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Original Article

Green Credit: Development Research in Vietnamese Commercial Banks

[1]Vu Thien Bach
[1]VNU University of Economics and Business, Hanoi, Vietnam.

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Abstract: *Banks serve as financial intermediaries responsible for providing capital for investment and business activities of enterprises. The banking industry is facing challenges: it must supply adequate and timely capital for the economy while ensuring the sustainable development of the country, aiming for a global green economy. In recent years, Vietnamese Commercial Banks (VCBs) have implemented green credit activities, implementing many policies and measures to promote green credit throughout the banking industry. To sustainably develop the economy, many countries around the world have been implementing strategies to promote a green economy and green growth, where green credit activities play a crucial role in the successful implementation of this strategy. In Vietnam, green credit is undergoing positive shifts and development through projects such as renewable energy, wind power, green agriculture, and agriculture applying high technology towards sustainable development goals. For the banking industry, green credit is seen as a unique financial tool with significance in controlling the environment of businesses and preventing uncontrolled development of polluting businesses harmful to the environment (Xu & Li, 2020; Zhang S. et al., 2022). This article clarifies the implementation of green credit activities of some banks in Vietnam and provides recommendations for Vietnam to develop green credit activities in the future.*

Keywords: *Green Credit, Commercial Banks, Vietnam.*

I. INTRODUCTION

Green credit has been the subject of many studies in the field of sustainable finance green finance in recent times. However, the concept of "green credit" has not yet been officially and uniformly defined, with various approaches in different studies and reports on green finance by researchers and international financial organizations. This also raises the necessity of having a definition or consensus in the general understanding of the concept of "green credit". In the Securities Law 2020, enacted by the National Assembly on November 17, 2020, for the first time, the concept of "green credit" was stipulated. Accordingly, Article 1, Article 149 of the Securities Law clearly states that green credit is credit granted to the following investment projects: Efficient use of natural resources; climate change adaptation; waste management; pollution control, environmental improvement; restoration of natural ecosystems; conservation of nature and biodiversity; creating other environmental benefits.

II. OVERVIEW OF GREEN CREDIT

Green credit is understood as credit granted by banks to initiatives that don't involve hazards or seek to safeguard the environment or, put another way, credit granted in the form of capital sponsorship, loans, or other credit forms, which take into account environmental impact and enhance environmental sustainability (Pham Xuan Hoe, 2015).

General objectives of green credit: Green credit is an important policy tool to implement widespread green finance and green banking models towards building and perfecting a green economy through the application of environmental standards when providing loans for environmental projects, minimizing pollution emissions, aiming for a low-carbon economy, sustainable economic development.

Role of green credit: Green credit is the inevitable direction of the global financial industry and the Vietnamese banking industry in particular. Green credit brings significant benefits in environmental protection and economic development tasks, improving people's lives.

Green credit not only benefits enterprises carrying out initiatives for economic growth but also supports the financial system's long-term viability by reducing bad debts, enhancing financial stability, protecting reputation in the market, promoting sustainable development, and realizing Vietnam's green growth strategy.

III. CURRENT SITUATION OF GREEN CREDIT IMPLEMENTATION IN SOME VIETNAMESE COMMERCIAL BANKS

A) Green Credit Situation in Vietnam Legal Framework

In Vietnam, policies for the development of green credit have been implemented, with the National Assembly, the Prime Minister, and relevant departments issuing numerous specific policies, including:

Directive No. 03/CT-NHNN dated March 24, 2015, by the Governor of the State Bank of Vietnam (SBV) on promoting green credit growth and managing environmental and social risks in lending activities. It stipulates that banking activities should aim to protect the environment, improve resource and energy efficiency, enhance environmental quality, and safeguard human health, ensuring sustainable development. To achieve this goal, commercial banks need to review, adjust, and improve credit mechanisms to align with green growth objectives, focusing resources on providing credit to environmentally and socially friendly projects supporting enterprises in achieving green growth towards sustainable economic development. This directive also sets specific tasks for SBV units, SBV provincial branches, central cities, and credit institutions.

Decision No. 1604/QD-NHNN dated August 7, 2018, accepting the Green Banking Development Project in Vietnam and outlining its objectives: expanding the banking system's social accountability and understanding of its role in climate change mitigation and environmental protection; gradually greening financial services operations; controlling credit capital flows into environmentally conscious projects; encouraging green consumption, manufacturing, and services; encouraging clean energy and renewable energy; and actively supporting environmentally friendly expansion and sustainable growth. This decision sets strategic objectives for green credit development by 2025, specifically aiming for 100% of banks to establish internal regulations on managing environmental and social risks in lending activities, 100% of banks to assess environmental and social risks in lending activities, apply environmental standards to projects funded by banks, and incorporate environmental risk assessment into credit risk assessment; at least 10-12 banks to have specialized units/ departments for environmental and social risk management; 60% of banks to access green capital and implement green credit projects.

Decision No. 986/QD-TTg dated August 8, 2018, approving the Development Strategy of the Vietnamese Banking Industry until 2025, with a vision to 2030, sets the goal of promoting and developing green credit and green banking. It lays out the goals and content with the intention of enhancing the effectiveness of credit distribution to support socio-economic development, encouraging green banking and credit to help shift the economy toward low-carbon emissions, green growth, and climate adaptation, and raising the share of banking credit capital allocated to clean energy, low-carbon manufacturing and consumption, renewable energy, and low-carbon emissions. It integrates sustainable development, climate change, and green growth into credit financing programs and projects. To achieve this goal, it is necessary to implement green banking activities by increasing awareness and social responsibility towards the environment and society in the banking sector, and enhancing the capacity of credit institutions to develop mobilization products and credit provisions for green projects.

Decision No. 403/QD-TTg dated March 20, 2014, of the Prime Minister assigned the State Bank of Vietnam (SBV) to lead the implementation of Action No. 37, "Improving the Mechanisms and Enhancing the Capacity of Financial - Credit Activities of Commercial Banks to Serve Green Growth from 2013 - 2020". The focal points include (i) reviewing, adjusting, and improving financial and credit mechanisms to align with green growth objectives; (ii) organizing training and capacity building for commercial banks and financial institutions in green financial - credit activities; (iii) developing and expanding financial - banking services to support enterprises in implementing green growth. Additionally, the SBV of Vietnam has issued related documents on green credit activities of the banking system such as: Decision No. 1552/QD-NHNN dated August 6, 2015, by the Governor of SBV issuing the Action Plan of the banking industry to implement the National Strategy on Green Growth until 2020; Decision No. 34/QD-NHNN dated January 7, 2019, by the Governor of SBV on issuing the Action Program of the banking industry to implement the Development Strategy of the Vietnamese Banking Industry until 2025, with a vision to 2030; Circular No. 27/2015/TT-NHNN dated December 15, 2015, guiding lending for afforestation, livestock development in accordance with Decree No. 75/2015/ND-CP dated September 9, 2015, of the government on mechanisms, policies for forest protection and development, linked to sustainable poverty reduction policies and support for ethnic minorities from 2015 - 2020; Decision No. 1050/QD-NHNN dated May 28, 2014, on the pilot lending program to serve agricultural development according to Resolution No. 14/NQ-CP dated March 5, 2014, of the Government; Decision No. 1731/QD-NHNN dated August 31, 2018, by the Governor of SBV issuing the Action Plan of the banking industry to implement the 2030 Agenda for Sustainable Development; Issuing a handbook guiding the assessment of environmental - social risks in lending activities for the 15 economic sectors with the highest environmental and social risks.

B) Current Status of Green Credit Development

With the plans and projects introduced by the State Bank of Vietnam (SBV), commercial banks have implemented specific solutions to promote green credit growth, such as organizing training programs to enhance capacity, guiding credit institutions in establishing and implementing green credit activities, and managing environmental and social risks. As a result, the target recipients of green credit packages have become increasingly diverse. Many banks have launched preferential credit programs for corporate and individual customers to finance projects with "green" elements. Some credit institutions providing loans in the renewable energy sector include BIDV, Sacombank, TPBank, Vietcombank, HDBank, Nam A Bank, and MBBank. For the green agriculture sector, leading banks in lending include Agribank, Vietcombank, Sacombank, ACB, VietinBank, HDBank, and Bac A Bank.

The green credit market has experienced robust growth and become a primary channel for funding green investment projects in recent years, increasing from 71,020 billion VND at the end of 2015 (0.73% of the total outstanding loans in the economy) to over 440,000 billion VND at the end of 2021 (nearly 4.3% of the total outstanding loans in the economy) by the end of 2021. As of March 31, 2022, the outstanding loans for green projects reached 451,548.82 billion VND (4.19% of the total outstanding loans in the economy), mainly concentrated in the fields of green agriculture, renewable energy, and clean energy.

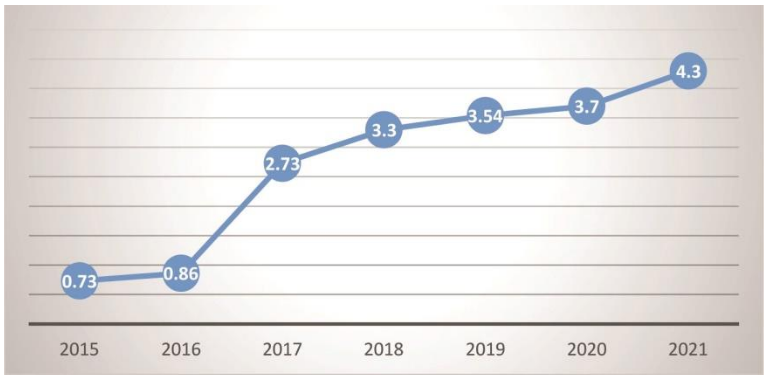

Figure 1: Proportion of Green Credit in Total Credit (%)

In the structure of green credit debt, the sector with the highest debt proportion is "green agriculture," accounting for 40%, followed by renewable energy/clean energy sector with 30%, sustainable water management in urban areas accounting for 13%, sustainable forestry accounting for 11%, and other minor sectors accounting for 6% (Figure 2). In terms of maturity, medium and long-term debt structures account for 76% of green credit debt. The interest rates for short-term green sectors range from 5-8% per annum, while medium and long-term rates range from 9-12% per annum.

On the other hand, green credit products in the market are becoming increasingly diverse and abundant and are provided by many banks (Table 1), with Agribank being the bank with the highest green credit debt in the system. This bank has participated in many projects related to environmental protection funded by the World Bank and financial organizations, such as improving agricultural product quality and safety and developing biogas programs; coastal resource projects for sustainable development; natural disaster risk management; support for low-carbon agriculture; providing clean water and sanitation in the Red River Delta rural areas; and wind power projects.

In addition to promoting green credit, Vietnamese credit institutions (CIs) also focus on establishing social and environmental risk management systems. By the end of 2021, nearly one-third of CIs had developed internal regulations on social and environmental risk management in credit activities. Although the remaining banks have not yet established internal regulations on this issue, they have incorporated this content into internal documents/procedures on credit activities. While in 2017, only 5 CIs had built internal policies on social and environmental risk management, by 2021, 22 CIs had developed environmental risk management strategies, and 17 CIs had social and environmental risk assessment handbooks for 10 economic sectors such as Techcombank, VietinBank.

C) General Assessment of Green Credit Implementation:

Aligned with trends, the Government, Prime Minister, and SBV have timely issued action plans along with directives to guide the implementation of green credit such as priority activity lists, regulations in the payment sector, and guidelines for environmental and social risk assessment. This is considered the initial legal framework to steer the banking system's credit activities towards green and sustainable directions.

Thanks to the guidance and directives from SBV and efforts from Credit Institutions (CIs), green credit is undergoing positive transformations, receiving increasing attention and investment limits. Green credit has attracted the interest of many commercial banks, and they have started offering preferential credit programs for corporate and individual customers to finance projects with "green" elements. Notable CIs heavily involved in green credit include BIDV, VietinBank, Vietcombank, HDBank, Techcombank, Sacombank,… Although the proportion of green credit debt in the total debt for the economy is still relatively modest, the trend is rapidly increasing, demonstrating noticeable effectiveness.

a. Alongside the achieved successes, there still exist some points requiring solutions to promote green credit:

The legal framework is still not specifically complete: there are no regulations regarding the concept standards for green sectors/fields that banks lend to. Current regulations are merely directional and not mandatory for banks, leading to inconsistent enforcement among them.

Lack of incentive mechanisms for banks to develop green credit. Many support policies aimed at promoting CIs in developing credit have been implemented but are still unable to fully meet the capital needs of CIs. Investment in green sectors/fields, especially renewable energy, demands significant investment costs, long payback periods, and high market risks. Meanwhile, mobilizing green credit capital remains limited, and accessing preferential capital sources for green credit from international financial institutions faces various challenges.

The number of banks interested in and issuing internal procedures on green banking, green credit, and appraisal procedures for green projects is still limited. Bank staff have not received deep and systematic training to conduct assessment, evaluation, and environmental risk management in credit activities. At the same time, green investment projects always entail risks and are difficult to evaluate in terms of financial and social aspects. Banks have started deploying green credit products, but the number of products is still limited and not diverse enough.

Some major banks in the system, such as Techcombank, VietinBank, and Sacombank, have formal policies and procedures for managing customer environmental and social risks. The application and implementation of these policies and procedures for managing environmental and social risks have not been officially and widely applied in other joint-stock commercial banks.

The awareness of individuals and businesses about green activities is still unclear. In the initial stage of implementing green credit programs, many businesses lack information about bank green credit products and encounter difficulties in meeting green credit requirements, long green credit application times, complex loan procedures, and lack of collateral because most businesses accessing green credit are small and medium-sized. The number of businesses accessing green credit capital is still limited. Many large businesses are still unclear about green capital sources.

D) Legal Basis for Green Credit Operations

In addition to the Environmental Protection Law (2014) and the Law on Natural Resources Tax (2009) passed by the National Assembly, Decision No. 1393/QD-TTg (2012) of the Prime Minister on “Approval of the National Strategy on Green Growth for the period 2011-2020 and vision towards 2050” has contributed to shaping the highest legal framework regarding green credit activities in our country.

Moreover, the State Bank of Vietnam (SBV) has issued Directive No. 03/2015/CT-NHNN (2015) “On promoting green credit growth and managing environmental and social risks in credit activities,” which sets the objective of implementing the National Action Plan on Green Growth. Since 2015, the credit activities of the banking sector should focus on environmental protection, enhancing the efficiency of resource and energy use, improving environmental quality, protecting human health, and ensuring sustainable development.

To supplement the policies to promote green credit, the SBV issued Decision No. 813/QD-NHNN (2017) on “Criteria for identifying programs, projects applying high technology agriculture, clean agriculture, and high technology applications in agriculture” based on Resolution No. 30/NQ-CP dated March 7, 2017, of the Government.

III. POLICIES REGULATING GREEN CREDIT ACTIVITIES IN COMMERCIAL BANKS TODAY

Recognizing the importance of promoting green credit towards sustainable development, the government has issued numerous documents and policies. Within the National Action Plan on Climate Change for the period 2014-2020, issued together with Decision No. 403/QD-TTg dated March 20, 2014, by the Prime Minister, the State Bank of Vietnam (SBV) was assigned to lead the implementation of the action “Improving the institutional framework and enhancing the capacity of financial and credit activities of commercial banks serving climate change for the period 2013-2020”, with three main tasks: (i) Review, adjust, and improve the financial and credit framework to align with climate change objectives; (ii) Organize training and capacity building to strengthen the capacity of commercial banks and financial institutions in green financial and credit activities; (iii) Develop and promote financial and banking services to support businesses in implementing climate change. Similarly, Decision No. 986/QD-TTg, dated August 8, 2018, by the Prime Minister approved the Development Strategy of the Vietnamese Banking Industry until 2025, with a vision to 2030, which specifically stipulated: “Enhancing the effectiveness of credit capital allocation to serve economic and social development requirements; promoting the development of “green credit”, "green banking" to contribute to the transition of the economy towards sustainable development, reducing greenhouse gas emissions, adapting to climate change; raising the percentage of bank lending capital allocated to clean energy, low-carbon production, and renewable energy. Integrating sustainable development, climate change, and green growth into credit lending programs and projects."

Based on the firm direction and guidance from the government, the SBV, along with the legal framework and policies on green credit and green banking, has been gradually perfected. Specifically, the SBV issued Decision No. 1604/QD-NHNN dated August 7, 2018, approving the Project on the Development of Green Banking in Vietnam, which stipulates the content "Enhancing the awareness and social responsibility of the banking system towards climate change, greening banking operations step by step, directing credit capital flows into environmentally friendly projects, promoting green production, services, and consumption, clean energy and renewable energy; actively promoting climate change adaptation and sustainable development." This decision also sets out strategic objectives for green credit development until 2025, including 100% of banks having internal regulations on managing environmental and social risks in credit activities, 100% of banks conducting environmental and social risk assessments in credit activities, applying environmental standards to projects funded by banks and incorporating environmental risk assessments as part of credit risk assessments; at least 10 - 12 banks having units/departments specializing in environmental and social risk management; 60% of banks accessing green capital and implementing green credit projects. Based on this, on January 7, 2019, the Governor of the State Bank of Vietnam signed Decision No. 34/QD-NHNN issuing the Action Program of the banking industry to implement the Development Strategy of the Vietnamese Banking Industry until 2025, with a vision to 2030, which emphasizes the task of "implementing green banking activities by increasing awareness and social responsibility towards environmental and social issues of the banking industry in business operations; enhancing the capacity of credit institutions to develop mobilization products and lending for renewable energy, clean energy, low-carbon production and consumption to contribute to climate change mitigation, resource efficiency, and energy use." This is one of the 11 key tasks regularly implemented by the Vietnamese banking industry and coordinated by credit institutions, the Credit Department of economic sectors, the Information Technology Department, banking inspection and supervision agencies, the Communication Department, the Banking Strategy Institute, and related units.

Additionally, the SBV Vietnam has issued related documents on green credit activities of the banking system, such as Decision No. 1552/QD-NHNN dated August 6, 2015, by the Governor of the SBV approving the action plan of the banking industry to implement the National Strategy on Climate Change until 2020; Directive No. 03/CT-NHNN dated March 24, 2015, on promoting green credit, managing environmental and social risks in credit activities; Circular No. 27/2015/TT-NHNN dated December 15, 2015 guiding lending for forest planting, livestock development as regulated in Decree No. 75/2015/ND-CP dated September 9, 2015 of the Government on mechanisms, policies for forest protection, development, linked with the rapid, sustainable poverty reduction policy and support for ethnic minorities during the period 2015 - 2020... It can be said that the government, the Prime Minister, and the SBV have timely issued plans, policies, legal documents, and guidance documents for implementing green credit. These are initial legal frameworks guiding green credit activities for the banking system towards green and sustainable development.

Under the strong guidance of the SBV and appropriate implementation solutions, with the active involvement and high sense of responsibility of credit institutions, green credit policies have quickly become effective. According to statistics from the SBV Vietnam, as of December 31, 2021, there were about 25 commercial banks implementing green credit packages, such as Sacombank, BIDV, Vietinbank, Vietcombank, Agribank, SHB, ACB, Viet A Bank..., with total green credit outstanding reaching 447,624.13 trillion VND, an increase of 28.09% compared to 2020. The proportion of green credit outstanding in total credit outstanding for the economy reached 4.28%, an increase of 0.5 percentage points compared to 2020 (3.78%). On average, for the period 2018 - 2021, total green credit outstanding achieved a growth rate of 22.98% per year. Especially in 2021, the growth rate of green credit outstanding was higher than in 2019 and 2020, despite the severe impact of the Covid-19 pandemic. In terms of structure, green credit outstanding mainly focuses on two sectors: renewable energy, clean energy, and green agriculture. Specifically, the proportion of green credit outstanding in green agriculture in total green credit outstanding in 2021 was 32%, a decrease of 8 percentage points compared to 2020 (40%); conversely, the proportion of outstanding credit in renewable energy, clean energy increased from over 30% (2020) to 46% (2021). It can be seen that green credit for renewable energy and clean energy has made a breakthrough, with total outstanding credit increasing by over 100% (from nearly 100 trillion to over 200 trillion) in 2021.

IV. IMPLEMENTATION OF GREEN CREDIT ACTIVITIES BY SOME BANKS IN VIETNAM

A) Agribank - Vietnam Bank for Agriculture and Rural Development

According to the State Bank of Vietnam's data, from 2015 to 2022, the green credit balance of the banking system has increased from over 71 trillion dong to nearly 500 trillion dong. Particularly noteworthy is that nearly 50% of the green credit capital is allocated to green agriculture projects. Agribank, the Vietnam Bank for Agriculture and Rural Development, has been at the forefront of implementing the State Bank of Vietnam's directives on promoting green credit growth, managing environmental and social risks in lending activities, and building safe and sustainable agriculture (accounting for 51% of the agricultural credit market share in Vietnam). Since November 2016, Agribank has implemented a preferential credit program with a minimum scale of 50 trillion dong to serve "Clean Agriculture" production, providing loans to enterprises, cooperatives, farmers' associations, and farm owners involved in safe agricultural product production chains. The interest rates for these loans are reduced by 0.5% to 1.5% compared to the preferential lending rates for 662 agricultural and rural sectors as regulated by the State Bank of Vietnam and Agribank. By the end of 2022, Agribank's loan disbursement since the launch of the program had exceeded 30 trillion dong, with outstanding loans reaching over 5 trillion dong and benefiting nearly 4,000 customers. Some large-scale projects funded by Agribank have yielded tangible results, such as vegetable and fruit processing plants, export-oriented agricultural production in An Giang and Vinh Long provinces (with loan disbursements of over 4.1 trillion dong), shrimp farming, cattle farming in Ninh Thuan province (with loan disbursements of over 3.7 trillion dong), and clean animal feed production in Ha Nam province (with loan disbursements of nearly 5 trillion dong). Agribank has introduced specialized green credit products, including loans for hydropower investment projects, rubber investment trusts, rural financial development (RDF) I, II, III, agricultural and rural projects, tourism services, projects aimed at improving agricultural product safety and developing the Bio-based Energy Program (QSEAP), water supply, waste management, and wastewater treatment activities. Additionally, Agribank has participated in many climate change mitigation projects funded by the World Bank (WB) and international financial institutions, such as the Coastal Resources for Sustainable Development Program, Low-Carbon Agriculture Support Project, and Credit for Water Resources Projects in the Mekong Delta and Central Highlands regions. Agribank is also serving the Forest Modernization and Coastal Resilience Program (FMCR).

In particular, Agribank has improved its mechanisms, procedures, and initiatives to access green financial systems, such as lending through capital lending groups and mobile lending units. Mobile transaction points are one of Agribank's new initiatives approved by the State Bank of Vietnam to reach remote areas. Agribank has established ESG policies (Environmental and Social Risk Management Policies in lending activities; Green and Social Finance frameworks; ESG policies in bank operations, etc.), set specific targets, and developed short-term and long-term implementation plans to create a favourable environment for green credit development, green banking, and attract international green and sustainable capital. Completing the organizational structure functions and tasks of relevant units in implementing ESG is one of the top priorities in the bank's development strategy for 2023 - 2025. Agribank has established a Steering Committee and a Working Group to develop a comprehensive ESG implementation plan for Agribank in the short and long term. The establishment of these entities with high-level personnel demonstrates Agribank's determination to uniformly and effectively implement ESG across its entire system.

B) Social Policy Bank

Established by the government in 2002 to implement preferential lending for poor households and other policy beneficiaries, the Social Policy Bank (SPB) has identified sustainable development as one of the key focuses of its activities. Over the years, SPB has focused on providing loans for safe, efficient, sustainable agriculture projects and climate change adaptation. Currently, SPB is implementing more than 20 policy credit programs, with agricultural, forestry, and aquatic loans accounting for nearly 70% of the total credit balance. Furthermore, SPB has participated in various programs and projects related to climate change mitigation funded by the World Bank and international organizations, such as the Forestry Development Program, Forest Restoration and Sustainable Forest Management Project (KfW6), and the Mangrove Afforestation Project in Southern Vietnam. Particularly, SPB has joined the Forest Plantation Development Project aimed at improving livelihoods and protecting forests in the Central Vietnam region. Over 12 years of implementation, the total loan balance has reached nearly 500 billion dong, benefiting more than 50 thousand customers. The capital has helped cover over 76 thousand hectares of planted forests.

Additionally, SPB's clean water and rural environmental sanitation credit program is one of the green credit channels, providing tangible benefits to communities by improving living standards. The program assists rural households in constructing new or upgrading existing clean water and sanitation facilities to national standards, thereby enhancing health, improving living conditions, and promoting socio-economic development in rural areas. To date, SPB has implemented this program in all 63 provinces and cities, with a total loan balance of over 26 trillion dong, benefiting more than 2.6 million customers and leading to the construction of 9,928 clean water and sanitation facilities.

C) Vietnam Joint Stock Commercial Bank for Industry and Trade (VietinBank)

Preparing capital to expand production and develop business has always been a challenging task for households and enterprises. In its pivotal role, the Vietnam Joint Stock Commercial Bank for Industry and Trade (VietinBank) has taken comprehensive and effective measures to support and address capital difficulties for farmers and businesses operating in agriculture, especially in green business sectors. As of the end of 2020, VietinBank's green credit balance exceeded 22.7

trillion dongs for nearly 278 projects, with the majority of the focus being on clean energy and renewable energy projects (accounting for 71% of green credit balances).

VietinBank has developed specialized credit products tailored to each sector, such as agriculture value chain finance, which offers streamlined procedures and financial help to people and organizations participating in one or more links in the agricultural value chain, unprotected loans based on cash flow administration from export agreements, export payments guarantees, and collateral assets including circulating goods or receivables of individuals and businesses. Particularly noteworthy are the policies for revolving credit applied to individuals/businesses for seasonal cultivation, care of crops, seasonal livestock, perennial crops, and industrial crops with annual harvests. In addition, VietinBank offers many preferential policies for renewable energy projects, allocating 10 trillion dong to support businesses in rooftop solar power projects. The bank has focused on serving the entire energy value chain, from primary energy, production, transmission, and distribution to energy service sectors, emphasizing providing comprehensive financial solutions to customers in the energy sector.

The results achieved in recent years demonstrate that the green credit policies of the State Bank of Vietnam have truly entered people's lives and are becoming an inevitable trend in the banking industry's development orientation. Although Vietnam has shown positive signals in green credit growth, developing green credit activities at Vietnamese credit institutions still faces many difficulties and challenges. Green credit was first regulated in Article 1, Article 149 of the Securities Law of 2020 but has not been stipulated in the Law on Credit Institutions and guiding documents. The Law on Credit Institutions of 2010 (amended in 2017) stipulates lending transactions of credit institutions for existing customers based on a common lending principle. However, it does not include provisions on lending activities for investment projects and business activities meeting the requirements of green economic development. Furthermore, monetary policy tools, credit institution governance policies following environmental standards, regulations on green lending debt-to-equity ratios, green lending risk ratios, and risk prevention regulations in green credit projects have not been specified. Therefore, there is a need for more theoretical and objective practical foundations to propose and implement solutions to promote green credit green banking towards sustainable development in Vietnam, especially solutions to develop synchronized green financial markets, laying the foundation for banks to mobilize green capital in the market, leveraging the scientific achievements of the Fourth Industrial Revolution to promote the effectiveness of green economic development strategies.

V. CURRENT STATUS OF GREEN CREDIT IMPLEMENTATION AT SOME COMMERCIAL BANKS IN VIETNAM

Through the concerted efforts of the government, the State Bank of Vietnam (SBV), relevant ministries, sectors, and commercial banks in gradually implementing green credit support policies in practice, especially following the issuance of the "National Strategy on Green Growth" and Directive 03/CT-NHNN on "Promoting Green Credit Growth and Environmental and Social Risk Management in Credit Provision" by SBV, green credit activities at commercial banks have seen positive developments. Many banks have established environmental and social risk management (ESR) processes in their credit activities, as well as diversified green credit products to meet the growing demands of customers and expand the bank's loan portfolio. Commercial banks have enhanced their competitive capacity through measures such as accessing funding from international organizations, taking advantage of funding sources from these organizations for capital, human resources, technology, and experience, participating in environmental protection projects, and cooperation programs with international organizations or accessing green credit funding from these organizations. At the same time, they have proactively introduced their own green credit policies, competing with other banks in terms of interest rates, collateral assets, etc., to contribute to increasing the market share of green credit and the growth of green credit balances.

According to data from the Credit Department of Economic Sectors (SBV), in 2016, green credit balances reached only about 84,781 billion dong, equivalent to an increase of 19.7% compared to the end of 2015 (green credit balances in 2015 were 73,723 billion dong). By the end of the second quarter of 2017, green credit balances reached 109,700 billion dong, but in the fourth quarter of 2017, green credit balances saw a breakthrough, reaching 180,121 billion dong.

According to data from the State Bank of Vietnam (SBV), as of June 2019, the outstanding loans for green projects amounted to 310.6 trillion dong, a 29% increase compared to 2018, mainly concentrated in green agriculture, renewable energy, and clean energy, sustainable water management in urban and rural areas.

The proportion of green credit has also significantly increased from 1.5% to 4.1% of the total outstanding loans in the entire economy. Comparing this with the demand for 30.6 billion USD in green finance by 2020, this represents a significant domestic capital source for Vietnam's green growth. The substantial greening of credit flows will contribute to determining the restructuring of the economy towards green growth and sustainable development.

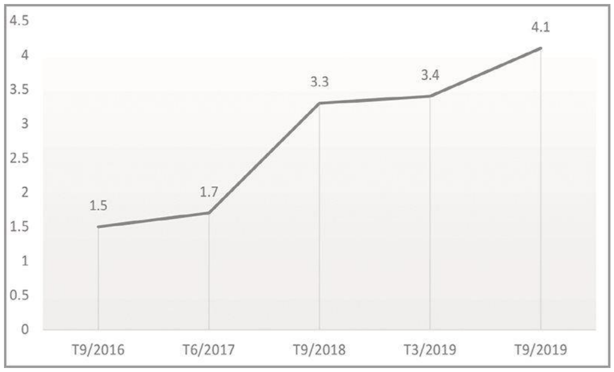

Figure 2: Proportion of Green Credit Outstanding Loans from 2016 to 2019 (unit: %)

Green credit statistics according to Directive 03/NHNN-CT and Official Letter 9050/NHNN-TD during the period of 2016-2019 (Source: State Bank of Vietnam)

In 2019, the outstanding green credit was assessed to be reasonably allocated in the context of our country's economic development, mainly focusing on green agriculture and clean energy, renewable energy. Specifically, short-term loans amounted to 54,000 trillion dongs, while medium and long-term loans reached 188,000 trillion dongs, accounting for 76% of the green credit outstanding, with short-term green credit interest rates ranging from 5% to 8% per year and medium to long-term interest rates ranging from 9% to 12% per year. The specific structure of green credit in 2019 is illustrated in Figure 3.

The current situation of green credit implementation at Vietnamese credit institutions indicates initial significant achievements such as Banks showing interest in green credit by defining green credit orientations, showing concern for environmental protection in credit issuance, establishing risk management procedures for environmental and social risks in their credit activities; diversifying green credit products to meet the large demand of customers and develop the bank's lending portfolio... However, there are still certain limitations. These include: (1) In general, the implementation of green credit at Vietnamese credit institutions is still relatively new and slow, failing to timely meet the requirements for rapid and sustainable economic development; (2) The proportion of credit capital for green sectors/fields requiring priority support from the SBV remains low. The majority of funding for green projects in our country primarily relies on funding from international organizations or partly from state financial sources through Vietnam's green credit support funds, with the bank's own funding being very small and accounting for a low percentage; (3) The banks themselves still lack capital, experience, especially in the technical analysis, evaluation, and appraisal of complex environmental issues, and the risks that may occur, leading to credit decisions for projects that could have adverse effects, even causing serious environmental and social pollution.

VI. SOLUTIONS TO PROMOTE GREEN CREDIT ACTIVITIES AT VIETNAMESE COMMERCIAL BANKS

A) Develop Internal Regulations on Environmental and Social Risk Management

In order to implement the sustainable development strategy, commercial banks need to actively research and quickly build and complete socio-economic risk assessment systems in the process of credit appraisal or investment activities, expanding products and services. Because when this system is in place, commercial banks will accurately and fully assess, measure and classify environmental risk levels, thereby limiting or rejecting projects with high risks and adverse impacts on the environment. Apply environmental standards to projects funded by banks, establish a specialized unit for environmental risk management from branches to the whole system, and supervise green credit activities and the implementation of green banks at commercial banks. Coordinate closely with functional units of the SBV in regularly and continuously monitoring loans, evaluating and reporting on the use of loans by enterprises to have timely solutions to prevent or handle misused loans, causing serious consequences or impacts on socio-economic development. Well, implementing this requirement not only brings benefits to enterprises implementing economic development projects but also benefits the sustainable development of the banking system itself by indirectly affecting risk reduction, enhancing financial stability and brand protection in the market.

B) Develop Green Credit Policies Suitable to the Operations of Each Bank's National Strategies and Meet International Standards

Green credit policy includes all methods of financing or lending that take into account environmental impact, enhancing environmental sustainability. Credit policies are designed to include Objectives, orientations of credit activities, policies on scale, credit limit, customers, interest rates and credit charges, policies on collaterals, credit terms, debt terms, policies for problematic credits... Policies should be developed at each bank in accordance with its business objectives and strategies; in other words, the development of green credit activities must be based on the bank's general development strategic framework, depending on business orientation, advantageous products, etc. target customers, market segments as well as the capacity and strengths of the bank itself. At the same time, support policies to promote green credit activities of banks must both comply with the national legal framework and meet international standards. In order to provide the right green credit products, commercial banks need to design specific lending policies for each different industry or business field based on the characteristics of that industry or field.

C) Measure and Control the System of Indicators for Assessing Green Credit Development at Each Bank

The system of indicators for assessing green credit development in commercial banks should be classified into 2 groups: (1) Group of qualitative indicators: Distribution system; Diversity of green credit products; Transparency and stability in credit policy; (2) Group of quantitative indicators: Green credit balance; Develop green credit market share; Income from green credit and bad debt ratio. It is necessary to soon complete this system of assessment indicators in a clear and specific way so that green credit activities can be included in a stable development framework. At the same time, this is also considered a basis for comparing the level of interest in green credit in commercial banks and how much the difference is. On that basis, setting up competition among banks creates motivation to promote green credit activities at each bank and green credit growth for the whole banking industry.

D) Improving the Competitiveness of Green Credit at Commercial Banks (CBs).

The capacities that CBs need to pay attention to are capital, human resources, and technology. Concerning human resources: Building a high-quality workforce trained in environmental risk management, adept at applying knowledge of green credit and sustainable growth to effectively serve credit assessment tasks at banking training institutions. Especially in managing environmental and social risks in credit approval for projects, this fosters trust, credibility, and the bank's brand with customers. Regarding capital: For CBs, green credit capital sources typically consist of large-scale investments with slow recovery times. Meanwhile, small and medium-sized enterprises in Vietnam often access projects with low self-capital, scarce collateral, and insufficient scale. Hence, increasing mobilized capital sources is a crucial task.

Additionally, banks should increase green capital sources by collaborating with funds (such as environmental protection funds and green credit trust funds) or partnering with other banks to provide green credit for large projects. Collaboration not only meets financial, human resource, technology, or experience needs but also shares risks among CBs. Regarding technology: Investing in developing the bank's information technology system is crucial, especially when aiming for comprehensive grounds for assessment and quantification of green credit risks in the future. CBs should build databases on green credit risks and utilize modern tools for analysis and risk management. This significantly impacts the quality and effectiveness of bank management, including risk management in general.

E) Diversifying Green Credit Products:

Any product in business operations needs to meet market needs serve, and satisfy customers. A uniform structure of green credit products reflects the bank's emphasis on this sector's development. Additionally, it helps attract more customers to the bank, significantly increasing the number of customers in this segment. However, product diversification must be balanced with the bank's existing resources; otherwise, excessive product deployment may render the bank's business ineffective due to overextended resource allocation.

F) Compliance with International Standards on Environmental and Social Protection:

In the current trend, banks, investment funds, and other financial investors are playing increasingly significant roles in economic infrastructure development projects in Vietnam and the region. Numerous investors have stated that they would like to create their own guidelines in order to project an image of ethical behavior and environmental friendliness. Known as safeguard policies, international financial institutions like the World Bank and Asian Development Bank have created sets of guidelines called the Equator Principles, Carbon Principles, and UNEP Finance Initiative to guarantee that projects they finance must adhere to mandatory environmental and social standards.

G) Building and Progressively Refining the Legal Framework for Green Credit

The government and regulatory agencies at all levels need to make commitments to support the banking system in providing green credit under conditions that facilitate reducing access to capital for highly polluting projects and encourage capital flow into environmentally friendly projects. Adjusting the economic structure from sectors with "high labor intensity" to sectors with "high capital and technology intensity", thereby promoting increased integration into the international economy. Strengthening consensus and commitment from local authorities is essential. Due to the widespread nature of "green" projects across the country and the diverse geographical conditions of Vietnam, managing and supervising compliance with environmental protection regulations and providing comprehensive, transparent information by individuals and organizations violating environmental protection laws is an important task requiring timely support from local authorities. Alongside macroeconomic policies, the government should make commitments through macroeconomic measures for green credit development. Specifically, establishing timely solutions to deal with emerging issues, considering issuing tax support policies, fees, specialized guarantee mechanisms, and financial interest subsidies to support credit financing for green projects. The government needs to enact additional regulations to ensure market transparency. Issuing regulations on clear disclosure of information about business environmental conditions creates favorable conditions for banks to assess environmental factors in the credit approval process. Information disclosure also contributes to improving statistical data, strengthening investor confidence, thereby encouraging more participation in green projects.

H) Promoting Awareness and Understanding of Green Credit

Enhancing the role of media to increase understanding and awareness of the public and the social responsibility of the banking sector in environmental protection, climate change mitigation, and in promoting green production, services, and consumption. This communication work targets banks and customers involved in green credit.

I) Enhancing International Cooperation

Globalization and integration offer our country many opportunities to develop green credit more rapidly and effectively. To seize this opportunity, the government and the SBV need to collaborate with international organizations and countries with extensive experience in green credit to optimize the environmental risk management system for CBs, design effective policies to support green credit activities and implement a green banking project suitable for the scale of each bank's operations.

J) Requirements for Loan Customers

Businesses need to change their perception of the relationship between economic growth and sustainable development, not sacrificing environmental protection measures or trading off environmental pollution to achieve growth goals. Customers need to be proactive in cooperating and learning experiences for the purpose of training and developing their business workforce, knowing how to seize opportunities to apply advanced environmental protection technologies suitable for their business conditions. This opportunity could be international cooperation programs or state green capital mobilization programs. Emphasis should be placed on investing in and innovating production technologies towards modern, environmentally friendly, and cost-effective methods. For example, businesses should control waste discharge into the environment from projects, especially large-scale infrastructure projects, projects in highly polluting industries such as thermal power, steel refining, mining, paper production, or dyeing textiles; tightly control the production and business activities of their enterprises if they may cause environmental pollution, using outdated technologies. In addition to developing their own capacity to meet lending criteria, businesses need to understand and grasp information about preferential policies, interest rates, collateral, and loan procedures to promote investment in environmentally friendly projects. Furthermore, businesses need to increase awareness and strengthen linkages between CBs and enterprises to identify needs and green investment opportunities.

VII. CONCLUSION

Green credit is one of the crucial factors determining the safe and sustainable development of both the banking system, specifically, and the economy as a whole. The implementation and enhancement of the effectiveness of green credit activities are not only the responsibility of commercial banks but also require the attention, guidance, and direction of the government, the State Bank of Vietnam (SBV), and other regulatory agencies, as well as cooperation from the public and local authorities, especially loan customers implementing green projects.

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