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Developing Green Bank Operation In India And Vietnam: Comparison And Evaluation

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Abstract

Purpose: The purpose of the paper is to assess the greening of investment flows as well as the orientation of financial sources of effective environmental protection. Both India and Vietnam are considered to be two Asian countries that are radically affected by global climate change. Governments of the two countries have implimented numerous measures against environmental pollution through the banking and finance sector. Developing green banking operations in India and Vietnam is a new direction in the socio-economic development strategy coupled with effective environmental protection. **Research design, data and methodology**: The data was mainly based on Asia Development Bank Institution (ADBI) and Bank of India (BOI) from 2015 – 2018. This paper focused on comparing and evaluating the development of green banks between the two countries. **Result**: The banks' contribution to green growth and green economy is shown in two basic aspects: (i) the connection between organizations, and individuals, and management process for investment projects, including environmental risks; and (ii) the operation of banks has a direct impact on the environment, through the application of technology to pay documents and apply e-banking. **Conclusion**: Paper reflects, compares and evaluates green banking operations in India and Vietnam to provide new directions aiming to develop financial and economic system along with effective and efficient step toward climate change control. India's green banking operations, after a specific assessment, will be lessons for the Government of Vietnam during the process of socio-economic development and environmental protection.

Keywords: Green Banking Operation, India, Vietnam, Investment and Environmental Protection.

JEL Classification Code : B26, G21, E58.

1. Introduction

Lalon (2015) defines green banking as "…any form of banking from which the country and nation gets environmental benefits. A conventional bank becomes a green bank by directing its core operations toward the betterment of environment." Bhardwaj and Malhotra (2013) define it as "…an effort by the banks to make the industries grow green and in the process restores the natural environment." Papastergiou and Blanas (2011) based on Jeucken (2001) discuss green banking under the broader concept of sustainable banking and explain the connection among the various organizational initiatives (including HR, marketing, internal resource management) to achieve sustainability in the services the banks are offering... Isalm and Das (2013) point out that green banking "…indicates endorsing environment-friendly practices and reducing carbon footprint from banking activities."

Our paper divides 4 parts: (i) the concept and model advantages of green banking, (ii) common development basis for green banking operations in India and Vietnam; (iii) sustainable financial policies for green bank development in India and Vietnam and (iv) comparing and evaluating green banking operations in India and Vietnam.

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1.1. The concept and model advantages of Green Bank

The organisation for Economic Co-operation and Development (OECD) defines a Green Bank as a public, quasi-public or non-profit entity established specifically to facilitate private investment into domestic low-carbon, climate-resilient infrastructure (OECD, 2015). Green banks can be interpreted in different ways. In this paper, the concept of green banking is understood in two common ways: (i) green bank as a commercial bank and (ii) green bank as a public financial institution.

(i) Green bank as a commercial bank

According to the first interpretation, "Green bank" is like a normal bank, which considers all the social and environmental factors with an aim to protect the environment and conserve natural resources (IBA, 2014). Green banking focuses on green transformation of internal operations, infrastructure and information technology in the direction of better support to minimize negative impacts on the environment. To support the process of reducing carbon emissions, green banks largely exploit financial resources to fund environmentally-friendly projects and promote technology application along with building environmentally friendly habits for customers within the framework of banking activities. According to this definition, green banks can exist under the ethical bank model or socially responsible bank / sustainable bank (Md Miraj Hossen, 2018) as in the case of First Green Bank - FGB (US) and Triodos (Netherlands).

(ii) Green bank as a public financial institution

For the second interpretation, Green Banks has diverse rationales and goals, including meeting ambitious emissions targets, mobilizing private capital, lowering the cost of capital, lowering energy costs, developing green technology markets, supporting local community development and creating jobs. These goals are reflected in the range of metrics Green Banks use to measure and track their performance and demonstrate accountability: emissions saved, job creation, leverage ratios (i.e. private investment mobilized per unit of GIB public spending) and, in some cases, rate of return (Green Bank Network, 2018). According to this definition, the green bank model as a public financial institution such as the German KfW Reconstruction Bank and the UK Green Investment Bank.

In summary, green banking is the kind of the bank whose activities contribute to the realization of a nation's goal of green growth and sustainable growth. A green bank can be formed from a regular commercial bank by directing its core activities to increase environmental and social benefits or established independently with the purpose of specialized activities in the direction of "green", providing green credit capital for projects of environmental improvement and protection. Green Banks are mission-driven institutions that use innovative financing to accelerate the transition to clean energy and fight climate change. Being mission-driven means that Green Banks care about deploying clean energy rather than maximizing profit. They actively develop a pipeline of clean projects and seek out opportunities in the market. All Green Banks have the mission to address climate change, though many also have additional objectives such as improving resiliency or serving low-income communities.

1.2. The advantages of green banking in sustainable growth

According to the Natural Resources Defense Council (NRDC, 2016), green banks bring many benefits for sustainable growth: *First*, attractive financial terms and low costs: Green banks can cut lending rates and flexible methods. Interest rates are often lower than market standards (interest rates are often lower when traded in the private sector), in accordance with the terms and payback period of clean energy projects due to green investment and public funding. This method attracts clean energy projects to achieve high economic efficiency, and these development projects attract many investors, including international capital sources and local projects. In addition, green banks can issue green bonds with lower fees, and this project is a stable funding opportunity for renewable energy projects from the international market.

Second, credit support: Green bank help reduce the gap in perceived risks related to clean energy investment and the expectations of private lenders through the supply of products such as partial credit guarantees, insurance, or loan loss provision. Risk reduction products such as guarantees and credit enhancements help private banks implement clean energy projects.

Third, co-investment: Green banks represent the name, capital, and prestige of green projects, so they attract private investors. Co-investment with local banks and contractors attract investments in the secondary market through bond issuance and private placement. Green banks can also identify and analyze new technologies for local markets but have track records elsewhere.

Fourth, storage: Green banks can gather small projects into larger projects to attract big investors or to securitize through bond issuance. This integrated technique reduces transaction costs and boosts investments. In addition, green banks can standardize contracts to reduce costs for individual projects.

Fifth, increases in supply of loanable funds: Green banks can provide market information immediately and create the best conditions to increase transparency, promote confident investors, and reduce perceived risk of clean energy

investment. Open source intelligence techniques such as tracking, publishing, and sharing information about the effectiveness of projects and investments in other markets can also reduce perceived risks and promote trust of investors.

Finally, increases in capital supply: Green banks can provide market information immediately and create best practices to increase transparency, boost investors' confidence, and reduce perceived risks on clean energy investment. "Open source" techniques such as tracking, publishing, and sharing information about the effectiveness of projects and investments in other markets can also reduce potential cognitive risks and boost the confidence of investors.

2. Common development basis for green banking operations in India and Vietnam

Over the last two decades, banks have applied environmental risk management measures and procedures, which have become increasingly popular, stemming from the awareness of all stakeholders, from the community, contracts, customers and shareholders, and the regulations on responsibility for environmental protection are increasingly stricter. Investors and regulators are increasingly demanding of banks in corporate governance, the impact of business and investment activities on the social environment and community support.

2.1. 21st Conference of Parties (COP21) – Paris Agreement on combating climate change and international commitments

Environmental issues and global warming are increasingly the focus of global concerns. International efforts to combat climate change have been made for many years. On December 12, 2015, after 20 years of negotiations, the Paris Agreement (COP 21), with the aim of preventing global warming, has had reached the consensus of 195 countries around the world. This has been considered a breakthrough after nearly two decades of negotiations to come to a general agreement in an effort to save the Earth. Accordingly, the world has a new legal system binding the countries participating in efforts to reduce emissions, while providing opportunities for developing countries with low greenhouse gas emissions and seriously affected by climate change implementing mitigation measures.

The Paris Agreement not only recognizes the countries' commitment to reducing fossil fuel emissions, but also sets the rules to monitor and confirm their implementation as well as technical and financial support for developing countries. These countries seek to pursue limiting the countries pursuing efforts to limit the temperature increase global average temperature below 2℃ above those of the pre-industrial revolution (around the 1850s). On the financial side, the Paris Agreement needs to adjust its financial flows to suit the low-emissions, climate adaptation. The developed countries have the obligation to mobilize and provide financial resources to support developing countries with the goal of 2020. The developed countries will mobilize at least $100 billion per year to help developing countries use clean energy sources and respond to climate change.

The Paris Agreement is the basis for the world to join hands in effectively implementing climate change actions, contributing to the protection of the Earth, the common home of generations today and tomorrow. The Agreements help address security threats on a global, regional, and country levels stem from the tension, even conflict and terrorism, due to climate change.

The international community also requires Vietnam to move toward a reduction in emissions. Currently, Vietnam India, China and Indonesia account for three-quarters of of the world's coal-fired power stations for the next five years - warning about carbon emissions source is considered to be a disaster for the planet. Vietnam has pledged to cut greenhouse gas emissions by 8% by 2030 and can cut up to 25% with international assistance.

Vietnam is among the most vulnerable nations to climate change impacts, especially extreme weather events caused by climate change such as drought, storms, floods, and consequences such as sea level rise, saline intrusion. The signing of this agreement shows government is willing to respond to climate change, at the same time, it opens up opportunities for Vietnam to shift the economy to decrease carbon emissions, enhance competitiveness, access to modern and advanced technology, make use of international financial resources, strengthen capacity from opportunities of cooperation, bilateral and multilateral exchanges; transform challenges caused by climate change into new opportunities for national development. In the long term, if India and Vietnam make good use of this agreement, they will address climate change, transform the development model into a sustainable direction, escape middle-income trap, reach a fair and civilized society.

2.2. The Equator Principles

The Equator Principles are a set of voluntary standards relating to project finance transactions to identify, assess and manage environmental and social risks systematically and continuously, built on the basis of reference to existing standards and needs of financial investors. Financial institutions apply this set of principles to ensure that funded

and consulted projects will be implemented in a responsible manner to society, sustainably manage the environment, and at the same time bring about positive economic results. Compliance with and respect for the Equator Principle will bring significant benefits not only for donors and consultants, grantees, but also all local stakeholders, through the commitment between the grantee and the affected local community.

The Equator Principle was first developed in 2003 and has undergone two revisions (2006 and 2013) based on practical experience to update good practices and lessons. The Equator Principles went into effect on June 4th 2013, the period of application of Equator Principle II to Equator Principle III ends on December 31, 2013 and the Code of Conduct 2013 is mandatory for all transactions signed from January 1, 2014.

Currently, 67 financial institutions from 27 countries in more than 100 countries and territories have adopted the Equator Principles. Bilateral and multilateral development organizations also use financial frameworks in both public and private sectors. Financial institutions in Vietnam and India can choose one of two methods of application: (i) apply all of these principles and register with the Equator Principles Association, and work at the same time. announce the application; or (ii) consult and develop your own set of standards that suit your needs and needs.

2.3. Operation standards of International Finance Corporation (IFC)

IFC has issued 08 operational standards on social environmental sustainability for customers of financial institutions as follows: (1) Assess, manage risks and impacts on social environment; (2) Labor and working conditions; (3) Efficient use of resources and prevent pollution; (4) Health, safety, community security; (5) Purchase of land and forced resettlement; (6) Protection of biodiversity and sustainable management of living natural resources; (7) Not to affect indigenous peoples and ethnic minorities; (8) Cultural heritage.

Standard (1) is applicable to all projects with risks and impacts on social environment. Depending on the specific project, standards (2) to (8) may be applied simultaneously. The operating standards must be referenced together and, if necessary, used for cross-references. In addition to meeting operational standards, customers must also comply with all applicable country laws, including those required by the host country. The World Bank's General Environmental, Health and Safety Guidelines (EHS) are technical reference documents**.** When the laws in the host country differ from the requirements and extent of EHS, projects must follow stricter rules. In the case of a project with less stringent requirements, a detailed explanation is required to explain the validity of the proposal.

2.4. UNEP Financial Initiative

UNEP Financial Initiative is an action plan developed by the United Nations in 1992. Due to the real need for a link between the financial sector and environmental issues, UNEPFI becomes a platform to connect the United Nations with the global financial sector, as well as strengthening the role of the financial sector in sustainable development.

The UNEP Declaration will be a unique UN standard with a special focus on the banking sector, providing a single platform for all banks in their efforts to promote sustainability issues. To achieve such a common goal, the UNEPFI Sustainability and Banking Guidance has been developed with the following three specific objectives: (i) To provide UNEPFI's bank member organizations with an understanding know clearly and correctly apply the UNEP Statement and know how to comply with this Statement in each specific banking activity; (ii) Provide all banks who are preparing to pursue (or continue) their sustainability goals; (iii) Promote the realization of the vision of UNEPFI and signatory organizations on the roadmap of banking and sustainability to a wider community of stakeholders.

UNEPFI works closely with nearly 200 financial institutions to sign commitments, along with a range of other partners to promote the linkage between sustainable development and financial operations. By networks and training programs. UNEPFI has a duty to identify, promote and recognize best practices in environmental protection and sustainable development at all levels of financial institution activity. This demonstrates the increasing awareness of the world financial sector about the importance of sustainable development. UNEPFI works closely with the United Nations and other organizations to collaborate on important activities to raise awareness and support sustainable development. UNEPFI requires its members to comply with 19 basic commitments, divided into 3 groups, including: (i) Commitment to sustainable development (5 commitments); Sustainable management (7 commitments); (iii) Public awareness and information exchange (7 commitments).

3. Sustainable financial policies for green bank development in India and Vietnam

Some Asian countries take the lead in introducing guidelines and regulations for sustainable finance. Up to now, there are 13 out of 32 representative countries participating in the Sustainable Banking Network. According to the Asian Development Bank (ADBI, 2018a),

financial institutions in Bangladesh, China, Hong Kong, India, Indonesia, Japan, Mongolia, Singapore and Vietnam have begun to take concrete steps to streamline the financial and banking system towards sustainable development.

Table 1: Sustainable financial policies for green bank development in India and Vietnam

	India
2007	Non-financial reporting and sustainable development, corporate social responsibility - Role of the bank
2011	Indian Business Ministry: National Voluntary Guidance on Corporate Social, Environmental, and Economic Responsibilities
2012	The Securities and Exchange Board of India (SEBI): Annual Business Responsibility Report (ABBR)
2014	SEBI: Regulations on Infrastructure investment trust
2015	Bank of India: Priority sector lending - Objectives & classification India Bank Association: National voluntary guide on responsible finance
2016	SEBI: Guidelines for issuance and listing of Green Bonds
2017	SEBI: Requirements for issuance and listing of green bonds
	Vietnam
2015	State Bank: Vietnam's Directive on Promoting Green Credit Growth and Environmental and Social Risks Management in Credit Granting Activities. State Bank: Banking action plan to implement the National Green Growth Strategy to 2020
2016	State Bank: This Circular deals with lending transactions of credit institutions and/or foreign bank branches with customers.
2017	State Bank: Commitment to innovation to implement the Green Growth program and climate change prevention programs

Source: ADBI (2018a)

In a global survey on a sustainable approach to banking and finance, UNEP Inquiry (2016) identified five practical areas in helping to develop a green, sustainable finance for a long term. India and Vietnam are known as countries that are not pioneers but always at the top and meet 4/5 fields in building environmentally friendly and sustainable financial activities. Specifically:

(i) Measures to enhance enforcement: disclosure, analysis and risk management

- Disclosure: In 2012, the Securities and Exchange Board of India requested the top 100 listed companies to launch a Business Responsibility Report and the Ministry Of Corporate Affairs to undertake a CSR according to the Company Act 2013. Whereas, the State Security Commision of Vietnam introduced Sustainability Reporting Handbook for Vietnamese Companies in 2013.
- Integrating environmental risks criteria in financial regulations: The State Bank of Vietnam (SBV) has issued a Directive on promotion of green credit growth and managing environmental and social risk in credit granting activities (SBV, 2015) requiring financial institutionss to integrate environmental criteria in their lending decisions.
- Sustainable Market Implementation Guidelines: In 2015, the Federation of Bank of India launched the National Voluntary Guidelines for Responsible Financing (NVGRF).

(ii) Measures to upgrade governance: towards sustainable development on financial decision making by policy makers and central banks

- Integrating environmental risks criteria to ensure financial and monetary stability: the Reserve Bank of India pays great attention to agricultural prices since they produce great effects on consumer price inflation.

(iii) Measures to encourage cultural transformation: improving capacity, behavior, market structure

- Enhancing the current skill set of financial experts and managers: Vietnam's sustainable financial roadmap has also been developing the skills of experts. The SBV plans to hold capacity training workshops for staff in the entire banking system.
- Developing market: The Indian Government has initially prioritized the development of the green bond market in order to raise the new market segment aiming at gradually and sustainably investing in the Indian capital market.

(iv) Mesures to manage finance through policies: improving legal responsibility

- Priority sector lending programs: In April 2015, RBI integrated loans for small renewable energy projects and drinking water facilities in priority sector lending targets (PSL). The PSL program requires banks to allocate 40% of loans to key sectors such as agriculture and small and medium enterprises.
- Quotas for priority sectors: Since 2002, Obligations of insurance companies to rural social areas issued by the Insurance Regulatory and Development Authority of India (IRDAI) require Indian insurance company to meet insurance quotas for low-income and rural customers.

4. Comparing and Evaluating green banking operations in India and Vietnam

Green banking activities in India and Vietnam also share many similarities, however, describing the differences that

will help us to have a multi-dimensional, specific and accurate view to make reasonable and specific assessments:

4.1. Social and environmental risk management system in credit operations

- *Regarding the organizational model of environmental and social risk management*

At almost all banks of India and Vietnam, there is no specialized section on environmental and social risk management, except Sacombank (Vietnam) and Yes Bank (India) establishing a task force on developing and consulting about environmental and social management systems. However, all banks are well aware that this department should be set up to focus on managing environmental and social risk assessment and should be under the Division of Risk Management or Division of corporate customer.

- *Regarding the development of environmental and social risk management process*

Banks / financial institutionss in India (SBI, IREDA, Yes Bank, Indus Bank, IDFC) have developed and implemented an environmental and social risk management process in terms of credit operations including foreign banks to open 100% capitalized wholly-owned (such as HSBC, Standard Chartered in India and Vietnam). For wholly foreign owned banks, due to the fact that their parent banks participate in the equatorial principle, there is a social environment risk management system which follows the environmental and social processes and standards defined by parent banks and applied in both India and Vietnam. For Joint - Stock commercial banks in Vietnam, only a few banks such as Sacombank, Techcombank, Vietinbank have developed and issued a written environmental and social risk management process (Decision No.450/2012).

- *Regarding environmental risk assessment tool*

The social and environmental risk assessment tool in terms of credit provision and other tools of each bank are different in each country and there is no exception in India and Vietnam. Environmental impact assessment is the most frequently used tool. In addition, there are numerous tools such as: Environmental and Social Risk Categorisation List; List of projects not receiving grant assistance; Customer satisfaction survey questions; Environmental and Social Reassessment Report for customers; Environmental and Social Management System Report; Environmental and Social Risk Analysis (ESRA); Enterprise Safety Risk Management (ESRM). Currently, the number of banks / financial institutionss building credit appraisal process for green projects is negligible such as Sacombank, BIDV, Vietintbank, Vietcombank, Agribank, SHB, ACB, Viet A, Phuong Dong, Kien Long, Dai Cong, HSBC (Vietnam); IREDA, IFCI, SIDBI, SBI, Yes Bank, Indus Bank, India Infradebt, PTC Financial Services India, Union Bank of India, Bank of Baroda (India). Among banks / financial institutionss that are considered to be interested in green projects (Vietcombank, Sacombank, BIDV, ACB, Agribank, Vietinbank), only Sacombank (Vietnam) and Yes Bank (India) has implemented the process of environmental and social impact assessment through environmental and social policies in combination with the Environmental and Social Management System (ESMS). The remaining banks are still gradually implementing this process.

In the stage of the credit analysis process, banks often refer to instructions on how to carry out environmental impact assessments and register commitment to the implementation of environmental protection under Indian and Vietnamese Environmental Protection Laws / Regulations. Accordingly, the bank requires customers to submit two documents either (i) Decision of state agencies competent to approve environmental impact assessment or (ii) Registering environmental protection commitment as evidence that the project is concerned about environmental issues and complies with State regulations and instructions. However, in reality, banks have not paid much attention to Credit Evaluation and Approval stage to check whether customer comply with the regulations and conditions adopted in these documents or not. As a result, risks will incur if the customer violates and the project is suspended. Banks / financial institutionss in India and Vietnam are basically aware of the importance of environmental and social risk assessment in credit operations; however, many banks are concerned that due to the application of strict environmental and social requirements, there will be lost customers. Their customers would choose other banks that do not apply these above requirements. Therefore, environmental and social regulations or guidelines should be enacted and enforced synchronously across the sector to ensure fair competition.

4.2. Mobilizing green capital

The mobilizations of green capital in India and Vietnam are not in common. The green capital supporting green activities / projects also has many characteristics depending on the conditions and circumstances of each country.

4.2.1. In India

According to ADBI (2018a), the mobilization of green capital in India from a wide range of activities: (i) National Clean Energy and Environment Fund (NCEEF), (ii) priority sectors lending, (iii) soft loan from IREDA, (iv) green bank, (v) green bonds, (vi) infrastructure debt fund and (vii) crowdfunding.

(i)National Clean Energy and Environment Fund (NCEEF) is an effective financial mechanism for renewable energy systems in India. This fund was established to support business projects. The fund has been operating since 2011-2012 and primarily aims to mobilize additional resources to support clean energy development. IREDA receives a portion of the grant provided by NCEEF and lending to banks at an interest rate of 2%. The renewable energy projects with concessional interest rates not exceeding 5% are eligible for this grant. However, according to the NCEEF assessment, the funds have turned to non-renewable energy projects (CSE, 2017) due to the lack of an appropriate monitoring mechanism.

(ii) Priority sectors lending: Considering the importance of the sector and the need to raise capital of the private sector, RBI classified renewable energy as a priority sector in April 2015. The purpose of the classification is to build infrastructure and enhance the competitiveness of the economy. RBI guidelines suggest that 40% of the bank's net credit have priority sectors lending with a ceiling of $2.3 million per borrower including renewable energy projects such as generators, solar power, wind plants, street light systems and remote village electrification (RBI, 2015).

(iii) Soft loan from IREDA: IREDA expands loans to renewable energy project developers at low interest rates. The financial grant is divided into several models such as direct lending and lending through various financial intermediaries, lending through supporting credit flows for non-bank financial companies (NBFC) and loan guarantee. IREDA uses NCEEF to provide subsidized loans with a 5% interest rate to renewable energy projects through designated banks. IREDA usually raise capital from international organizations and banks to support green projects. The Committee on Public Undertakings, India (CoPU) believes that delayed projects will be punished, but the sanctioning of delayed projects is also delayed by more than 66 days (in comparison with 90 days as standard) (CoPU, 2017).

(iv) Green bank: Green Bank emerges as an innovative tool to increase funding for global clean energy. Some specific financial institutions are seen as a successful mechanism to take advantage of limited public funding to mobilize private capital. The first efforts stemmed from Indian Renewable Energy Development Agency's plan to make the first green bank in India. Because of limited public funding for clean energy operations, the Indian Government has mobilized private funds to meet clean energy goals across India. The Ministry of New and Renewable Energy (MNRE) of India, IREDA and other stakeholders hold 2-year discussion about implementation of green banking towards maximum efficiency. A number of other commercial banks in India have also taken initiatives toward the transition to green banks. SBI provides long-term loans with preferential interest rates for renewable energy projects. Green banks are able to reduce lending rates and provide flexible financial grant to meet the needs of renewable energy sector. The green banking system in India can address financial-related challenges such as minimizing foreign exchange risk, establishing a margin facility, providing mixed credit, etc. Demand for green banks is clearly shown in India so it is absolutely necessary for RBI to have reasonable adjustment mechanisms. The goal is for green banks to mobilize the necessary financial grant at cheaper rates but have not significantly succeeded in India.

(v) Green bonds: Green bonds are a financial tool with a fixed income to raise money for environmental projects (GIZ, 2015). Green bonds are also rated credit to attract financial institutions. Despite the lack of experience, green bonds are still widely used. IREDA, India has issued a unique green bond under the name of green Masala bond. India has issued a number of global green bonds as of April 2017, estimated at US $ 3.2 billion. Of the total bond in the period from 2015-2017, nearly 70% spent for renewable energy in India (Climate Bond, 2017). Green bonds in India are disbursed for renewable energy projects in the form of loans. Although the Indian banking system has created the necessary rules to promote the green bond market, its success is largely dependent on investors' risk assessment for such tools.

(vi) Infrastructure debt fund: is considered a financial tool to support renewable energy in India. These funds can support as well as extend infrastructure projects. The current regulatory regime in India allows the fund to be lent to public-private partnership (PPP) projects. Infrastructure debt funds can invest in projects after one year of operation. India's Infrastructure Development Funds (IDFs) are currently primarily used to refinance infrastructure companies' debt to raise up to 10% of their total debt through bonds. ownership and commercial papers (Centrum and FICCI, 2016).

(vii) Crowdfunding: is seen as a green financing in some countries like North America and Western Europe with the aim of raising capital from a large number of small private investors to achieve the desired size of funding. Therefore, this call for capital is a more decentralized funding mechanism to collect capital for renewable energy projects. Crowdfunding is also widely used in India for rural electrification.

4.2.2. In Vietnam

According to SBV (2017), Vietnamese commercial banks may access the following sources of capital to boost green credit and green banking activities:

(i)Vietnam Environment Protection Fund (VEPF) under the Ministry of Natural Resources and Environment: VEPF

has a function to as offer loans with preferential interest rates, grants; support interest rate for programmemes, projects, activities, mission aiming to environmental protection and climate change response. Loan term must not exceed 10 years; loan interest rate for each target group over a set period of time, does not exceed 50 per cent of the commercial loan interest rate, currently, the loan interest rate applied (in 2015) is 3.6 per year. After 12 years of launch, VEPF has funded 192 environmental protection investment projects with a total amount of more than VND 1,200 billion nationwide. Loan projects are mainly run in the Central and Southern regions of Vietnam, aimed at the construction of sewage treatment plants.

(ii)Capital grant, financial and land support for organizations and individuals participating in the provision of environmental services under the Prime Minister's Decision No. 249/QD-TTg dated February 10, 2010 approving the Scheme for development of environmental services by 2020. Accordingly, organizations and individuals participating in the provision of environmental services shall enjoy policy on land, financial support; preferential credit packages at the highest level as prescribed by law.

(iii) The State's capital grant for clean and renewable energy projects, according to the Government's Decree No. 32/2017 / ND-CP dated March 31, 2017 on State investment credit (effective from May 15, 2017), replacing Decree No. 75/2011 / ND-CP dated August 30, 2011: Investment projects on building wastewater treatment and garbage disposal facilities in urban centres, industrial parks, economic zones, manufacturing zones, hi-tech parks, hospitals, industrial clusters and craft villages. (size limit: group A and B); clean energy and renewable energy resources projects are eligible for State development investment credits. Water-saving activities supported by the State's investment credit policy under Decree No. 54/2015 / ND-CP approving incentives for economical and efficient use of water, including: investment in economical and water conservation products, equipment and technologies (Initiatives for rainwater collection, desalinization to tum saline water and brackish water into freshwater, application of water-conserving imitation technologies and measures in agricultural production).

(iv) Green Credit Trust Fund (GCTF) for energy saving, renewable energy and clean technology projects: GCTF was established in Vietnam in 2007 with the aim to help businesses access financial resources when not able to loan capital through credit guarantees, partly support investment capital for businesses to install, operate cleaner technology and minimize negative impacts on the environment. GCTF is operated with the participation of: ACB, VIB, Techcombank, Vietnam Cleaner Production Centre (VNCPC), Consultation Centre in Switzerland and Swiss Federal Economic Bureau.

(v) Green capital mobilized by the State Bank includes supporting funds of international organizations (such as German Bank Kreditanstalt für Wiederaufbau (KfW), Green Climate Fund (GCF) ...).

(vi) The source of green capital mobilized by commercial banks themselves: According to the assessment, the capital for green projects in Vietnam is very essential, especially in localities with advantages in tourism development. However, the mobilization of capital from external sources for green growth target is still limited. In this context, green bond is a channel to raise more and effective capital in many countries. Accordingly, green bonds are mobilized to serve "green" projects - such as irrigation and environmental protection projects. Some businesses also issue corporate bonds to serve green projects.

4.2.3. Issues raised in terms of green bank

(i) Green financial products and services of banks are not diversified. Almost all are loans from international organizations and must meet the environmental requirements of these organizations. Many green credit products becoming currently popular around the world such as renewable energy products (geothermal, bioenergy, solar ...), economical and renewable products, energy efficiency investment ... are only available in India but not in Vietnam. Banks' environmental and social risk management system have not been developed and widely implemented. Most banks have not established a division in charge of environmental and social risk management and green credit development. The processes of appraising and assessing environmental and social impacts have not been specified in a document. The environmental risk assessment for banks' credits is still inadequate and the environmental risk assessment tools used by banks vary.

(ii) The use of new modern banking services is at a basic level and has not taken full advantage of new utilities. The number of people using internet banking, mobile banking, phone banking, debit and credit cards accounts for a low proportion in comparison with the population potential. Non-cash payments for public services such as tax payment, electricity and water bill payment, medical services, education, etc. account for only a very small proportion of the total payment volume of services. The psychology of making purchases with cash is still great, many individuals and organizations still prefer to use traditional channels, causing time-consuming, costly and wasting a considerable resource for the economy. Most rural people are still psychologically storing cash, gold and property at home. The level of investment and application of modern banking technology among credit institutionss is uneven and modest compared to other advanced countries in the region, failing

to meet the requirements of the comprehensive renovation of banking operations. There has not been significant support for the "greening" of banking activities.

(iii) Banks have not promoted their operational advantages to take advantage of green capital, especially international capital, which effectively serves green growth, namely: (1) Lack of participation of the system of credit institutionss and financial institutionss with expertise in the field of credit and finance: Activities of the funds for environmental protection currently have not been able to mobilize the participation of credit institutionss in financing for environmental projects. Except for the Green Credit Trust Fund sponsored by SECO with the participation in appraisal and credit granting of 03 banks, the Fund's execution capital is small (5 million USD) and short implementation time (2 -3 years), therefore, has not created a long-term and stable mechanism to mobilize the participation of financial institutionss; (2) For a number of International Funds on Environment and Climate Change, which are currently interested and aiming to finance Vietnam, such as the GCF Fund has abundant capital and operational experience but has not been Appropriate funding sources and institutionss in Vietnam to receive funding and access to this Fund are quite complicated. From the above practical basis, it is required to have an organization with operational mechanisms to help mobilize and promote the resources, people, experience and expertise of the financial and banking system in support green growth and sustainable development to overcome the above-mentioned shortcomings of the current system of environment and climate funds in India and promote green finance and credit development; facilitates the development of green banks.

5. Conclusion

Banking activities is a core activity of the economy. Through their activities, banks can impact on most sectors of the economy. The comparative assessment of the current situation in India and Vietnam showing the responsible production and business activities towards sustainable communities and environment are prerequisite to ensure the success of sustainable development. The philosophy of responsible living to maintain a safe and healthy living environment is indispensable, objective, irresistible and procrastinating for all of us, especially in the context of increasingly deep and wide international economic integration.

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Appendixes

Appendix 1: Sustainable financial policies for green bank development in India and Vietnam

	India
2007	Non-financial reporting and sustainable development, corporate social responsibility - Role of the bank
2011	Indian Business Ministry: National Voluntary Guidance on Corporate Social, Environmental, and Economic Responsibilities
2012	The Securities and Exchange Board of India (SEBI): Annual Business Responsibility Report (ABBR)
2014	SEBI: Regulations on Infrastructure investment trust
2015	Bank of India: Priority sector lending - Objectives & classification India Bank Association: National voluntary guide on responsible finance
2016	SEBI: Guidelines for issuance and listing of Green Bonds
2017	SEBI: Requirements for issuance and listing of green bonds
	Vietnam
2015	State Bank: Vietnam's Directive on Promoting Green Credit Growth and Environmental and Social Risks Management in Credit Granting Activities. State Bank: Banking action plan to implement the National Green Growth Strategy to 2020
2016	State Bank: This Circular deals with lending transactions of credit institutions and/or foreign bank branches with customers.
2017	State Bank: Commitment to innovation to implement the Green Growth program and climate change prevention programs

Note: ADBI (2018a)