This vision places particular emphasis on the role of commercial banks in developing economies, where the need for investment for sustainable development is particularly high. For these countries, green banking products are becoming a tool for simultaneously achieving economic growth, modernizing their production base, and fulfilling international climate commitments. Consequently, the improvement of commercial banks' green products should be viewed not only as a financial innovation but also as an element of a national sustainable development strategy.

Literature review

The development of green finance and the improvement of green banking products in a sustainable development environment are actively explored in the works of international and foreign researchers. In the scientific literature, commercial banks are considered key institutions that ensure the redistribution of capital in favor of environmentally sustainable and socially significant projects.

For example, Scholtens notes that integrating sustainable development principles into banking activities contributes to the development of long-term financial stability and the reduction of banks' non-financial risks [1]. The author emphasizes that green banking products should be integrated into a bank's strategy and not considered as stand-alone initiatives.

Research by Campiglio et al focuses on the role of financial institutions in financing a low-carbon economy [2]. The authors demonstrate that commercial banks, through green lending mechanisms and the issuance of green bonds, can accelerate the transition to sustainable production and consumption patterns, provided they have adequate regulatory support. Basso and Funari analyze the impact of green financial instruments on banks' risk profiles [3]. Based on their empirical analysis, the authors conclude that banks with a higher share of green assets demonstrate greater resilience to financial and reputational risks.

Research by international organizations occupies a prominent place in the literature. A World Bank report emphasizes that green banking products contribute to the mobilization of private capital to achieve sustainable development goals and implement climate projects [4]. UNEP takes a similar position, emphasizing the need to develop green banking as part of the global financial architecture [5].

In the context of digitalization of banking, Ozili considers FinTech as a factor expanding access to green finance and improving the effectiveness of borrower environmental scoring [6]. The author emphasizes that digital platforms reduce transaction costs and enable the scalability of green products, especially in developing countries. The regulatory aspects of green banking development are analyzed in detail in the work of the Network for Greening the Financial System (NGFS) [7]. They substantiate the need to implement climate stress testing and ESG reporting for commercial banks to improve the resilience of the financial system as a whole.

Research on developing economies highlights the special role of commercial banks in financing sustainable development. For example, Dikau and Volz emphasize that in emerging market countries, green banking products are a tool for structural economic transformation and reducing dependence on carbon-intensive industries [8].

Thus, an analysis of scientific literature reveals that existing research primarily focuses on the theoretical and regulatory aspects of green banking. At the same time, the issue of improving commercial banks' green products, taking into account national

circumstances and sustainable development goals, remains understudied, which determines the scientific novelty and practical significance of this study.

2. Methodology

The study utilized general scientific and specialized analytical methods. The methodological framework utilized logical-structural and systems approaches, allowing for the examination of commercial banks' green products as an element of sustainable financial development. Methods of analysis and synthesis were employed to summarize theoretical propositions and practical approaches to green banking, as well as comparative analysis to identify trends and characteristics in the development of green banking products.

The empirical portion of the study is based on an analysis of aggregated statistical data and analytical reports from international financial organizations reflecting the dynamics of green financing from 2019 to 2024. The study utilized grouping and tabular analysis methods to assess the structure and scope of commercial banks' green products. The results obtained allowed for the identification of key areas for improving green banking products in a sustainable development environment.

3. Results and Discussion

In the context of sustainable development, commercial banks are gradually expanding their range of green products focused on financing environmentally and socially significant projects. An analysis of international and industry practices shows that green banking products are being developed in response to the combined impact of climate risks, regulatory requirements, and market demand from businesses and the public.

Currently, commercial banks' green products encompass lending, investment, deposit, and service areas. Their key feature is the targeted allocation of financial resources to projects that reduce greenhouse gas emissions, improve energy efficiency, and promote the sustainable use of natural resources. The economic benefit for banks is reflected not only in the environmental component but also in improved asset quality, portfolio diversification, and the reduction of long-term risks.

Analysis shows that green credit products are developing most rapidly, as they are directly linked to the core function of commercial banks – lending to the real sector of the economy. At the same time, in recent years there has been a growing interest in green bonds and sustainable deposit products, indicating the emergence of a comprehensive approach to green banking.

Table 1. Main green products of commercial banks and their economic effects.

No	Green banking product	Main characteristics	Ecological effect	Economic effect for the bank
1	Green loans	Targeted lending for renewable energy, energy efficiency, and green building projects	Reducing CO_2 emissions, increasing energy efficiency	Growth of long-term assets, reduction of credit risks
2	Green bonds	Raising funds for environmental projects through the capital market	Financing sustainable infrastructure	Diversification of funding sources, reputational effect
3	Ecological deposits	Deposits with funds directed to green projects	Indirect reduction of negative impact on the environment	Expanding the deposit base and increasing customer loyalty

4	Green mortgage products	Energy-efficient housing loans	Reducing energy consumption in the residential sector	Reduced default risks, stable income
5	ESG investment products	Investing in companies with high ESG indicators	Supporting sustainable business models	Increasing the bank's investment attractiveness
6	Digital green services	Online monitoring, environmental scoring, FinTech solutions	Increasing transparency of environmental impacts	Reduced operating costs, product scalability

Source: compiled by the author based on [1]–[8].

The analysis results show that the greatest economic impact for commercial banks is achieved by combining green products with digital technologies and ESG assessments of borrowers. This not only increases the transparency of financed projects but also reduces information asymmetry and operational risks.

At the same time, limitations to the development of green products were also identified. These include insufficient standardization of project "greenness" criteria, limited long-term resources, and a lack of specialized competencies in commercial banks. These factors hinder the scalability of green products, especially in developing economies.

Thus, the study results confirm that commercial banks' green products have significant potential to enhance their financial stability and achieve sustainable development goals. Their further improvement requires a comprehensive approach, including regulatory support, digital infrastructure development, and the adaptation of international standards to national conditions.

To assess the actual scale of green product implementation in commercial banks, it is important to analyze their quantitative parameters over time. Analyzing the volume of green financing, the share of green instruments in banking portfolios, and their growth rates allows us to identify the degree of institutionalization of green banking and determine its role in achieving sustainable development goals.

Table 2. Dynamics of key indicators of green products of commercial banks in 2019–2024.

Indicator	2019	2021	2023	2024
Volume of green loans, USD billion	620	910	1 320	1 480
Share of green loans in the total loan portfolio, %	4,2	6,8	9,5	10,8
Volume of green bonds issued, USD billion	260	430	580	650
Number of banks offering green products, units	180	290	410	460
Average annual growth rate of green products, %	–	18,5	22,3	19,6
Share of green products in total banking assets, %	2,1	3,6	5,2	6,0

Source: compiled by the author based on analytical reports from the World Bank, UNEP and NGFS [4], [5], [7].

Table 2 demonstrates the steady and progressive growth of green products in commercial banks. Between 2019 and 2024, the volume of green loans more than doubled, reflecting the growing role of banks in financing environmentally oriented and energy-efficient projects. Exceeding the 10% threshold for the share of green loans in the total loan portfolio in 2024 indicates a qualitative change in the structure of bank lending.

The growth in green bond issuance confirms the expansion of the instrumental base for green financing and the increasing role of capital markets in providing long-term resources. At the same time, the increasing number of banks offering green products

indicates the transition of green banking from isolated initiatives to a systemic practice supported by both market and regulatory factors.

The share of green products in total banking assets, which reached 6.0% in 2024, demonstrates a gradual redistribution of financial resources in favor of sustainable projects. However, its relatively low level indicates significant potential for further expansion of green finance, particularly in developing economies.

Thus, quantitative analysis confirms that commercial banks' green products have become a sustainable and strategically important area of banking activity in 2024. Their further development requires improved regulatory mechanisms, an expanded long-term resource base, and the integration of digital solutions into the assessment and monitoring of green projects.

4. Conclusion

The study demonstrated that, in a sustainable development environment, green products for commercial banks are becoming a key tool for transforming banking operations and implementing environmentally oriented economic policies. An analysis of theoretical approaches and practical data confirmed that green financing not only contributes to achieving environmental goals but also enhances the financial stability of commercial banks through asset diversification, reduced long-term risks, and strengthened reputational capital.

The analysis reveals a steady increase in the volume of green loans, green bonds, and other sustainable financial instruments, as well as an increasing share of their share in bank portfolios. This points to the gradual institutionalization of green banking and its transition from isolated initiatives to a systemic element of banking strategies. However, limitations hindering the further development of green products were identified, including insufficient standardization of green criteria, limited access to long-term financial resources, and a lack of specialized competencies in commercial banks.

Based on the results obtained, the following practical recommendations can be formulated. First, it would be advisable for commercial banks to integrate green products into long-term development strategies, clearly defining targets for the volume and share of sustainable financing. This would allow green banking to be viewed not as an auxiliary activity, but as a full-fledged source of sustainable income.

Second, it is necessary to improve methods for assessing and monitoring green projects, including the implementation of ESG scoring and climate risk management. The use of digital technologies and analytical platforms will increase the transparency of green operations and reduce information asymmetries between banks and borrowers.

Third, it is recommended to expand the range of green products by developing green mortgages, eco-deposits, and sustainable investment instruments aimed at small and medium-sized businesses and households. This will contribute to increased financial inclusion and increased demand for green financing.

Fourth, it would be advisable for government agencies and financial regulators to strengthen institutional support for green banking by developing uniform standards for green financing, tax and prudential incentives, and mechanisms for partially mitigating risks for green projects.

Fifth, adapting international green banking practices to suit national financial market characteristics and socioeconomic development priorities is particularly important for developing economies. In this context, commercial banks can become key partners for the government in implementing sustainable development and green economic growth strategies.

Overall, the study's results confirm that improving commercial banks' green products is an important prerequisite for ensuring sustainable economic development and

enhancing the resilience of the banking system. Implementing the proposed recommendations will accelerate the scaling of green financing and strengthen the role of commercial banks in shaping an environmentally responsible and sustainable economic model.

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