

**UNIVERSITY OF TAMPERE
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**MASTER PROGRAMME OF PUBLIC POLICY AND FINANCIAL
MANAGEMENT**

**ASSESSING THE ROLE OF GREEN CREDIT FOR
GREEN GROWTH AND SUSTAINABLE DEVELOPMENT
IN VIETNAM**

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ABSTRACT

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Banks are considered as a low-emission and environmental friendly businesses. As the provider of capital through credit operations, banks play an vital, even decisive role in the implementation of development projects, in which many types of them such as: hydropower, mining or industrial plantations may have negative impacts on the environment and society. Thus, banks can indirectly cause environmental pollution, deforestation, biodiversity degradation, and even social instability through their financing activities. In the face of increasing demand for environmental protection, banks may face a number of risks when projects can be terminated, suspended or delayed for the reasons that they do not meet the requirements of safety or due to environmental and social conflict, resulting in the investor's inability to repay.

In an effort to restructure the economy in a more efficient and cleaner way, in 2012 the Vietnam Government issued the National Strategy for Green Growth in the period 2011 to 2020 and vision to 2050, and the National Plan of Action on Green Growth 2014-2020. Within this strategy, the State Bank of Vietnam is tasked to improve policies and strengthen the financial ability and credit performance of commercial banks for green growth. In order to implement the strategy, the State Bank of Vietnam (SBV) has issued a Directive on promoting green credit growth and encouraging credit institutions (CIs) in assessing credit risks in credit activities in March 2015. Accordingly, the SBV encourages CIs to take the initiative in developing policies for managing social and environmental risks as well as implementing solutions to promote the green credit growth of banks. Vietnam currently has 118 credit institutions including seven state-owned commercial banks. Among them only 3 banks have been developing internal policies on social – environmental risk management while appraising loans for projects. This shows that the system of CIs in Vietnam has

not been aware of the need to apply policies to ensure social and environmental safety in credit activities. Meanwhile, green credit has been applied in Vietnam, but the requirements to expand and promote green credit for economic growth and green growth are facing many obstacles as follows:

Firstly, Vietnam is still in the development model of resources dependence, so ensuring a balance between growth and environmental protection is always a difficult proposition, especially in the energy sector (thermal, hydropower) or mining. Secondly, in the field of banking operations, Vietnam Government has issued a number of documents on promoting green credit, however these regulations are orienting and encouraging but not mandatory. Therefore, for the purpose of profitability, banks are still willing to approve loans for investors without regarding to the negative environmental social impacts. Thirdly, the policies on ensuring environmental safety have not been applied in a compulsory and synchronous manner to the banking system. When a bank has more environmental requirements, it will reduce its competitiveness compared to other because customers tend to go to banks with simpler credit procedures and less environmental safety barriers. Fourthly, due to information deficiency, bank staff mainly refer to decisions of the competent agencies on planning rather than assessing environmental impact when they are considering to grant finance to customers. However, in practice, these decisions are not reliable, many of the proposed projects are subsequently excluded, not to be allowed to be constructed. Fifthly, the practical implementation and compliance of environmental policies and regulations in Vietnam are rather weak. Many polluters are still active and even licensed to expand production, therefore there is a lack of motivation for both banks and project owners to adopt better environmental safety mechanisms. Finally, despite the issuance of the Green Credit Directive, the State Bank of Vietnam has not yet issued specific guidelines for implementation, specific financial mechanism for friendly environmental projects.

Banks play an important role in directing investment flows into green production for sustainable development. However, this task can only be successfully achieved if there is a comprehensive and substantive reform program. This study illustrates different viewpoints and principles of green credit activities, the experiences of several countries in the world and propose solutions to promote green credit activities in Vietnam based on the the results of the research.

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ABBREVIATIONS

ADB	Asian Development Bank
BPI	Bank of the Philippines Islands
CBRC	China Banking Regulatory Commission
CI	Credit Institutions
DPB	Development Bank of the Philippines
EDD	Environmental Due Diligence
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMS	Environment Management System
ERM	Environmental Risk Management
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GEI	Green Economy Initiative of the United Nations
GGGI	Global Green Growth Institute
GIZ	Deutsche Gesellschaft fuer Internationale Zusammenarbeit
GTF	Green Transformation Fund
ICBC	Industrial and Commercial Bank of China
IHRB	Institute for Human Rights and Business
IFC	International Finance Corporation
IMF	International Monetary Fund
ISO	International Organisation for Standardisation
IUCN	International Union for Conservation of Nature and Natural Resources
JICA	Japan International Cooperation Agency

LBP	Land Bank of the Philippines
MDGs	Millennium Development Goals
MEP	Ministry of Environmental Protection
NGOs	Non-governmental organizations
ODA	Official Development Aids
OECD	The Organization for Economic Co-operation and Development
PBOC	People's Bank of China
PWC	Pricewaterhouse Coopers Consultants
SBV	State Bank of Vietnam
SEA	Strategic Environmental Assessment
SECO	Switzerland State Secretariat for Economic Affairs
SEF	Sustainable Energy Finance Program
SEPA	State Environmental Protection Administration
SME	Small and Medium Enterprise
UNGA	United Nations General Assembly
UNDP	United Nation Development Program
UNEP	United Nation Environment Program
UNEPFI	United Nations Environment Program Financial Initiative
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNGC	United Nations Global Compact

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Sustainable development is an urgent requirement and inevitable trend in the evolution of human society. The International Union for Conservation of Nature (IUCN), Natural Resources and World Wildlife Fund, in a research named “World Conservation Strategy: Living resource conservation for sustainable development” published in 1980, set three main goals of sustainable development as the “maintenance of essential ecological processes and life-support systems, preservation of genetic diversity, and sustainable utilization of species and ecosystems” (IUCN, 1980), and the term sustainable development here is mentioned in a narrow scope, emphasized the sustainability of ecological development in order to call for conservation of biological resources.

Bruntland Commission, in its report in 1987 named “World Conservation Strategy: Our Common Future” provided a definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43). This concept emphasizes the effective use of natural resources and the security of human habitat in the development process, in order to link economic development and environmental sustainability issues to provide a framework for integrating environmental policies and development strategies.

Agenda 21, the Rio Declaration on Environment and Development focused the interconnectedness among the three dimensions of sustainable development. It is a process of development that combines closely, reasonably and harmoniously between three aspects of development, including economic development, social development and environmental protection (United Nations, 1993). This conference marked the global commitment to sustainable development with the participation of representatives from more than 200 countries around the world and a large number of non-governmental organizations. In 2002, the World Summit on Sustainable Development was held in Johannesburg, South Africa. The conference marked a milestone for humanity in its efforts towards global sustainable development and reaffirmed the common responsibility of building the three pillars of sustainable development including: economic development, social development and environmental protection at the local, national, regional, and global levels. The conference gave an opportunity for participants to look back on what had been done in the direction that the Rio

Declaration and Agenda 21 outlined 10 years before, and continue to implement some of the priority objectives, including: Poverty eradication, changing unsustainable patterns of consumption and production (Development in an environmental friendly projects and recyclable products to replace the products that pollute the environment), protecting and managing the natural resources for economic and social development. The conference also covered the topic of globalization in health and development. Sustainable development is not only understood as a continuous development, but also rather a continuous effort to achieve sustainable status in all areas, a process of maintaining the mechanical balance of human demand for equity, prosperity, quality of life, and sustainability of the natural environment. Entering the 21st Century, sustainability more and more becomes a center of development in all areas of human life.

Vietnam is considered one of the countries most affected by climate change. The impact of climate change in Vietnam seriously threatens the process of poverty reduction, the achievement of the Millennium Development Goals and the sustainable development of the country. Besides, Vietnam is restructuring the economy through innovation, moving from a centrally planned economy to a socialist-oriented market economy. Over a long period of time, Vietnam has maintained a model of economic growth mainly based on exporting raw materials, whereby natural resource exploitation is a priority development path, and economic development is based on cheap and unskilled labor resources with low productivity (Thien, 2014). The use of natural resources is wasteful and inefficient. Thus, national resources are depleting, the pace of environmental degradation is pushed up, the natural environment in many places is destroyed seriously and the environment is polluted. Consequently, the economic development of Vietnam becomes unsustainable. So the solution to this problem is sustainable development, and Vietnam is pursuing the target of sustainable development is the long-term stability of the economy and environment. Along with the global trend, the overall goal of sustainable development in Vietnam is the long-term stability of the economy and environmental. This is only achievable through the integration and acknowledgement of economic, environmental, and social concerns throughout the “local efforts in making progress towards sustainability” (Rachel Emas, 2015, p. 2).

The Vietnam Sustainable Development Strategy for 2011-2020 states that the priority orientation for sustainable development in 2011-2020 is “Obtaining sustainable economic growth, step by step implementing green growth, developing clean energy and renewable energy”. Vietnam's economic growth model depends on the size of investment capital, which relies heavily on credit from the banking sector. According to statistics, the banking sector provides 68.1% of capital needed for

economic development while the capital market contributes 31.9%. Thus, in order to implement national sustainable development strategy, (as shown in the National Green Growth Plan for the period 2014-2020), SBV need to coordinate with the Ministry of Finance and the State Treasury to improve the financial market as well as credit capacity of commercial banks for green growth and sustainable development in the period 2014-2020. Accordingly, on its role as financial intermediaries to promote economic development, the banking system will determine the source of investment capital for socio-economic development, and plays an important role in supporting economic sectors for sustainable economic development. Therefore, green credit policies are the key solution to drive the economy towards green growth. Green credit is not only beneficial to individuals and businesses when they are implementing green projects but also contributes to economic development, improving people's living standards and protecting the environment. Green credit also creates sustainable development of the banking system through diversification of green banking products.

1.2 Statement of research problem

1.2.1 A brief research gap

Credit plays an important role in promoting economic development. Actually, green credit concept in Vietnam is quite new. Financial institutions operate for benefits and ignore to assess risks, negative impacts on the environment of the projects they are financing. So it is necessary to assess the role of green credit performance for sustainable economic development in Vietnam in order to propose solutions to accelerate green credit in Vietnam.

Recently, several international financial institutions and a number of developed and developing countries have set performance standards for green credit and the principle of environmental and social risk management when banks appraise loans for projects. Some countries have collaborated with international financial institutions to develop principles for managing social and environmental risks and require credit institutions to implement them strictly, while some countries only have policies to encourage banks to apply. Hence, there is still a debate about this. The study therefore is dedicated to filling this research gap. The thesis will focus on two main matters: reviewing literature on credit activities for green projects and assessing the implementation of the criteria for environmental and social risk management of credit institutions in Vietnam. My expectation in this

research, based on the findings, is to provide a holistic view on concept of green credit, the role of green credit for economic development in Vietnam, and to recommend some measures that Vietnam Government as well as credit institutions should implement to promote green credit activities for national strategy of sustainable development.

1.2.2 Research questions

In order to understand the concept of green credit and the role of green credit in economic development in the context that Vietnam is making efforts to implement its sustainable development strategy, the main research question is: *“How does green credit play an important role in sustainable development and what should Vietnam do to promote green credit for sustainable development?”*.

Accordingly, with the aim to have more data to answer the research question, three sub-questions were set out as following:

- 1. How does “green credit” influence sustainable development?*
- 2. What are environmental policies in the credit activity of banks?*
- 3. Is it necessary for Vietnam Government to regulate policies on green credit for the national sustainable development strategy ?*

1.3 Structure of the research

There are six chapters in this research. Chapter one introduces research background, aims, objectives, and research organization. More specifically, a description of the detailed objectives for this study and an illustration of the link between the six chapters of the study are undertaken in this section.

The main contents of the second chapter focus on reviewing literature the role of credit in economic development, the concepts, definitions of green credit, green banking, green growth, green economy, sustainable development, and describing the relationship between green credit and green economy, and the need of green credit for sustainable development. In addition, in this chapter I also investigate the regulations and rules on sustainable development, especially regulations on green credit that have been established and implemented by international financial organization such as International Finance Corporation (IFC), Equator principles, etc. Case studies in several

developed countries and developing countries are analyzed to show the research gap that it is necessary to issue mandatory regulations in governing green credit activities for sustainable development in Vietnam.

Chapter 3 presents the research methodology, which describes the research methodology, research process, and presents the method of data collection and data analysis. The main source of material used for the methodology of this study is the guidebook named “Qualitative research method: A data collector’s field guide” by Natasha Mack et al, published in 2011.

The current situation on credit activities of the banking system in Vietnam is presented in the fourth chapter. Specifically, the general introduction of Vietnam's economic context, Vietnam's sustainable development orientations, the importance of credit for economic development in Vietnam, the status of green credit activities of the banking system, the regulations that Vietnam has issued to regulate green credit activities of banks are described in this chapter. The most important part of the fourth chapter is the findings from the analysis of documents and interviews which are done in this research.

In Chapter five, SWOT tool is used to evaluate the current status of green credit activities in Vietnam, objectives of green credit development in Vietnam, and some solutions need to be implemented to promote green credit activities of CIs toward sustainable development in Vietnam.

The final chapter presents the conclusions and recommendations on the implementation of green credit policy in Vietnam based on the findings of the study, and also points out the limitations of this study. Finally, the contribution of the thesis to both the practical and theoretical aspects is also presented in this chapter.

CHAPTER TWO: LITERATURE REVIEW

2.1 Roles of bank credit for economic growth

2.1.1 Concepts of credit

Investment capital is the prerequisite for the existence and development of each enterprise. In the economy, there is always a need for borrowing and lending. Businesses and individuals who have idle money always want to lend for interest. In contrast, businesses and individuals without money try to find a loan to meet their investment opportunities or consumer needs. For the borrowers, they are always willing to pay fees for using the money to invest in the hope that profits will outweigh the costs. The meeting between the borrowers and the lenders will generate credit relations. This relationship is represented as: The lender gives the borrower a certain amount of money. This value may be in monetary form or in the form of items such as goods, machinery, equipment, real estate, etc...The borrower is only allowed to use the loan value temporarily for a certain period, after the expiry of the agreed term, the borrower must repay the lender. The return value is usually greater than the value at the beginning of the loan, in other words, the borrower must pay additional interest on the loan.

The founder of the Investment firm Bridgewater Associates, Ray Dalio, tells of this relationship as “a transaction between a lender and a borrower, in which the borrower promises to pay back the money in the future along with interest” (Ray Dalio, 2013). According to Nwanyanwu (2010), credit is the money from the lender to the borrower through third parties as intermediaries that are banks and credit institutions. So credit is the economic category that reflects the relationship of mutual capital among entities in the economy on the principle of repayment, both of capital and interest.

History shows that credit is an economic category and also a product of commodity production which exists in parallel and develop together with the commodity economy and it is an important driving force for the commodity economy to develop at higher stages. In the economy, investment capital for production is mobilized in many ways, such as: contribution of share capital, issuance of stocks, bonds, bank loans, etc.... in which, bank loans are sources of capital mobilized in the most flexible and convenient way. Investopedia (2017) refers to bank credit as an aggregate amount of

credit available to a person or business from a credit institution. The banking industry helps to make these loans by mobilizing funds from those who do not have immediate needs from these funds and grant such money to investors who have great ideas on how to create additional assets in the economy but lack the capital needed to implement the idea (Nwanyanwu, 2010). The Vietnam Law on credit institutions (2010) defines credit as an agreement between CIs and organizations or individuals to use a sum of money or a commitment to permit them to use a sum of money to carry out investment, business or consumption for a determinable period of time as agreed on the principle of full repayment of principal and interest, through the business of lending, discounting, finance leasing, factoring or bank guarantee issuing and other forms of credit extension.

2.1.2 The importance of bank credit for economic growth

“Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real Gross Domestic Product (GDP), usually in per capita terms” (Wikipedia, 2017). According to Dewett, the concept of economic growth is considered to be a net national product increase over a given period of time (Dewett, 2005). From another point of view, Todaro and Smith define economic growth as a steady process whereby the productive capacity of the economy is increased over time to bring about output and income increasing levels of nation (Todaro and Smith, 2006). In a simple way, Jhingan simplifies economic growth by describing it as an increase in output. Economic growth is basically measured in GDP. The financial intermediation process of financial institutions is necessary to facilitate the GDP (Jhingan, 2006). There have been many studies showing that bank credit is extremely important to economic growth. Richard Duncan, an author of *The Dollar Crisis*, has strongly confirmed that “Credit growth drives economic growth, until it doesn’t” (Richard, 2011).

The role of credit in economic growth has been recognized as credit maintained by various economic agents to enable them to cover operating expenses. Providing credit with a consideration of the full volume and price system of the sector is a way to create self-employment opportunities (Ademu, 2006). Credit helps to establish and expand business and take advantage of economies of scale, thus the use of credits will help organizations and individuals create and maintain a reasonable business scale. It is the availability of credit that can also be used to improve informal activities and effectiveness which are achieved through the replacement of resources. Ademu has

also highlighted the role of credit by further explaining that credit can be used to stop an economic activity from total collapse in the event of a disaster, such as floods, droughts, illness or fire. Credit can be attracted to revive such an economic activity (Ademu 2006). In addition, credit is the sum of money that commercial banks provide to individuals, business organizations and governments for the purpose of consumption and investment. Timmsina (2014) argues that individuals obtain credit for both consumption and investment purposes, business organizations borrow loans to invest in plant and machinery whereas government borrows loans to spend for recurrent as well as capital purposes.

When discussing the importance of credit for country and how credit make the economy strong, Zahid Khan Jadoon, a search engine optimization expert from Pakistan explains few points such as: Firstly, the economic needs of the agricultural, commercial and industrial sectors of the economy are fully met by bank credit. Secondly, bank credit accelerates economic development in the country by providing timely loans to the industries. Thirdly, bank credit for farmers helps in increasing agricultural productivity in the country and helps farmers in developing agriculture sector. Fourthly, bank credit facilitates the production of good in large scale, promptly responds to the other life's necessities, leading to the innovation of technology research and reduction of production costs. Fifthly, credit instruments as bill of exchange, create favorable conditions for international trade. Payments therefore made without the real movement of treasure to any great extent. Lastly, the providing bank credit to consumers and businesses lead to increase the rate of economic growth, which is limited by the saving.

The relationship between bank credit and economic growth has been an extensive subject of empirical research in both developed and developing countries since the development of the innovation theory of Schumpeter (1911). In Schumpeterian world, bank credit plays a pivotal role in economic growth. Bank credit provides finance to production, consumption and capital formation which stimulates the economic growth. Moreover, bank credit plays an important role in economic growth because it may stimulate the capital accumulation and rate of saving that further induce the economic growth. In the context of economic development, the development of the financial sector, especially banking system, plays an important role in providing the financial resources needed to various economic activities and re-directed to serve the development of economic sectors in a correct way. Bank credit leads to an increase in spending, thus increasing the level of income in the economy. This leads to higher GDP and hence faster productivity growth. If credit is used to purchase products of the economy, it will help boosting economic growth and increasing income.

As a result, credit continues leading to a creation of debt cycles. In the contrast, “the fall in bank lending led to a fall in investment and lower consumer spending” (Pettinger. T., 2017), thus negatively impact to the GDP.

Banks are considered as the lifeblood of the financial system of the countries, especially in the current trend of international integration, the banking system's activities have further affirmed its important role. That are, bank credit promotes the production and circulation of commodities and currencies, contributes to speeding up the process of reproduction, expansion and macro-economic adjustment. Through the redistribution of monetary capital on the principle of repayment, capital and materials are put into circulation and used properly in production. Bank credit contributes to meet the temporary capital needs of the business, ensuring the continuity of production as well as production expansion. At the same time, banking credit plays an important role in creating the optimum structure for economic development as a means for the State to supply money to the economy in line with economic development. Bank credit also improves business efficiency of enterprises. Thanks to the bank's loans, businesses can overcome difficulties in business and still have capital to expand production scale, invest in technological innovation, etc ... help businesses grow more.

Moreover, in the context of global economic integration, bank credit contributes to the expansion of international economic relations. Foreign borrowing becomes an objective need for all countries in the world, and it is becoming increasingly urgent for developing countries. Bank credit has played an important role in boosting the economic growth of developing countries. It is believed that changes in the volume of credit will create a significant impact on the level of economic activities through prosperity or deflation (ECB, 2009).

In addition, a number of studies have shown that bank credit plays an important role in economic growth. In the study named “Financial Strategy to Accelerate Innovation for Green Growth”, Hee Jin Noh emphasizes that financial activities enhance the financial sector, thus improve the environment and promote economic growth (Hee Jin Noh, 2010). To prove that, Ben Salem and Trabelsi have conducted a test in seven countries in the Southern Mediterranean countries in the period from year 1970 to 2006. The results of the study have demonstrated the presence of a long-term relationship between financial development and economic growth (Ben Salem & Trabelsi, 2012). At the same time, Iwedi Marshal., et al, (2015) in another empirical study in Nigeria, found a strong correlations between bank credit and GDP growth, while Suna Korkmaz (2015) conducted

research in 10 European countries and also concludes that domestic credit provided by the banking sector has affected to economic growth. Both their studies prove that there is a significant positive impact of bank credit for economic growth.

Not only does public sector credit supports economic growth, in relation to the private sector, Osman (2014) studied the effects of private sector credit on Saudi Arabia's economic growth by using the Autogressive Distributed Lag model and pointed out that: It is clear that there is a relationship between Saudi Arabia's economic growth and private sector credit and commercial banks' credit to the private sector will contribute to the economic growth of Saudi Arabia. Emecheta and Ibe (2014) also use Vector Autoregressive techniques to conduct a research in Nigeria, and also showed that there is a positive and important relationship between bank credit and private sector, broad money and economic growth.

Moreover, according to Imola Drigă and Codruta Dura in their study named “The financial sector and the role of banks in economic development” published in 2014, “The efficiency of the banking system is a key determinant of sustainable growth. Thus, banks are essential for any modern economy, not only in terms of turnover, but also as the primary financier of the national economy” (Drigă & Dura, 2014, p. 598). In addition, “By providing financial services to all firms with good growth opportunities, the financial sector helps the economy to grow” (Drigă and Dura, 2014, p. 599). Thus, all these studies have proved the importance of credit for country and how bank credit makes the economy strong and economic growth.

2.2 Concepts on green economy, green growth and sustainable development

2.2.1 Green economy

Up to now, many international organizations, such as: European Union (EU), World Bank (WB), International Monetary Fund (IMF), United Nations (UN), Organization for Economic Co-operation and Development (OECD), etc as well as some developed economies, have developed and promoted green projects as one of the solutions to help us get out of the “brown economy” situation that depends much on the natural resources, fossil fuels, environmental pollution, resources depletion, ecological imbalance and climate change. These situations are considered the greatest

challenge of humanity in 21st century. So what "green economy" is and how to measure the green economy are being discussed.

“The wording green economy has had a long history in the academic world. The paradigm and its underlying ideas are introduced in the book *Blueprint for a green economy*” (David Le Blanc, 2011, p. 151). Since then, the concept of green economy has been broadened. United Nations Environment Programme (UNEP) defined it “is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcity.” (UNEP, 2010, p. 4-5). Further, UNEP has performed extensive and ground breaking work in the area of green economy. The UNEP Green Economy Report (“Towards Green Economy - Pathways to Sustainable Development and Poverty Eradication”) announced in 2011 serves as a strong conceptual basis for policy action in this area. The definition coined by UNEP is one of the most internationally recognized to date: “In its simplest expression, a green economy is low-carbon, resource-efficient and socially inclusive. In a green economy, growth in income and employment are driven by public and private investments that reduce carbon emission and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem service” (UNEP, 2011, p. 16).

When mentioning to the concept of green economy, UNEP (2011) emphasizes the preservation of natural capital, including ecosystems and natural resources, while the Green Economy Coalition shows that the green economy is “ An economy that provides better quality of life for all within the ecological limits of the planet”.

A green economy is characterized by sustained growth of economic sectors that can sustain and increase the natural capital of the earth. These include renewable energy, low carbon transport, clean technology, advanced waste management systems, energy efficiency, sustainable agro-forestry-fisheries. Understanding in a simple way, green economy is a low-carbon economy, saving resources, creating jobs and social justice. So the question is “How to measure green economy?”. Up to now, there is no specific set of norms to measure the "green" level of the economy. WB, UNEP, OECD, and Global Green Growth Institute (GGGI) are all link together through the Green Growth Knowledge Platform¹ to provide key indicators for measuring green economy. The following areas are identified as key elements to assess the progress of green growth: (i)

¹ The Green Growth Knowledge Platform is a global network of international organizations and leading experts in identifying and pointing gaps and knowledge about green growth.

Productivity and environmental and resource innovations, (ii) Natural assets and effective management of these assets; (iii) Quality of life related to the environment, (iv) Policies related to green growth, economic opportunity and social context of green growth, (v) Appropriate management of general economic development. UNEP also provided three sets of indicators for measuring green economy as: indicators of economic transformation, indicators of efficient resources, and indicators of social development. Thus, it can be summarized that green economy is (i) one of the measures to improve human well-being and social justice, while significantly reducing environmental risks and ecological scarcities, and (ii) one that produces, distributes goods and services that are friendly to the environment, renewal energy, transportation and green resources, reduces energy, resources and water consumption through efficient energy and resources strategies, transforms carbon components into non-carbon components (OECD, 2012). From that, the definition of green economy has attracted three dimensions of sustainable development, including: environmental, social and economic. When transiting to the green economy, it will create a profound impact on achieving sustainable development worldwide, protecting environment, combating climate change and exploring new development models for all developing countries. It makes Green Economy Coalition believe that “green economies are possible, necessary and desirable”.

2.2.2 Green growth

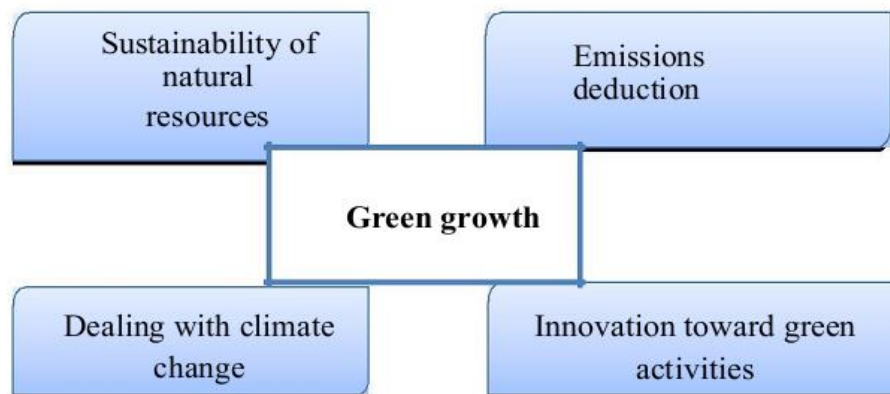
The term “green growth” is often used separately or sometimes used interchangeably with “green economy”, (European Economic Area, 2014). Jänicke pointed out that for a long time the term “green growth” was applied only to the development of the ecological industry. However, currently this term is used for the growth of the whole economy (Jänicke, 2012).

Since the late 20th century, the term “Green growth” has been introduced as a new approach for economic development of many countries. “The use of the word “growth” suggests the particular importance many countries attach to the quantitative expansion of their economies to accommodate growing populations, rising development aspirations” (UN, 2011, p. 37). Green growth is not only economic benefits but also helps to restore and conserve the natural ecosystem to nurture people's lives and helps reduce the influence of climate change. Many international organizations such as UNEP, OECD, WB, IFC, GGGI, The United Nations Development Programme (UNDP), The United Nations Economic and Social Commission for Asia and Pacific (UNESCAP) consider green economic issues under the concept of “green growth” and several definitions have been developed

for this term. According to OECD (2011), green growth is driving economic growth and development while ensuring that natural assets will continue to provide the resources and environmental services for human life. To reach this, green growth must be a catalyst for investment and innovation, which is the basis for sustainable growth and the creation of new economic opportunities. The definition clearly underscores that green policies do not need to slow economic growth. Green growth can open up new sources of growth through 5 factors such as: Productivity, Innovation, New markets, Confidence, and Stability. “Green growth will also reduce the risks to growth from: (i) Bottlenecks that arise when resource scarcity or reduced quality makes investment more costly. In this regard, the loss of natural capital can exceed the gains generated by economic activity, undermining the ability to sustain future growth. (ii) Imbalances in natural systems that raise the risk of abrupt, highly damaging – and potentially irreversible – effects” (OECD, 2011, p. 5).

There is not, however, unified definition of green growth but in general, the term can be understood as: (i) efficient use of natural resources; (ii) utilizing new sources of low-carbon power and (iii) economic growth in association with environmental sustainability.

Figure 1 - Green growth general model



(Source: Research team of GIZ and SBV, 2015)

In June 2009, 34 Ministers from 34 different countries in the world signed a Green Growth Declaration, asserting that they will: “Strengthen their efforts to pursue green growth strategies as part of their responses to the crisis and beyond, acknowledging that green and growth can go hand-in-hand.” (OECD, 2009, p. 1).

In The United Nations Conference on Sustainable Development (UNCSD), under the theme "The future we want," the Rio + 20 conference is considered one of the most important events of the 21st century when it aims to seek consensus on a number of issues, particularly on Sustainable Development Goals after 2015, the year of completing the Millennium Development Goals. The important role of green growth strategies has been recognized as one that "should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the earth's ecosystems" (UNCSD, 2012, para. 56, p. 14).

Policy-makers formulate green growth strategies with the goals of focusing on promoting the capacity of the economy to meet the needs of people in an inclusive and eco-effective way and boosting productivity in increasingly diverse, low-carbon and resource-efficient economic activities that secure jobs. Green growth also provides that natural capital stocks would not be undermined by enhancements in human well-being and GDP growth, and that environmental pressures would not exceed the capacity of the ecosystems to absorb them (UNESCAP, 2013). UNESCAP (2013) also proposed green growth indicators which should help policy-makers to answer the questions relating to the environmental dimensions of quality of growth related to equitable distribution and access, structural transformation, eco-efficiency, investment in natural capital, and planetary limits.

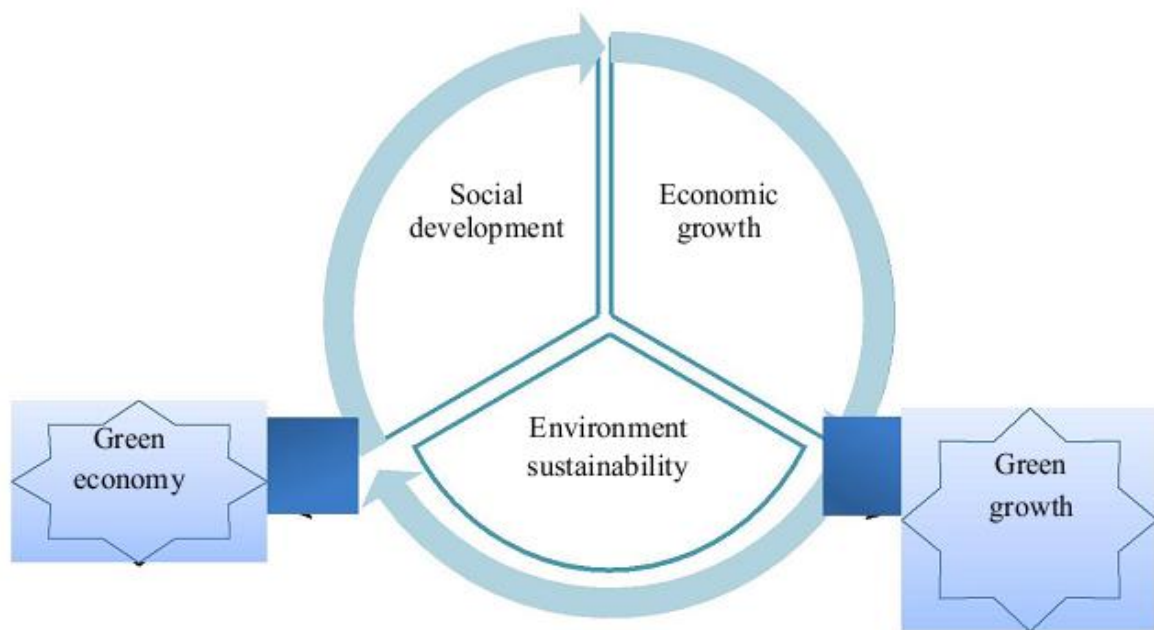
2.2.3 Relationship between green economy, green growth and sustainable development

Green economy is an economy or economic development model based on sustainable development and knowledge of ecological economics. Activities in the green economy create a profit or value that is beneficial to the development of the life of the human society, and environmental friendly (most important element). These three elements reach equilibrium that will satisfy sustainability. In green economy, the environmental factor actually acts as a catalyst for green growth, economic reform and social welfare. While the livelihood of a part of the population is living below the poverty line, highly depend on nature, vulnerable to natural disasters because of climate change, the transition to a green economy also contributes in improvement social justice, and can be seen as a good direction for sustainable development.

Green growth is a new direction, driving economic development along sustainable production and consumption patterns, to ensure that natural capital continues to provide ecological resources and

services for the livelihood of human beings for the present generation as well as for the future generations. Green growth provides a practical and flexible approach to achieving concrete and measurable progress on its economic and environmental pillars while also taking full account of the impact to the society cause by the strengthening dynamic growth of the economy. The coin content of the green growth strategy is to ensure that natural assets can bring its full economic potential on a sustainable basis. This potential includes the provision of vital life support services such as air and water, and biodiversity needed to support food production and human health. Natural property is not an infinite substitute and green growth policies would take that into account. Thus, green growth is not a replacement for sustainable development. Green growth is a prerequisite for building a green economy (UNESCAP, 2013). Green economy must ensure the balance and harmony among three factors: economy, society and environment. “Green growth” and “green economy” have a close relationship: it is impossible to achieve “Green growth” without “green economy”.

Figure 2 – The model of relationship between green economy and green growth



(Source: Research team of GIZ and SBV, 2015)

Thus, the concept of "green economy" does not replace the concept of "green growth" and the concept of "sustainable development", but it is increasingly recognized as a suitable model for sustainable development. In other words, green economy is not a substitute for sustainable development but an economic strategy to achieve sustainable development goals.

2.3 Theoretical premises and main concepts of green banking, green credit

2.3.1 Definition of green finance

Until now, there has been no clear and widely accepted definition of green finance because of two reasons: firstly, there are no publications on the fixed term green finance and secondly, there are significant differences of definitions given by international organizations and scholars (Lindenberg, 2014).

In terms of processes that guide and monitor financial flows, Pricewaterhouse Coopers Consultants adopted a definition for the purpose of analysing the Green Finance Incentives in China as: “For the banking sector, green finance is defined as financial products and services, under the consideration of environmental factors throughout the lending decision making, ex-post monitoring and risk management, provided to promote environmentally responsible investments and stimulate low-carbon technologies, projects, industries and business” (PWC, 2013, p. 15).

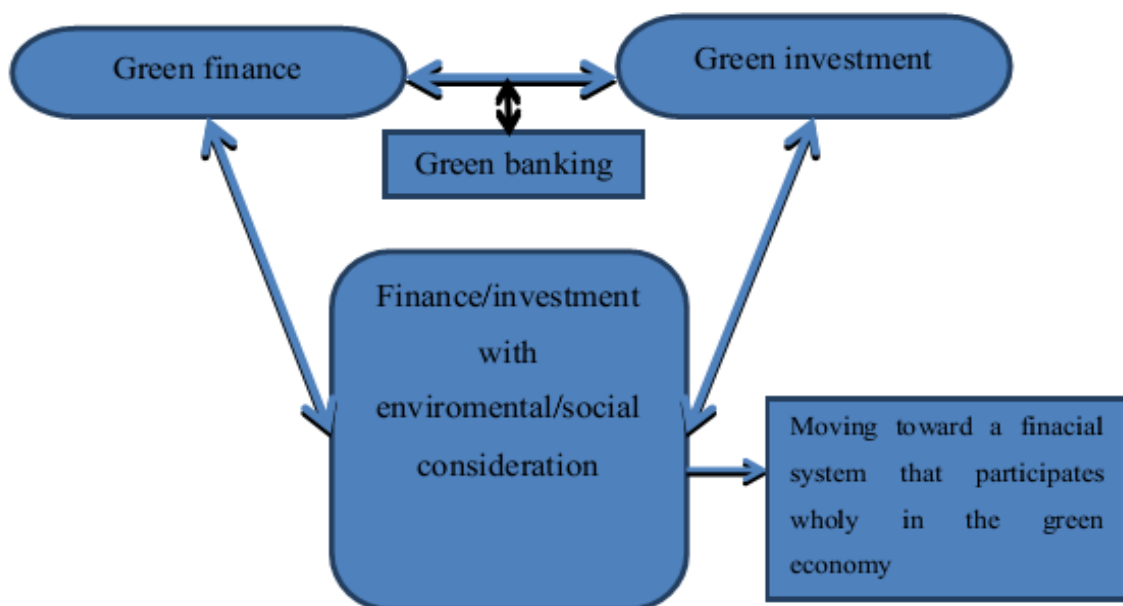
In the study “Mapping of Green Finance Delivered by IDFC Members in 2011”, group of authors: Niklas Höhne, Sumalee Khosla, Hanna Fekete, and Alyssa Gilbert split green finance into three separate themes: Green energy and mitigation of greenhouse gas emissions, adaptation to climate change impacts, and other environmental objectives. From that, they provided a definition of green finance as: “Green finance is a broad term that can refer to financial investments flowing into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy. Green finance includes climate finance but is not limited to it. It also refers to a wider range of other environmental objectives, for example industrial pollution control, water sanitation, or biodiversity protection. Mitigation and adaptation finance is specifically related to climate change related activities: mitigation financial flows refer to investments in projects and programs that contribute to reducing or avoiding greenhouse gas emissions (GHGs) whereas adaptation financial flows refer to investments that contribute to reducing the vulnerability of goods and persons to the effects of climate change”. (Höhne, et al., 2012, p. 7).

Considering green finance in relation to investment and the environment sustainability, there were several concepts of green finance. First of all, the point of view of group authors including of Ulrich

Volz, Judith Böhnke, Laura Knierim, Katharina Richert, Greta-Maria Röber, and Vanessa Eidt, “Green finance comprises all forms of investment or lending that take into account environmental impact and enhance environmental sustainability. A key element of green finance is sustainable investment and banking, where investment and lending decisions are taken on the basis of environmental screening and risk assessment to meet environmental sustainability standards” (Böhnke, et al., 2014, p. 120). Thus, risk assessment to meet environmental sustainability standards when investing and lending is mentioned.

Simon Zadek and Cassie Flynn, in their study “South-Originating Green Finance: Exploring the Potential” accessed to green finance in relation to green investment and climate finance, in which green finance is often used interchangeably with green investment and green investment is understood here to refer to the overall capital cost of the transition to a green economy, such as reducing greenhouse gas emissions, increasing resilience, securing food systems, and water, forest, transport and waste management. So green investment is closely related to investment approaches such as socially responsible investing, or sustainable, longterm investing and green investment is another terms that can be used to substitute for green finance (Zadek and Flynn, 2013). The following diagram describes the relationship between green finance, green investment towards green economy.

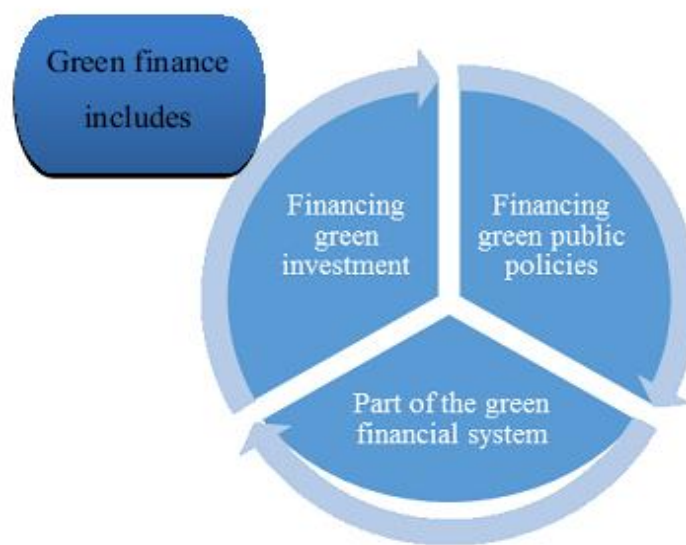
Figure 3- The categories of green finance / green investment



(Source: Research team of GIZ and SBV, 2015)

According to Nannette Lindenberg (2014), green finance consists of three components. Firstly, it is the finance for both public and private green investments, including operational capital, preparation costs for the project, expenditure costs for environmental goods and services (water management or biodiversity and landscape protection), and expenses for preventing, minimizing and compensating of damages to the environment and to the climate (such as energy efficiency or dams). Secondly, it is the finance that supports to the implementation of the public policies, including sources of funding to encourage initiatives and implementing projects that minimize the impact on the environment (such as the supply of renewable energy taxes). Finally, green finance is a component of the financial system that supports to green investments, such as the Green Climate Fund or creating financial instruments for green investments (such as green bonds and green funds) with specific legal, economic and institutional framework conditions.

Figure 4 – The categories of green finance/green investment



(Source: Lindenberg, 2014, p. 3)

Green finance is the principle of green credit including management measures that require commercial banks and other financial institutions to carry out research to create products which can cope with environmental pollution, protect and restore the ecological environment. Green finance encourages the development and use of new energy sources, green products, and ecological agriculture through providing preferential interest rate loans for enterprises; at the same time limiting the new projects of polluting businesses by applying high interest rates (Xu, 2013)

2.3.2 Green banking for sustainable development

“Green finance is a strategy for financial sector and broader sustainable development” (UNDP, 2016, p. 4). In terms of banking operations, “Green finance refers to banks that provide financial assistance to environmentally responsible projects” (Saleena, 2014, p. 28). Previously, people thought that the activities of financial institutions do not have much influence on the environment, because the products of the financial industry has no physical form and no waste into the environment. However, the banking sector is the main source of financing for commercial projects and contributes significantly to economic growth. As a result, the banking sector plays a decisive role in promoting investments towards sustainable environmental development and community responsibility.

Banks themselves may not be polluters, but they may be related to companies or investment projects that pollute the environment at present or in the future. The banking sector is generally considered to be environmental friendly in terms of emissions and pollution. The environmental impacts inside the banking sector such as energy use, paper and water are often not substantial. The bank's environmental impact is not directly caused by banking activities, it is created by the bank's clients. Therefore, Thombre (2011) showed that the impact of external activities of banks, though very large, is difficult to estimate.

Moreover, in the banking sector, environmental risks management is quite similar to risk management. Good environmental risk management will improve the quality of the portfolio, thereby increasing the value of the business and reducing the loss ratio. Therefore, one of the major responsibilities of the banking sector for sustainable development is to encourage investment in environmental protection projects, and to be cautious about granting credit. Those who intend to follow the green trend, may be given priority credit by banks. It is from the dependence of capital that the government can adopt a banking system that encourages banks to invest in environmentally friendly projects as well as limiting pollution and toxic projects to the environment. Engaging in green growth in this way will turn banks from financial firms into the green banks of the economy.

“The concept of green banking emerged in 2009 with coming of the First Green Bank based in Mt. Dora, Florida, United States” (G. Jayabal and M. Soundarya, 2016, p. 1). Green bank Act was introduced by Congressman Chris Van Hollen who showed that a green bank was established under

the ownership of the United States government with the aims of offering financial support to increase the energy usage efficiency and to reduce carbon emissions and other environmental pollution from energy creation. In addition, it is expected that this institutions is going to work towards reducing the country's dependence on foreign sources, combating climate change and creating additional jobs through the provision of healthier energy generation facilities. Several concepts of green banking have been developed. "The term green banking generally refers to banking practices that foster environmentally responsible financing practices and environmentally sustainable internal processes" (Rahman and Barua, 2016, p. 2). In a report named "What is the Meaning of Green Banking ?", Clark Schultz (2012) stated that green banking means promoting environment-friendly practices and reducing carbon footprint from banking activities (Schultz. C, 2012), while Singhand Singh (2012) explained more clearly that green banking signifies encouraging environment-friendly practices andplummeting carbon footprint by banking activities through various environment-friendly acts. Bahl (2012) observed that " Green Banking refers to the banking business conducted in selected area and technique that helps the overall reduction of external carbon emission and internal carbon footprint" (Bahl, 2012, p. 1). In the study of Millat et al. (2013), green banks can be approached in two directions: firstly, green banking aims greening the internal operations of the bankd and secondly, funding for environmentally friendly projects, focusing on the social - environmentalassessment in appraising process. Singal, Singal, and Arya (2014) stated that green banking focus on the environment by reducing carbon footprint both internally and externally. Specifically, the bank reduced its carbon footprint by implementing online operations, using Automatic Teller Machines, mobile banking, cards, e-mail exchanges, etc., to minimize the associated activities to paper, stationery, and air conditioners. For the purpose of reducing emissions outside the bank, bank'activities to reduce emissions by providing green credits for environmentally friendly projects, priority financing to green industries. Moreover, through external activities, "Green banking is a step to change client habits in the banking sector for the sustainable development in future. Online banking is the easiest way to green banking" (Garg. S & Sharma. V, 2017, p. 420). Therefore, "green banking is defined as the operation of banking activities while giving special attention to social, ecological and environmental factors with the aim of the conservation of nature and natural resources. Without changing its main banking functions, a green bank can grow through applying environmentally friendly policies throughout every sector of its activities" (Arshad Chowdhury. A & Dey. M, 2016, p. 34), and "Green banking is similar to a normal bank which considers all the social, environmental and ecological factors with an aim to protect the environment and conserve natural resources" (Pappu Rajan. A & Prasath. J, 2016, p. 2). The idea of "green banking" will benefit both banks, industry and the economy. Green banking will

not only promote the greening of the economy but it will also increase the quality of bank's assets in the future (Huan, 2014).

Green banking not only focus on economic development but also environmental and social issues. They promote environmental protection in their operations through methods such as applying environmental standards in credit approval process or preferred credit products for carbon dioxide reduction projects, clean energies and clean products. The banks also apply green standards internally. Thus, green banking means promoting environmentally friendly practices and reducing carbon footprint from banking activities. This comes in many forms: using online banking instead of branch banking, paying bills online instead of mailing them, opening up CDs and money market accounts at onlinebanks, instead of large multi-branch banks,or banks support local green initiatives. Therefore, together with the providing credits for the implementation of environmental protection projects, green banking means to promote environmentally friendly practices and reduce carbon emissions from internal operations of the bank. There are many ways to do this such as: using online banking instead of a branch banking, paying bills online instead of mailing, opening up CDs and online money market accounts at onlinebanks instead of large multi-branch banks or a bank supporting local green initiatives. So, green banking is a bank with activities moving toward sustainable development.

It is required that there should be a paradigmatic change in thinking about economics, business and finance of green banking. The success of green banking would be greater if governments around the world started to revise their economic paradigms from being "monetary economics" to "ecological economics" and began to transform their accounting principles purely financially into eco-energy accounting models. Then banks are much more responsible to environment. "The term green banking means developing inclusive banking strategies which will ensure sustainable economic development" (Ahmad, Zayed and Harun, 2013, p. 1). Green banking thus involves a two pronged approach: Firstly, green banking focuses on the green transformation of internal operations of all banks. It means all the banks should adopt appropriate ways of utilizing renewable energy, automation and other measures to minimize carbon footprint from banking activities. Secondly, all banks should adopt environmentally responsible financing, thinking environmental risks of projects before making financing decisions and in particular supporting and fostering growth of upcoming green initiative projects. Green Banking is not only about making sustainable use of resources but also about environment friendly dispensation of credit (Jayabal, G., & Soundarya, M., 2016). Both

of Habib (2010) and Goyal & Joshi (2011) state that a green bank is also called ethical bank, environmentally responsible bank, socially responsible bank, or a sustainable bank, and is expected to consider all the social and environmental issues. “Green banking system concentrates the following: Sustainable banking, Ethical banking, Green mortgages, Green loans, Green credit cards, Green savings accounts, Green checking accounts, Green money market accounts, Mobile banking, online banking, Remote deposit, Waste Management, Roof Gardening, and Green Financing” (Pappu Rajan. A & Prasath. J, 2016, p. 2).

To sum up, green banking can be defined as an approach that recognizes the role of banks in promoting long-term economic development, not only in terms of economic but also on social and environmental responsibility. Green banking is similar to other banks but takes environmental and social considerations into account by reducing carbon emissions by encouraging green credit operations and greening the internal activities of banks.

2.3.3 Green credit

From the standpoint of the Global Value Chain (Raphael Kaplinsky and Mike Morris, 2001), the financial institutions, especially banks have huge impacts on the environment through its lending operations. Loans to businesses whose activities cause environmental pollution will create dangerous effects on nature, this is the environmental impact in an indirect way of banking. Banks lend to companies that pollute the environment will increase credit risks for the bank. However, if the banks refuse to lend enterprises also can cause a temporary loss to the banks. It means that the banks can create a negative or positive impact to environment through business activities of the banks. This is the point of connection of financial institutions to the environment was launched in the early 90s. The Conference of United Nations on Environment and Development (Rio Conference, 1992) gave committed between banks on environment and green bank for sustainable development is one such commitment.

Green credits are credits that banks granted for projects with low environmental risk or projects that protect the environment. In other words, green credits are forms of financing such as funding, loans and other credit granting methods in which environmental impacts and environment conservation are considered. For example, green credit supply loan for energy efficiency, emission reduction, renewable energy projects, etc. Green credit also means refusal to grant credits for projects with

negative impacts on the environment. Another simpler way of understanding, green credit is the credit that the bank allocates to production and business projects that do not pose risks or for the purpose of protecting the environment - society. So, green credit refers to credits that the bank lends to projects that do not pose a risk to the environment or projects that aim to protect the environment (Huong, 2015).

When banks and other financial institutions encourage enterprises to make environment friendly and energy-saving, emission-reduction arrangements according to their credit policies. It is green credit. Green credit can be comprehended from three fields. First of all, support environment-friendly and energy saving projects or enterprises through appropriate of credit policies or instruments (including loan variety, period, interest rate and amount). Secondly, punish the projects or enterprises breaking the regulation and law of environmental protection or energy saving with credit stopping, credit slowing or even credit recovery. Lastly, creditors guide and supervise the borrowers against environmental risks and fulfill their social responsibilities to reduce the credit risks according to credit policies. To illustrate these three aspects, green credit activities, on one hand, will improve the bank's social and environmental risk management in order to optimize credit structures, innovate banking services. On the other hand green credit activities will contribute to the transformation of the economic growth model toward sustainable development (Hanh, 2016).

Thus, green credit is considered a part of the green economy. Green credit can be understood as bank credit to the project of friendly environment and reject the project causing environmental pollution. Through green credit, banks may indirectly protect the environment. The evaluation project of environmental protection or not is based on certain standards launched by the banks or by the authorities.

When banks strengthen environmental risk management in lending activities, they will create incentives for enterprises to improve their production efficiency in the direction of protecting the environment. Thus, green credit of banks will contribute to enhance the perception of stakeholders in the economy on environmental and social issues, to promote them to carry out environmentally friendly projects. Hence, consideration of the social - environmental criteria in deciding loans to customers will help banks to minimize credit risks, reputation risks and legal risks. So it is “environmental standards for lending that banks must follow. It is really a good idea and it will make business owners to change their business to environmental friendly which is good for our future generations” (Meena, 2013).

Therefore, there is a need to have a green credit policy to regulate banking activities in order to protect the environment and sustainable economic development. Because green credit policies are important means of accelerating the transition to green growth goal. The green credit products of banking systems are often applied for projects on energy saving, renewable energy and clean technology projects. These priority areas are allocated according to green credit policies in different countries. Thus “Creditors guide and supervise the borrowers against environmental risks and fulfill their social responsibilities to reduce the credit risks according to credit policies” (Nana ZHAO & Xue-jun XU, 2012, p. 5). Accordingly, many international financial institutions and banks have developed a set of lending guidelines and standards to improve the effectiveness of green credit policies.

2.3.4 Initiatives of international organizations for environment and society risks management

From the late 1980s until now, many initiatives have been launched to promote the responsibility of credit institutions for the environment and society. In 1989, the European Commission introduced the draft Directive on Civil Liability for Damage Caused by Waste. In 2004, the directive was promulgated after the European Commission had narrowed its obligations on polluters. After this Directive came into force (since April 2004), European Commission member states have three years to develop legislation in their respective countries. However, in July 2010, the new legislation was finalized, so there is no adequate evaluation of the effectiveness (Europa, 2016). Besides the United States and the European Union, another notable efforts are the United Nations Environment Program Financial Initiative (UNEPFI), the United Nations Global Compact, Responsible Investment Principle of the United Nations or Equator Principles.

UNEPFI (see Box 1) is a global partnership program between UNEP and major financial institutions around the world to promote the role of financial institutions in the environment and society. In 1992, UNEP and a number of major banks issued a statement on the commitment of banks to implement the principles of sustainable development. In 1997, this statement was amended to expand participation to other financial institutions. Currently, UNEPFI has more than 200 participating financial institutions, mainly banks and insurance companies. UNEPFI is considered a platform to associate the United Nation with the financial sector globally, as well as enhancing the role of financial sector in sustainable development. UNEPFI's activities include: (i) Building capacity and sharing best practices, (ii) Pioneering in research and building tools, (iii) Set standards

and global rules, (iv) Promote the participation of stakeholders, both the public and the private sector, and (v) Promoting its membership network through global events as well as regional operations.

UNEPFI requires its members to comply with 19 basic commitments, divided into three groups, including: (i) commitment to sustainable development (5 commitments); (ii) Sustainable Governance (7 commitments), and (iii) Public awareness and information exchange (7 commitments).

Another initiative by the United Nations also attracted many financial institutions is the **United Nations Global Compact (UNGC)** (see box 2), which was launched at the World Economic Forum in Davos in 1999 by United Nation Secretary - General Kofi Annan. This commitment sets out the ten principles of human rights, labor, environment and anti-corruption, and calls for participation by businesses, including banks. A study by BankTrack (2010) found that 32 of the 49 largest banks in the world have registered to undertake this commitment. However, besides the business sector, UNGC also has members from civil organizations, labor organizations, research institutes, state organizations, and cities (BankTrack, 2010b).

The third initiative is 8 Performance Standards in environmental and social sustainability for its members and clients set out by IFC (see Box 3). Criteria No.1 is applied to all projects at risk and impact on the environment and society. Depending on the specific project, Criteria from No.2 through No.8 may be applied simultaneously. Performance Standards must be consulted together and, if necessary, are used for cross referencing. In addition to meeting the Performance Standards, customers must comply with all applicable laws of the host country, including international laws applicable to the country. The Bank's Guide to the Environment, Health and Safety is a reference document for technical reference. Once, laws in the host country differ from the requirements and levels of application of Environment, Health and Safety, projects must follow more stringent regulations. If less stringent requirements may be more appropriate for the project on a case-by-case basis, a detailed statement of the relevance of the proposal should be provided.

Unlike the two aboved United Nations initiatives, based on the above IFC operational standards and

World Bank guidelines on environment, health and safety, the Equator Principles² have been developed. The Equator Principles (see Box 4) is a set of standards developed and committed by financial institutions. In 2002, the IFC and the World Bank Group and nine international banks met in London to discuss the responsibilities of banks and agreed to develop a set of management standards. Environmental risk is based on the existing IFC standards. Equator Principles was officially established in 2003 and now has 83 financial institutions in 36 countries committed to implement. Equator Principles was revised for the first time in 2006 and for the second time in 2013. Equator Principles is now considered the best guide for financial investors.

Benefits of joining the Equator Principles is that EPFIs are able to assess, mitigate, record and monitor credit risks and reputation risks associated with project finance. Main benefits include: Manage more effectively the risks associated with project funding, Improve the quality of your portfolio, Speed up the negotiation process among partner banks in large syndication projects, and Raise the reputation and brand of the organization to customers and stakeholders.

The advantages of green credit is that it can help to protect the quality of a bank's portfolio by reducing non-performing loans, thereby increasing financial stability and maintaining the bank's reputation. Recognizing the benefits, more and more banks are participating in the Equator Principle. With the initiative of the IFC, banks have been provided guidelines turning to green. Since 2006, banks have been selected annually to best perform their environmental performance in the Sustainable Banking Award, organized by IFC, and the results show that the best green banks, such as Dash (2008), Triodos (2009), Itau Unibanco (2011), Standard Chartered (2012), and Banco Santander (2013) have shown better financial performance over time, even during the years of finance crisis.

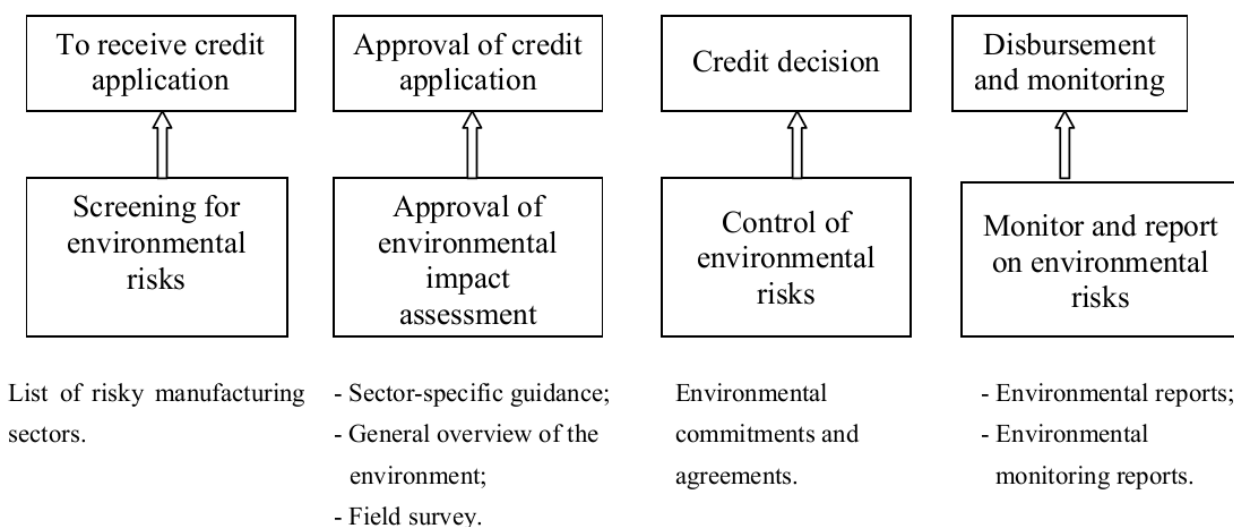
In addition, the coordination, learning and exchange of experiences on the implementation of related policies among EPFIs helps organizations improve their professional competence in the field of risk environmental and social management in financing projects. Financial investors can choose to apply these principles in two forms: Using all the principles, enrolled with the Equator Principles Association and publicly declare, or using as reference to developing their all standards suitable with their needs.

² “The Equator Principles (EPs) is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects” (CBRC & PWC, 2013, p. 2).

Under the guidance of IFC (2010), the experience of environmental risk management in credit activities of financial institutions has a certain similarity. Environmental risk management can be divided into four main stages: (i) Environmental screening, (ii) Environmental risk assessment, (iii) Environmental risk control and (iv) Monitoring and reporting on environmental risks.

The chart below describes the environmental risk management steps associated with the credit approval process.

Figure 5 - General procedure for environmental management in credit



(Source: IFC, 2010).

Environmental screening: Taken immediately after the financial institution receives the application for credit. The main objective of this content is to determine the degree of risk to the bank. Basing on the list of risky business activities and related guidelines, the projects will be classified according to risk level (high, medium or low).

Environmental risk assessment: Based on sector-specific guidelines, the project's overall environmental information and information collected from the fieldwork. The purpose of this content is to collect sufficient information to understand the risks, levels of awareness, commitment and resources of the project owner for managing environmental issues. In case of low risk, the bank may provide credit to the project owner. In the case of a number of identified risks, it is necessary to identify and agree with the project owner on risk control mechanisms before granting credit. In case of serious risk is identified, the bank may consider refusing to grant credit.

Environmental risk control: This is done to ensure that the project owner fully implements the

agreed risk control measures. In this process, the bank and the project owner should agree and sign the agreement on the environmental management responsibilities as well as the reporting regime of the project owner.

Environmental monitoring: To be implemented with the aim of monitoring the implementation of commitments and reporting regime of project owners.

As such, many organizations around the world have developed a number of initiatives and guidelines for managing environmental and social risks in the field of banking and finance. However, the implementation of commitments to ensure environmental and social security of the financial sector is still considered relatively weak. Financial institutions such as the World Bank and the IFC, despite extensive policies and guidelines on environmental and social security, continue funding to projects that harm environment. For example, at the end of 2011, the Institute for Human Rights and Business (IHRB) allegations to the United Nations Working Group on Human Rights and multinational corporations that IFC would fund the expansion of oil exploration in two communities in Peru despite previous harvests has had a negative impact on the environment and health of the surrounding communities (IHRB, 2011). The W.D.M Limited built and published a map of World Bank funded projects that harm to the environment and social welfare around the world. This shows that the level of compliance with safety measures in practice is still a big gap. On the side of private commercial banks, two surveys conducted by BankTrack on more than 40 major banks in the world have evaluated that the content of environmental policies of these banks is largely lacking in some areas or critical environmental and human rights issues, while the implementation of these policies is limited (BankTrack, 2010b).

2.4 Experiences of green credit policies in some countries in the world

At present, many countries have been implementing green credit policies for sustainable development. Each country has its own green credit policies, but all for the aim of energy saving, renewable energy and clean technologies. In this thesis, I would like to introduce the experience of implementing green credit policy in Germany - a European pioneer in green growth policies, the experience of implementing green credit policy in China - the world's second largest economy, and green credit policies in several “developing countries that the green banking practices are at an early stage” (Arshad Chowdhury. A & Dey. M, 2016, p. 35) such as: Bangladesh and Philippines,

from which to find lessons for Vietnam.

2.4.1 Green credit policy in Germany

Germany is considered a green pioneer with its green growth initiative. Since 2002, according to the National Strategy for Sustainable Development, Germany has identified green development goals for 21 different economic sectors. In 2010, almost 17% of electricity supply was generated from renewable sources, exceeded the target value of 12.5% (OECD, 2011).

Germany is a country that has been successfully implementing its green credit policies. The German state-owned KfW Group³ - the national development bank - supports Germany's development policy, international development cooperation and sustainability strategy. Sustainability is one of KfW's primary business targets with responsibility to promote environmental and climate protection worldwide. Moreover, KfW is also committed to social responsibility and participating in dialogues with its stakeholders (Behr, P., & Schmidt, R.H., 2015).

KfW is one of the largest lenders for environmental projects. In 2013, more than one third of KfW's total financial commitment related to climate or the environment. EUR 22 billion has been contributed to domestic development activities (while World Bank provided \$ 10 billion, European Investment Bank supplied \$ 17 billion for environmental and climate projects). 80% of all new wind energy fields have been built and half of the new housing projects are funded by KfW (SBV, 2016).

KfW can incorporate government fund from the German Federal Ministry for Economic Cooperation and Development with fund mobilized from the capital market. KfW uses many forms of lending such as: loans with conditions close to commercial loans, equity (DEG⁴), various funding sources, co-financing with the European Investment Bank, the Asian Development Bank, and World Bank. KfW loan programs have been implemented as following:

- KfW Energy Efficiency Program: KfW lends to domestic and foreign businesses, engaging in energy contracts, provides loans for installation of technical equipment for efficient energy production. Loan requirements are: Alternative investment should result in at least 20% savings in

³Kreditanstalt für Wiederaufbau - Reconstruction Credit Institute

⁴The German Development Finance Institutions, a subsidiary of KfW

electricity compared to the average for the past three years and new investment should result in at least 15% savings in electricity compared to the market average.

- KfW renewable energy program includes 2 standard and special programs, are:

- (i) The standard renewable energy program encourages the generation of electricity from renewable energy sources. KfW lends to customers focusing on solar, biomass, hydropower and wind power sectors.

- (ii) Specific renewable energy programs encouraging large firms to produce heat from renewable energy sources. KfW lends to customers for the construction and expansion of large solar collectors, biomass plants for the burning of solid biomass materials for heating purposes, heating networks provided by renewable energy sources, and geothermal energy development and utilization systems.

- Solar Power Program in Bangladesh: By providing aid and funding to small-scale credit institutions, the Solar Program implemented by KfW in partnership with the World Bank and the Global Environment Facility has provided electricity to households in remote rural areas through home-based solar systems. Accordingly, energy is provided sustainably and environmental friendly.

- The Kenyan project exploits heat from deep underground: From the fact that the electricity supply in Kenya is not enough while the Rift Valley in East Africa is an endless source of geothermal energy. KfW has donated about €11 million for drilling exploration, identifying the required heat capacity, paving the way for the participation of private enterprises as they do not have the full potential to approve large exploration with high costs and risks. This model has become an ideal model for neighboring countries (Ethiopia, Tanzania, Uganda).

- Water management project in Turkey reduces toxic gases: With the support of KfW Entwicklungsbank, the water management agency was reorganized, a new landfill was built, a new waste tax system was introduced. Garbage collection and sorting organized by one Cooperative. The project helps reduce CO₂ by recovering and burning toxic methane (GIZ & SBV, 2016)

In Germany, there is no green banking strategy, but after the financial crisis, the demand for green banking has increased. Most of the banks in Germany offer fund for investing green products, but only four green banks have fully integrated into their business models, including GLS, UmweltBank, Triodos and EthikBank. They are the small and medium sized banks, possibly commercial banks, savings banks or cooperative banks. Their purpose is to mobilize capital from members and depositors who have good awareness and willingness to achieve low deposit rates with the goal of investing in social - environmental protection. Environmental protection products

will be sold at very high prices in the market so the interest rates will usually be high, too. But customers are willing to buy these expensive products because they can assure those products come from green investment companies. Banks provide loans for investment sectors such as: clean energy, renewable energy, energy saving, environmental protection, organic production, and housing for the poor, education and support for the disables. In order to support businesses as well as customers, establishment of environmental protection units to implement green credit policy plays an important role in Germany. During the implementation of the green credit policy in Germany, these units will implement a price reduction policy and ensure that the discount policy will support investors carrying out projects on energy savings and environmental protection. GLS was one of the four banks that was voted "Bank of the Year" in Germany for five consecutive years from 2010 to 2014 and it was awarded the "most sustainable enterprise" award in 2012. When depositing money at GLS, depositors will have right to choose specific sectors in which they want their money to be invested. In addition, to ensure the transparency in financing activities information, GLS also make public to the depositors all the lists of their loans divided into specific sectors (Trang, 2016).

So, the case of green credit policy implementation in Germany suggests that policy makers, businesses and consumers may view environmental protection policies as a way to facilitate economic growth rather than a cost that slow economic development.

2.4.2 Green credit policy in China

LI Renjie, the CEO of Industrial Bank stated that green credit opens huge market opportunities. It would transform and define the future banking industry (Renjie, 2015) . According to a statistic from National Bureau of Statistics of China, with more than a decade of economic growth averaging 10% a year, China has been hit by huge environmental losses. Environmental pollution and inefficient energy use are now directly threatening China's economic development, social stability and image in the international arena. Banks have greatly supported the growth of this country by providing credit to businesses. China has launched a comprehensive plan to guide banks in implementing a comprehensive plan for energy conservation and emission reduction.

In 2007, China announced a Green Credit Policy, designed to improve compliance with China's environmental regulations by restricting access to credit of enterprises that ignore the environmental regulations or fail to pass pollution control tests. To implement this policy, the Chinese Government

is particularly interested in the Equator Principles, the IFC Performance Standards and IFC's Environmental, Health and Safety guidelines for each field. Accordingly, the State Environmental Protection Administration has signed a cooperation agreement with the IFC to adjust the Equator Principles, the IFC Performance Standards, the Environment, Health and Safety Guidelines to match the states of China (China Banking Regulatory Commission (CBRC) & PricewaterhouseCoopers (PWC), 2013). China's Green Credit Policy uses financial policy instruments and incentive policies to encourage enterprises to implement energy saving and reduce emissions projects, improve the environmental protection activities of enterprises, thereby contributing to reduce environmental pollution. China had promised to cut its energy consumption per unit of GDP by 20 percent and major pollutant emission by 10 percent by 2010. China's commercial banks had been told not to offer loans to high-energy consuming and polluting enterprises (Newrooms, 2008).

According to the research team from SBV and GIZ in 2015, China's green credit policy is developed and implemented on three broad lines, as following:

- The "Three simultaneous" policy require all projects to include and implement energy saving measures and prevent/reduce environmental pollution in all three phases: project design, construction and operation of the works.
- The "Double high" policy (high emission and high pollution): The Ministry of Environment listed 14 industries which are both energy-consuming and highly polluting (thermal power, steel, cement, electrostatic aluminum, coal, metallurgy, building materials, mining, chemicals, oil, pharmaceutical, light industry, apparel and leather) in order to guide banks in funding these sectors as they have many negative impacts in environment. The policy will help the bank set specific rules for the financing of these professions, thereby developing a risk management strategy.
- The "Large-scale incentive - small scale" policy: Implementing the policy of "bigger is better", the Chinese government encouraged large-capacity power plants. The government aimed to reduce 50GW of capacity from small-scale thermal power plants between 2006 and 2010.

Under these policies, enterprises that failed to carry out mandatory environmental assessments or failed to pass pollution control tests will be denied loans by banks. Businesses that are found to have committed violations of environmental protection regulations will be recovered by the bank.

To ensure these policies are implemented, the Ministry of Environment established and maintains a "blacklist" of enterprises that do not meet the requirements for environmental protection. Banks are not allowed to lend money to businesses until they fulfill their environmental protection obligations and they are officially removed from the blacklist. Information about these enterprises is also included in the credit information database at The People's Bank of China (PBOC) Credit Information Center. Currently, this database has recorded 30,000 violations of regulations on environmental protection. At the same time, MEP and CBRC signed a cooperation agreement to establish a channel for CBRC to timely adjust banking supervision policies as well as auditing activities (GIZ & SBV, 2015).

Green credit has sent a strong message to the banking sector about the sector's responsibility for environmental protection. The policies also encourage banks to adopt appropriate attitudes towards managing environmental and social risks and protecting the reputation of the bank. The policies also open up new business opportunities in areas related to energy saving and waste reduction.

All of these policies are well received by banks by adjusting lending procedures to provide incentives for businesses to comply with environmental regulations as well as to control their customers in the "double high". Some banks have set up internal systems, policies, procedures and databases and tools to implement this policy. Industrial and Commercial Bank of China can be considered as a typical example. The CBRC directs and monitors financial institutions to strictly implement the Green Credit policy along with other state environmental policies on the environment. PBOC is responsible for transferring environmental information into the enterprise credit rating system and providing this information to banks. PBOC must provide a guiding framework and assist banks in exploiting and using environmental information to help banks consider environmental factors when deciding to lend (Do, 2015).

China saw the green bond market as part of its transition to green. To promote green bond, on December 22, 2015, the People's Bank of China announced plans to issue green bonds on the interbank market to allow financial institutions to increase fund for "green" projects. As a result, by 2015, China has issued about \$ 1 billion of green bonds. The year 2016 is expected to be the boom year for China's green bond issuance, and only in the first six months of 2016, China has issued

about 75 billion yuan of green bonds (equivalent to about \$ 11.3 billion), accounting for 33% of the world's total. In 2017, banks and financial institutions of the country aim to increase the issuance of green bonds to over \$ 45 billion (HSBC, 2017).

China is one of the few developing countries that the government has released official documents to promote green finance. Although IFC has been advocating green financing for many years, based on China's experience, IFC has launched a Sustainable Banking Network to help emerging market managers develop their policies similar China's methods.

2.4.3 Green credit policy in Bangladesh

The environmental situation in Bangladesh is deteriorating dramatically. Major degradation areas include land and air pollution, water scarcity, and the loss of biodiversity. In addition, Bangladesh is considered one of the countries most affected by the climate change. The main cause of this situation is the rapid population growth, inappropriate use of land, poor management of resources and uncontrolled disposal of wastes (Glennon. R, 2017). In response to these threats, along with environmental action programs deployed in many countries around the world, the Bangladesh Central Bank has implemented various green financing initiatives. These initiatives demonstrate the high commitment of the Bangladesh Central Bank to the development of a sustainable, environmentally responsible financial sector in Bangladesh (Bangladesh Bank, 2016).

The implementation of green credit policy in Bangladesh is based primarily on awareness raising and dissemination. The Bangladesh Central Bank has set up a series of policies to increase awareness among banks about green investment opportunities as well as environmental responsibilities in relation to financial decisions, such as: Refinancing program for green products, Green Bank Policy Framework and Environmental Risk Management Guidelines.

- For the refinancing program for green products: The program was launched by the Bangladesh Central Bank in 2009 through the creation of a revolving fund of approximately \$ 27 million from refinancing. Bangladesh Central Bank refinanced commercial banks to provide loans for five green products including solar power projects, including: solar water pumping stations, solar power houses, factories assembling solar module and blast furnace, biogas and wastewater treatment plant, etc. By 2016, Bangladesh Central Bank has expanded its product lines from 5 to of 11 categories as following: Renewable Energy, Energy Efficiency, Solid Waste Management, Liquid Waste Management, Energy alternative, bricks, unbaked brick blocks, recycled and recyclable products,

green industries, labor & safety environments in factories, and others. Bangladesh Central Bank supervised the process of using capital, if the capital is used for wrong purpose, Bangladesh Central Bank will recover the loan with a penalty interest rate of 5%. The value of this initial program was not much but it encouraged banks about providing green credit and to raise the banks' awareness of business opportunities in this area.

- For the Green Bank Policy Framework: Bangladesh Central Bank has come up as a pioneer in promoting the idea of green banking for which, three-phase Green Banking Policy Framework including 19 policies has been developed in 2011 and instructed to all commercial banks of the country to implement in the time period from 2011 to 2013. The Bangladesh Central Bank required banks to adopt a variety of different types of green banking practices in a roadmap that includes the following phases: (i) To establish an independent green bank that is responsible for the design, assessment and governance of green bank issues, (ii) To bring environmental and climate change risks into the existing credit risk assessment system to assess borrowers, (iii) To give priority to credit for environmentally friendly business projects and to identify green credit targets aimed at minimizing lending to environmentally harmful activities. “However, the experience from on-site and off-site supervision of Bangladesh Central Bank shows that banks scheduled before 2013 will require more time for implementing Green Banking Policy and therefore time frame for implementation of green banking activities under Phase-II and Phase-III has been extended to 31 December 2014 and 30 June 2015, respectively” (Rahman & Barua, 2016). Banks in compliance with this policy framework will be promoted by the Bangladesh Central Bank to the bank's overall rating, green banking activities will be counted as plus points when the bank applies for a new branch, and will be ranked to announce the list of top 10 banks in green banking on their website. This policy framework can be viewed as a long-term approach to encourage green financing. Rather than forcing banks to engage in green financing, Bangladesh pursues its goal of encouraging banks to gradually move to a green bank model and raises awareness of its benefits.

- For the Environmental Risk Management Guidelines: The Bangladesh Central Bank also issued the Environmental Risk Management Guidelines and required banks to comply with the guidelines set out. To promote green-banking operations, since January, 2016 Bangladesh Central Bank regulated the minimum market share of green loans of banks by 5% for four sectors, including: agriculture, tourism, energy and SMEs. The Bangladesh Central Bank has also applied green bank report templates for supervising green activities of banks. Moreover, to encourage green banking, the Bangladesh Central Bank has adopted a refinancing policy for banks to implement green credit

packages, using the GTF, the revolving fund from the re-borrowing of ADB (SBV & GIZ, 2015).

2.4.4 Green credit policy in Philippines

Philippines is a highly populated country with a high level of energy consumption. However, the energy supply in the Philippines is mainly based on fossil fuels (32% from oil, 16% from coal and peat), only about 26.3% of energy is produced from thermal power and hydroelectricity. Solar and wind power are almost undeveloped. According to the research team from SBV and GIZ (2015), the Philippines government has not yet implemented a direct green fiscal policy for the financial sector, but some financial incentives have been applied to the renewable energy sector. In addition, the banking system has introduced a number of green financial instruments supported from international organizations such as IFC, WB ... Moreover, three major banks provide green financial products in the form of wholesale banks, including Bank of the Philippines Islands, Land Bank of the Philippines, and Development Bank of the Philippines.

Bank of the Philippines Islands has implemented the Sustainable Energy Finance Program with a support of IFC. This program provides funding for projects in technology to increase efficiency in the production, distribution and use of energy. Sustainable energy projects includes changes to increase the efficiency of energy use and technology for renewable energy. The goals of the Sustainable Energy Finance Program are in increasing efficiency, cutting costs, and exploring new, environmentally friendly technologies.

Land Bank of the Philippines is a government bank. Its priority sectors are Small Farmers and Fishers Cooperatives, Small and Medium Enterprises, Local Government Units, and Environment-related Projects (GIZ, 2012). Land Bank has adopted a corporate environmental policy, whereby Land Bank has pursued its role as the dominant financial institution for rural development. LandBank will adhere to and actively promote environmental protection for sustainable development by combining effective environmental management practices in all its activities and services. In 2009, there was an issuance of Credit Policy “Revised Environmental Policy Relative to Credit Delivery”, by which an Environmental Due Diligence (EDD) System of Projects for Financing was implemented with the aim to Protect the environment, to Prevent Pollution, to Integrate environmental management practices in the Bank’s Operations, and to Influence the employees, clients, and other stakeholders (Roxas, 2017). Under the EDD system, Land Bank conducts environmental impact assessment and monitoring as a requirement in financing projects.

This was initiated 20 years ago as part of a requirement for World Bank-assisted projects. Now the system is being implemented in 41 lending centers across the country, covering all Land Bank-financed projects, regardless of the amount. Unlike other Philippine banks that implement EDD on a selective basis, Land Bank integrated environmental due diligence in its credit delivery operations to ensure that loan clients' projects comply with environmental laws and regulations. Land Bank also established an Environmental Program and Management Department which conducts the assessments of projects and provides the Bank's lending units with an Environmental Assessment Report as a guide for the evaluation and approval of loan proposals (Land Bank, 2015).

Development Bank of the Philippines is one of the first banks in the Philippines to develop the EMS and received ISO 14001 certification for environmental management. Development Bank of the Philippines not only provides financial services but also provides technical support for projects that meet environmental management standards. The bank has cooperated with a number of government and private organizations, such as local government agencies, national agencies, private enterprises, rural banks, credit unions people, cooperatives, etc ... to promote their participation in green finance programs, and to bring environmental factors into consideration of the condition of loans. Development Bank of the Philippines focus on investing in several sectors, including: solid waste management, renewable energy and new energy, electricity for rural areas, natural resources conservation, and clean production technology (Development Bank of the Philippines, 2012).

Green credit policies in the Philippines are developed and implemented by banks or international organizations, so the monitoring of green credit carried out by these banks and international organizations themselves. When granting credits for environmentally friendly projects, these projects are not only required to meet the general requirements for bank credit granting but also to be considered about environmental requirements. Therefore, the supervision of these projects is strictly implemented by banks, according to international standards, towards sustainable development (Trang, 2016).

In conclusion, the experience of implementing green credit policies of several countries mentioned above shows that these countries are aware of the important role of credit in economic development and they all orient green credit activities in the social-economic development strategy of the country. They have set up green credit rules, guide banks to develop their environmental and social risk assessment criteria when evaluating projects for loans. The central banks, depending on each country, have policies to encourage or oblige the banking system to implement and strictly

supervise the implementation these criteria so that green credit activities contribute to the sustainable development.

2.5. Lessons for Vietnam

Lessons for Vietnam in promoting green credit for sustainable development are:

Firstly, the lessons for Vietnam basing on the experiences of green credit development from Germany, are following:

Investors should be encouraged to invest in green fields because enterprises who invest in green technology have many advantages such as: their products are labeled green and preferred by consumers, the prices of these products are often higher than other conventional products. Moreover, these enterprises are usually supported by the government to reduce production costs. On the other hand, it is important to raise consumer awareness about the use of environmentally friendly products and boycott products that are not clean or polluting the environment (Panature, 2016) .

The other lesson is that banks should accelerate the mobilization of long-term capital with low interest rates to provide credit for green projects by convincing the depositors accept lower interest rates to support to green projects. Banks in Germany are successful in extending credit to green projects because of the transparency of green projects information (Trang, 2016). Conversely, lessons from China do not require disclosure of information about loan projects, so banks have concealed their loans to businesses that pollute the environment and ignore public opinion (GIZ & SBV, 2015).

Secondly, lessons learned from China's green credit policy are useful for Vietnam. Accordingly, Vietnam currently lacks a reliable rating system for polluting industries to help banks classify green projects among many highly profitable polluters. This will be the biggest challenge for the banking system in Vietnam as banks in Vietnam are profit-driven enterprises. It will be difficult for banks to decide whether to supply credits to green projects with longer term returns and lower benefits than to provide credit for polluting industries but making immediately profit. Therefore, to promote green credit for sustainable development, it is necessary to affirm that the issuance of regulations and guidelines for implementing green credit policies is very important for both businesses and

banks. This also requires a close coordination among relevant ministries in setting criteria for identifying green projects and implementing complex administrative procedures. This is a significant impact on the promulgation of policies to improve the legal framework for promoting green credit in Vietnam (Do, 2015).

In addition, Viet Nam would also consider experiences from developing countries like Bangladesh, whereby central banks will play an important role in issuing and guiding the implementation of credit policies to support businesses developing green credit products such as: loan to develop solar housing system and pumping station for watering, loans for efficiently waste management, and green credit cards (Panature, 2016).

Furthermore, based on the literature reviews, I could conclude a few lessons for Vietnam in deploying green banking and green credit, as following:

Firstly, green banking and green credits are becoming a development trend and are a very important component in sustainable development strategies of many countries. Applying green credits, green banks help banks to limit the environmental and social risks in their business.

Secondly, the banking sectors play a major role in supporting investors and firms to invest in environment-friendly projects and restricting credits for projects with negative impacts to the environment. However, in order to succeed, the banking sectors need to work closely with relevant authorities (ministry of environment, ministry of economy, and local governments...).

Thirdly, it is very important to raise awareness and capacity of banks as well as their clients in managing social and environmental risks in diversifying green credit products. The central banks play a vital role through supporting mechanism such as providing information, developing guidelines and policy frameworks, training and capacity building.

Fourthly, it is necessary to raise awareness of banks, firms and the public to concentrate social resources for green projects.

Fifthly, green projects often have high investment and manufacturing cost, long-term scope therefore they need to be supported by governments and central banks through incentives such as tax favors, grants, lower interest rate, etc.

Sixthly, green credit is only effective when there is high consensus among stakeholders (i.e. regulating bodies, firms and consumers) and close cooperation with international organizations.

Finally, policy goals of the governments and central banks are the very first steps in moving toward a green finance market.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research method approach

The study concentrates on green credit activities in Vietnam, so this research employs a qualitative approach for a case study - one of the major types of qualitative research design (Hancock, 1998), that allows the author calculates distinct data and qualitatively evaluate the theoretical concepts. Case study is considered as “an empirical inquiry that investigates a contemporary phenomenon in depth and with its real life” (Yin, 2009, p.18). Besides, qualitative research method “seeks to explore phenomena, to provide complex textual descriptions of how people experience a given research issue. It provides information about the “human” side of an issue – that is, the often contradictory behaviors, beliefs, opinions, emotions, and relationships of individuals. Qualitative methods are also effective in identifying intangible factors, such as social norms, socio - economic status, gender roles, ethnicity, and religion, whose role in the research issue may not be readily apparent” (Mack et al., 2005, p. 1).

Specifically, qualitative research methods used for this study consists of documentary analysis and in-depth interviews for collecting data on individual’s personal histories, perspectives, and experiences (Mack et al., 2005).

The study reviews the literature on the basis of secondary data collected from various sources such as articles, research papers, annual reports, sustainability reports, and green credit reports from both public and private sector. Additionally, in-depth interviews are taken for collecting data. After being collected, the data were processed and analysed through conducting qualitative content analysis as this is a method of identifying and labeling items of data which appear in the text of a transcript so that all the items of data in one interview can be compared with data collected from other interviewees (Hancock, 1998). When approaching qualitative methods, the author has many advantages because with 15 years working in SBV and being a manager of Credit Division for 5 years, she can not only easily gather all reports of banking credit, green credit from CIs, international organizations but also select interviewees from banks.

By making interpretations and assessments based on the data of green credit in Vietnam, the author will find the answer to the research questions. First, this thesis collects and analyzes data from

documents such as: annual report of sbv, research of international organizations related to green credit, sustainable growth. Secondly, this study uses the in-depth interviews method with questionnaires that are designed for the leaders of banks in order to collect data on individuals' experiences. The analysis lays a foundation for understanding the research problems and research questions.

3.2 Sample design for interviewing

“The study’s research objectives and the characteristics of the study population (such as size and diversity) determine which and how many people to select. Sampling taken in this research was done basing on purposive sampling, which is one of the most common sampling strategies” (Mack et al., 2005, p. 5). So sampling taken in this research was done basing on purposive sampling, “which is one of the most common sampling strategies, groups participants according to preselected criteria relevant to a particular research question” and “Purposive sample sizes are often determined on the basis of theoretical saturation. Purposive sampling is therefore most successful when data review and analysis are done in conjunction with data collection” (Mack et al., 2005, p. 5). Applying this method, the author designed two kinds of sample: group of interviewees and questionnaire sample.

For interviewees, the author selected to interview Managers of Planning Department from 10 commercial banks, including: 4 state owner commercial banks, 4 private commercial bank, and 2 foreign banks (see Box 6) because they have experiences in assessing the performance of the bank and they take responsible for bank's action plan. Thus, they can provide information to answer the research questions of this thesis.

Establishing questions is important in gathering data needed for research and answering the research problems. Research questions also show the participants involved in research and spell out the nature of the research (Creswell, 2007). So the author designed interview questionnaire including 12 questions of which there are 5 close questions and 7 open questions. These 12 questions are clarified into four groups of issues: (i) Awareness of the banks on sustainable development, green credit and legal framework on green credit. (ii) Current green credit operations at banks, and bank’s development strategy toward environmental and social sustainability. (iii) Challenges when financing green projects, and (iv) The necessity to have a clear legal framework in the green credit

operation of the banking system in Vietnam (Appendix 1). The questions related to the application of environmental risk assessment procedures, and the need for a legal framework regulating green credit activities of the credit institutions system are designed as closed questions (yes/no answer).

3.3 Data Collection

First of all, the author made phone calls to interviewees in order to discuss the purpose of the study, the interview content and made an appointment for the interview directly after having the consent of the interviewees.

As scheduled, before conducting face-to-face interviews, I pledged to keep the interviewees confidential and the information provided by the interviewees, then asking for permission to take notes the contents of the interview.

Then, in turn, the questions were exchanged with each interviewee. There were 10 interviews, in which each interview lasted about 25 to 30 minutes. I tried to take note all the answers of the interviewees. Some information such as date, time, place, name of interviewees and interview questions were prepared in the notes before the interview in order to save time.

Questionnaires were designed with the space between the interview questions to write the interviewees' answers. During the interviews, the acronyms are used to avoid missing the information provided by the interviewees.

3.4 Data analyzing

Objectives of data analysis of this qualitative research method are to describe variation and individual experiences, to describe and explain relationships (Mack et al., 2005). The analysis of collected data is done sequentially according to the following steps:

First of all, the author summarized the mass of data collected, read the data carefully to further understanding the contents related to the research problem. After being familiar with data collected, the author classified the data according to each topic related to research, initially constructed the categories. In the third step, the data were refined and grouped together on categories, then to be kept in separate files, folders in computer or to be noted in handbook. In the process of gathering and arranging data, information related to the definition, initiatives and reality of green credit activities in international organizations, in other countries were constantly compared. New data are always sought, updated and added promptly for the analyzing and evaluating process.

After collecting, sorting information, comparing theories, in the sixth step, the research develop the explainaion, construct the theories related to green finance, green credit, regulations on social-environmental risk assessments. Finally, the findings were described in detail to answer the research questions.

CHAPTER FOUR: GREEN CREDIT PRACTICES IN VIETNAM

4.1 Reasons choosing green credit activities to promote green growth in Vietnam

4.1.1 Finance need for green growth

In the past few years, Vietnam has reached the highest GDP growth rate in the world after China. In the period 2000 - 2015, Vietnam always maintained the economic growth rate from 5.0% to 8.5%. However, Vietnam can suffer from 2% to 6% of GDP due to climate change. So, investment in responding to climate change is therefore essential and the cost is estimated to be at least 0.2% of GDP. According to forecasts by Vietnam Institute for Economic and Policy Research, Vietnam can achieve an average economic growth rate of 6% in the period 2016 - 2020. Accordingly, the estimated total financial need for responding to climate change in this period as follows:

Table 1. Financial needs for climate change response for 2016-2020

Unit: billion dollars

Year	2015	2016	2017	2018	2019	2020	Period 2016 - 2020
GDP	196.00	207.76	220.23	233.44	247.45	262.29	
Minimum investment (0.2%)		0.42	0.44	0.47	0.49	0.52	2.34
Average investment (0.5%)		1.04	1.10	1.17	1.24	1.31	5.86
Maximum investment (1.5%)		3.12	3.30	3.50	3.71	3.93	17.57

(Source: ADB, 2009)

Vietnam's National Green Growth Strategy imposes three strategic objectives, such as: reducing greenhouse gas emissions, greening production and lifestyle, and sustainable consumption. Under the UNDP-funded project "Sustainable Development and Climate Change", the Ministry of Planning and Investment (MPI) has conducted research to identify capital needs for the implementation of the national green growth strategy in the period 2014 - 2020. The study was carried out using the Marginal Abatement Cost Curve (MACC) method for the three key economic

sectors that cause greenhouse gas emissions in Vietnam, such as: energy, agriculture, and land use, land use change and forestry (LULUCF). Research results showed that in order to achieve the strategic tasks set out in the National Green Growth Strategy up to 2020, Vietnam needs at least 30 billion dollars, mainly for energy and energy use, as following:

Table 2. Capital needs for the National Green Growth Strategy 2014-2020

Economic sectors	Number of projects	Total investment cost (\$ million)	Total CO2 emission reduction per year (Million tons CO2)	MAC average (\$/ton CO2)
Construction	3	3,33	0,17	-69,46
Construction materials	1	17,54	0,49	-14,39
Cement	3	725,00	2,61	-45,27
Textile	2	0,00	0,08	-60,28
Household	10	2.279,19	16,54	-32,32
Paper and pulp	2	0,00	0,19	-93,46
Power Generation	10	27.625,00	61,37	16,11
Iron and Steel	3	79,50	0,22	-44,60
Road transport	1	0,00	3,45	0,00
Total	35	30.729,56	85,12	

(Source: Ministry of Planning and Investment, 2015)

Intended nationally determined contributions (INDCs) was approved by the Prime Minister in 2015 and submitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The INDCs of Vietnam consists of contributions to greenhouse gas emissions mitigation and climate change adaptation, including both unconditional contributions and conditional contributions (that can be made if Vietnam receives financial and technology support, and capacity strengthening from the international organizations).

It is estimated in the INDCs of Vietnam that the total domestic financial need to gain the targets of 8% of greenhouse gas emissions reduction costs \$ 3.2 billion and Vietnam needs an additional \$ 17.9 billion from international support to achieve 25% of greenhouse gas emissions reduction with

normal development scenarios. The total financial need to achieve the objective of greenhouse gas emissions reduction in the period 2021-2030 as following:

Table 3. Total financial need to achieve the target of greenhouse gas emissions reduction 2021-2030

Fields	Method	Target to reduce by 2030 (%)	Cost (\$ million)
Energy	self - Implement	4,4	1.894,3
	Support	9,8	5.332,8
Agriculture	self - Implement	5,8	885,43
	Support	41,8	12.093,54
Waste	self - Implement	8,6	311,7
	Support	42,1	2.596,2
LULUCF*	self - Implement	50,05*	131,98
	Support	145,7*	1.127,98
Domestic cost (\$ million)			3.223,41
Additional support ((\$ million)			17.927,11
Total cost(\$ million)			21.150,52

* Note: Increasing the absorption capacity of greenhouse gases.

(Source: INDCs of Vietnam, 2015)

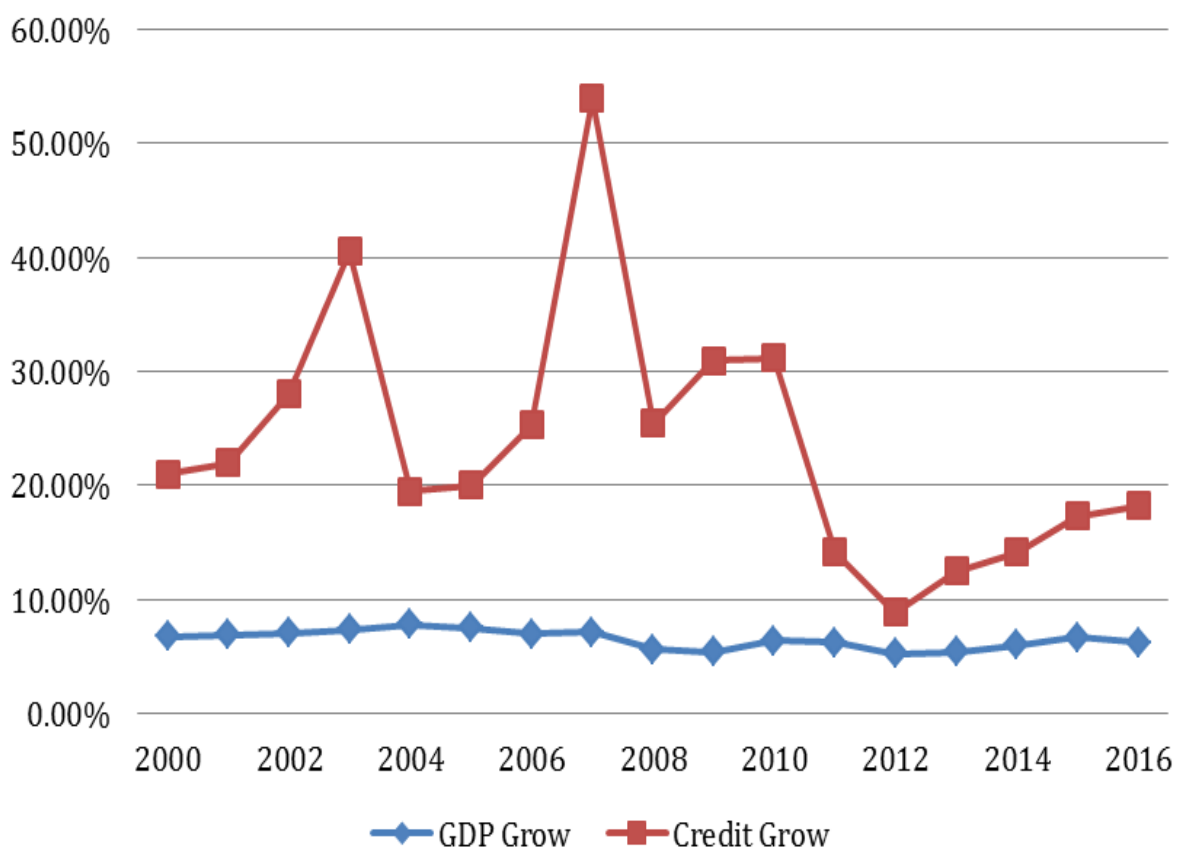
Financing for climate change adaptation and green growth in Vietnam can be mobilized from a variety of sources, such as: state budget funding, international funding (ODA, preferential commercial loans from major international financial institutions, and funds from international climate finance funds), and private domestic capital sources (loans from credit institutions, equity). However, state budget and ODA only meet about 10% of capital demand for green growth. The rest capital is mobilized from the private sector. Now capital market of Vietnam has not really developed, financing for businesses are still relying heavily on bank credit. So, the Vietnamese banking system has played a particularly important role in sustaining economic growth and thereby affecting the environment and the social community. As such, it will become a major source of capital for green industries.

4.1.2 The relationship between credit growth and economic growth

Vietnam's economic growth model depends much on the size of investment capital, while the bond market, long-term capital markets have not grown strong enough, so the capital supply to the economy is mainly based on bank credit. According to the National Financial Supervisory Commission, in 2016, the financial system provides about 1.230 trillion VND for the economy, of which, the banking sector accounted for 68.1%, the capital market accounted for 31.9%.

Capital for the economy from the system of credit institutions is increasing, the credit to GDP ratio increases continuously in the period 2012-2016: (2012: 95.2%;2013: 97%; 2014: 100%; 2015: 111.1% and 2016: 121%). Meanwhile, in some countries only, this rate is much lower, such as: Indonesia (36.5%), Philippines (39.1%), India (51.6%),...At the end of 2017, 1% of GDP growth requires 2% of credit growth. These figures show that bank credit is important for economic growth in Vietnam.

Figure 6 - The relationship between credit growth and GDP growth



(Source: SBV, 2016)

Credit growth in relation to GDP growth also means increased use of natural resources, environmental pollution and ecological degradation that Vietnam's economic development has been experiencing, especially in the last three decades when Vietnam implemented economic reform, moving from a centrally planned economy to a socialist-oriented market economy, since 1986.

4.2 Commitments Vietnam has to comply with when joining international organizations and associations

In order to restructure the economy effectively and sustainably, the Vietnamese government has developed and promulgated a number of policies and action plans to integrate and implement the strategic objectives of green growth and sustainable development. Credit institutions are considered as an important component of the government's action plan to streamline investment in environmental-friendly production, reduce risks and aim of sustainable growth.

Practices and prospects for promoting green credit in Vietnam are closely related to the process of promulgating and implementing national environmental protection policies as well as international commitments and conventions that Vietnam is a formal participant (see Table 6), of which, there are 3 major commitments to green credit activities in Vietnam: Equator Principles, IFC Performance Standards, and UNEP Financial Initiative.

4.3 Legal framework for green credit implementing in Vietnam

In order to implement the above-mentioned international environmental commitments, over the past two decades, Vietnam has continuously promulgated, amended and perfected the national environmental law and policy framework, as following:

- Agenda 21 (2004) is the first and most comprehensive text on sustainable development in Vietnam, of which, one the main principles is to enhance the protection and improvement of the quality of the environment. The program identifies 19 priority areas, including five social areas, five economic areas and nine natural resource and environmental areas. The ultimate goal is to achieve rapid and effective economic growth, poverty reduction, job creation, social justice, health and education while protecting the environment. The program has also promoted the development of

eco-friendly production and consumption initiatives, the development of "clean technology", protection of natural resources, agricultural and rural environment, jobs creation, the labor market expansion, employment conditions improvement. The program has promoted the development of eco-friendly production and consumption initiatives, the development of "clean technology"; promote the protection of natural resources, agricultural and rural environment; create jobs, expand the labor market, improve employment conditions. Specifically, the program mentions the theme "Use of financial tools for sustainable development", which encourages financial institutions to finance sustainable development of the country beside other financial sources from the state budget, enterprises, organizations, individuals, FDI, and ODA.

- Major Law Groups (see Box 5), in which the Law on Environmental Protection (1993, 2005, 2014) is the most important national legal framework for environmental protection. It emphasizes the protection and improvement of the environment, the ecological balance, the efficient and economical exploitation and use of natural resources, and the encouragement of production and business activities for the purpose of environmental protection.

The law stipulates the responsibilities of investors in preventing deterioration and environmental pollution in any field or scale of production. All investors must be licensed to protect the environment from state management agencies before starting the project. There are 02 types of environmental protection license:

(i) Approval of Environmental Impact Assessment (EIA) for 146 types of projects (usually large ones with negative impacts on the environment such as projects in the oil and gas sector, energy, processing, industrial production, healthcare, education). Investors must hire experts to perform EIA due to the complexity and technicality of this report. The EIA is reviewed and approved at the Department of Natural Resources and Environment of local government.

(ii) Registration of environmental protection commitments: Applying for all remaining projects excluding in the list of 146 types of projects requiring EIA. This commitment is simpler. District People's Committees are responsible for reviewing and registering these commitments to enterprises.

The Environmental Protection Law 2014 requires each state agency, local government to built a development plan for 2020 and a vision to 2030, in which the master plans for energy and mineral development are detailed. In order to be approved, all drafts of the strategy and development plan must have a strategic environmental assessment (SEA), including six major strategies, master plans

(see Table 7). The compliance with the SEA should be accepted by the banks as an important basis for risk assessment in the credit appraisal process.

- National strategies and action plans to strengthen management, environmental protection and sustainable use of natural resources until 2020 with a vision to 2030 have also been promulgated by the Government and institutionalized for implementation (see Box 5).

It is recognized in the socio-economic development strategy for 2011-2020 that economic growth at all costs is no longer appropriate in the current period. Economic growth must be harmonized with cultural development, social progress, equality and the quality of life of the people. Socio-economic development must always attach to protect and improve the quality of the environment and actively respond to climate change. Thus, it can be said that Vietnam is following the right trend that many countries in the world are following. The National Target Program to Respond to Climate Change, the Climate Change Strategy for Vietnam and the National Action Plan on Climate Change Response have emphasized the close link between climate change and sustainable development, and have recognized that climate change is a common challenge that requires the synergy of the whole of society.

The Vietnam Sustainable Development Strategy for 2011-2020 states that the priority orientation for sustainable development in 2011-2020 is "Obtaining sustainable economic growth, step by step implementing green growth, developing clean energy and renewable energy". Specifically, developing and implementing a green growth strategy that will ensure the development of a low carbon economy, economically and effectively use of energy, developing clean energy and renewable energy to ensure national energy security. Gradually, increasing the share of clean energy and renewable energy in total energy consumption in Vietnam. The Resolution of the 7th Committee of Communist Party Session XI (2013) on anti-climate change, Resource Management, Environmental Protection and the Green Growth Plan, which sets out the overall objective of 2020 is towards a green economy, friendly to the environment. One of the four key tasks of the Resolution is to promote the transformation of growth model associated with economic restructuring towards green growth and sustainable development. Issue a set of indicators to assess the results of sustainable development, green growth into the set of national criteria; piloting the green economy model, green industry, green city, green countryside. The Resolution also sets out five main solutions to respond to climate change and environmental protection. Accordingly, effective implementation of the principles: polluters must pay expenses for handling and remedial consequences for rehabilitation and restoration of the environment. Those who benefit from natural

resources and the environment must be obliged to contribute to reinvest in the management of natural resources and environmental protection.

Vietnam's green growth strategy for the period of 2011-2020, towards 2050 set out three tasks: Firstly, to reduce the intensity of greenhouse gas emissions and promote the use of clean energy and renewable energy. Secondly, to green productions: Implement a "clean industrialization" strategy by reviewing and revising existing sector plans, using resources economically and efficiently, encouraging the development of green industries and green agriculture with environmental friendly principles, natural capital development investment, actively prevent and treat pollution. Thirdly, to green the lifestyle and promoting sustainable consumption.

The National Green Growth Plan for the period 2014-2020 has shown that the SBV coordinates with the Ministry of Finance, the State Treasury to improve and enhance the financial and credit capacity of commercial banks for green growth in the period 2013-2020. Accordingly, the SBV should: (i) To review, adjust and improve the financial and credit institutions in line with the green growth targets; (ii) To organize training courses in order to strengthen the capacity of commercial banks and financial institutions in green finance and credit activities; (iii) To diversify bank services to support business growth.

Thus, in Vietnam, regulations governing green economic, green growth for national sustainable development strategy are quite adequate. This represents a strong determination of Vietnam to ensure the balance between economic development, environmental protection and social stability. These legal frameworks are also important for the development of green credit, green banking in Vietnam.

4.4 Regulations of SBV on green credit

SBV is a ministerial-level agency of the government, perform the state management function over monetary, banking activities and foreign exchange and perform the function of the Central Bank on the issue of money, banks of credit institutions and the provision of monetary services to the Government

Before 2015, the SBV did not promulgate credit policies to ensure environmental protection. However, from an open view, green credit does not encourage the financing of mining projects, the production creates waste that pollutes the environment, green credit encourages environmental

friendly production, the State Bank adopted several important credit policies such as credit policies for agricultural and rural development, credit policies for the development of a number of fields and industries that use high technology.

Implementing the National Green Growth Action Plan 2014-2020, the SBV issued a Directive on promoting green credit growth and managing environmental and social risks in credit activities in 2015. This is the first document of the State Bank of Vietnam to focus on green credit activities for CIs. The target was set right from 2015 is that credit activities of the banking sector should pay attention to environmental protection, improvement the efficiency of energy and resource use, human health protection and sustainable development.

According to the Directive, credit institutions are tasked to develop and implement measures to promote green credit growth in order to promote environmental and social friendly business. In addition, credit institutions should improve the quality of services, create favorable conditions for green credit growth and finance for green business projects. The Directive also requires credit institutions to prioritize the granting of green credit to economic sectors that preserve, develop and use natural resources efficiently; economic sectors that use advance scientific and technological; projects that save energy and projects use environmental friendly technologies, manufacture environmentally friendly products.

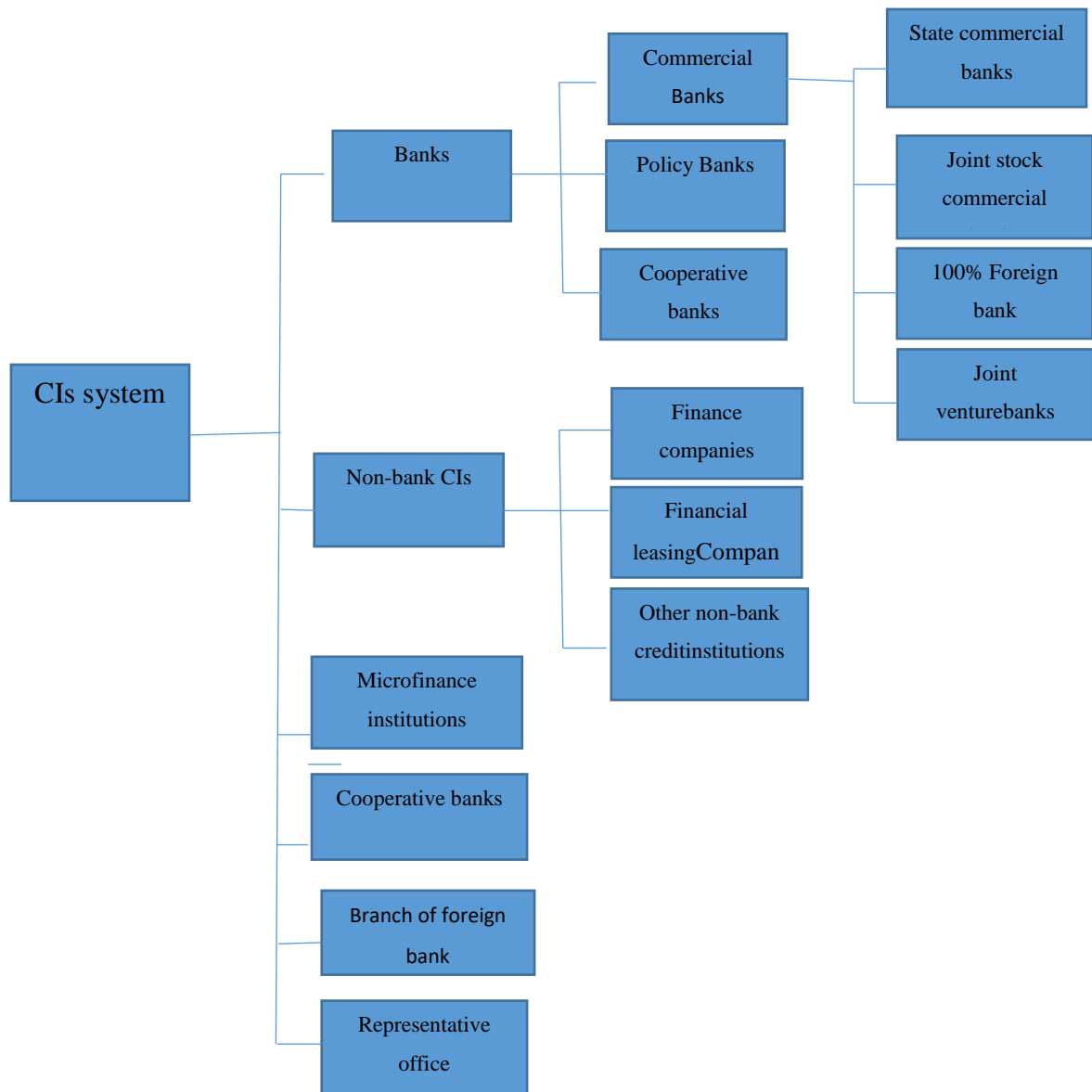
In addition to focusing on promoting green credit growth, credit institutions should implement environmental and social risk management solutions in credit extension, such as: (i) CIs actively research and develop environmental and social risk management systems of bank by improving credit process and procedures to enhance coordination in social and environmental protection and credit management; (ii) On the basis of current regulations on environmental and social risk, CIs should consider and evaluate environmental and social risks that affect the efficiency of capital use and debt repayment capability of customers when assessing credit extension; (iii) Regularly and periodically inspect and supervise the management of environmental and social risks of CIs; and (iv) To actively carry out communication activities on environmental and social risk management and green credit policy of CIs to customers in order to create the consensus and support of public opinion, of enterprises towards the target of green credit growth.

4.5 An overview of the credit institutions system in Vietnam

Credit institutions are common name for enterprises operating in the field of currency trading. The main activities of credit institutions is to receive deposits, use this money to provide credit and

provide payment services. Depending on the scope of activities, credit institutions can be divided into two basic types: banks and non-bank credit institutions. Non-bank credit institutions may carry out one or several banking activities, except for activities of receiving individuals' deposits and providing payment services.

Figure 7 - Organization chart of the system of credit institutions in Vietnam



(Source: SBV, 2016)

According to the Financial Market Review 2016, released by the National Financial Supervisory Commission, by the end of 2016, Vietnam has 118 credit institutions nationwide. These organizations are divided into four groups, as: state commercial banks, joint stock commercial banks, joint venture banks and foreign banks, finance companies, and cooperative banks (people's

credit fund). The number of credit institutions has fluctuated due to mergers and acquisitions of weak banks during the operation of credit institutions. The structure of the number of credit institutions in Vietnam for the period 2012-2016 is shown in Table 4

Table 4. Number of credit institutions

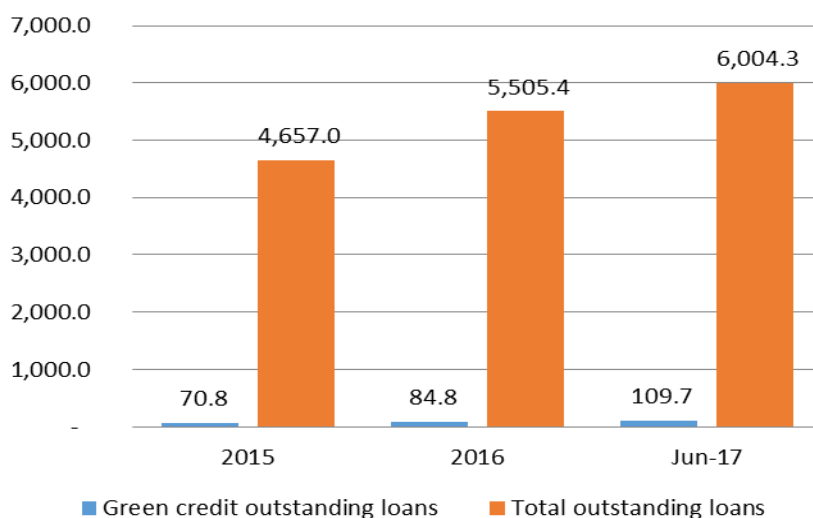
Year	2012	2013	2014	2015	2016
State commercial banks	5	5	5	5	7
Joint stock commercial banks	37	34	33	33	28
Joint venture banks and Foreign banks	54	54	57	55	55
Finance companies	30	30	28	28	27
Cooperative banks	1	1	1	1	1

(Source: SBV, 2016)

4.6 Practical implementation of green credit in Vietnam

Up to now, only about 20 banks (among 118 banks operating in Vietnam) have granted green credit with outstanding loans about 110 trillion dong (equivalent to \$ 5 million), accounting for a very small proportion (1.83%) of the total outstanding loans of the banking system (VND 6,004,337 billion, equivalent to \$ 291 billion).

Figure 8- Green credit outstanding loans vs total outstanding loans



(Source: SBV, 2017)

Although the results of green credit activities of banks are still low, however, data show that from 2015, when implementing the Directive 03 of SBV, the results of green credit of banks is in increase trend.

4.7 The results of the interview

Based on the summary of interview results, gives some specific comments are given as follows:

First, understanding the directions, strategies and regulations of government related to green growth and awareness of green credit concept of banks is unclear and incomplete:

80% of interviewees said the concept of green credit refers to credit activities for projects that reduce carbon emissions and do not harm to the environment, waste management and renewable energy projects. Credit activities for projects requiring environmental impact assessment and projects to enhance environmental sustainability are not identified as green credit.

Second, banks have looked into relevant laws and regulations of central bank, ministries and local governments related to green credit operations, but not in details and thoroughly:

80% of interviewees said that they have read the directions, strategies and regulations of the government related to green growth, such as: Environmental Protection law, National Strategy on Green Growth, National Action Plan for Green Growth 2014-2020, Vietnam Sustainable Development Strategy 2011-2020, and Action plan of the banking sector to implement the national strategy on green growth to 2020

At a lower rate, 40% of interviewees were aware of Vietnam's commitment to environmental issues when participating in international organizations and associations, but focused on environmental commitments and obligations under FTAs (EVFTA, VCUFTA, EFTA). Only 20% of interviewees knew about Vietnam's commitment on green growth, green finance, green banking and green credit as Equator Principles, IFC Performance Standards, and UNEP Financial Initiative. However, no interviewee could cite a sufficiently specific and legal documents for their answers.

Third, most banks don't have dedicated departments for social and environmental risk management and green credit developments.

Most banks have mentioned the criterias of environmental protection in their development strategy and believed that green credit is necessary in line with the development trend of the banking and finance sector in the next time. However, only four banks have their own departments in charge of developping in green banking and green credit, the rest have no dedicated departments in this field, but they all agree that there should be a separate department responsible for developing green banking, green credit and this department should belong to the Risk Management Division or the Corporate Clients Division. Sacombank is one of four banks with a dedicated team for the development and consultation of environmental and social management systems (see Box 7).

Forth, the system for social and environmental risk management is not fully developed and implemented by banks, for the following points:

Environmental risk assessment process is inadequate. Most banks don't have green credit assessment process: There are four banks developed and implemented environmental social risk assessment when appraising loans to customers. Of which, two branches of foreign banks in Vietnam (BNP Paribas and ANZ bank) have a parent bank participating in the equator principle and has applied the social and environmental standards and procedures that constructed by the parent bank. For local commercial banks, Sacombank and Vietcombank have implemented green credit - green project assessment procedures and environmental - social risk assessments through social and environmental policies, combining with its ESMs guidelines.

The environmental risk assessment for banks' credit is still inadequate: In the course of credit granting, banks often refer to the guidelines on the implementation of environmental impact assessment and registration of environmental protection commitments in accordance with the Decree of the Government. Accordingly, banks require borrowers to show this license as evidence that the project has met the requirements of the social and environment assessment and compliance with regulations and guidelines of the State. However, the bank staff has not paid much attention to check these during and after the loan whether the customer would comply with the terms and conditions set out in the license. This can lead to risks if the customer violates the regulations and the projects are suspended. Most of the interviewees only considered the environmental risk assessment in credit activities to avoid loss of debt (both principal and interest), a few interviewees thought that it is mandatory regulations need to be implemented on environmental risk assessment in their credit activities.

There is a lack of an unified implementation of environment risk assessment tools: According to interviewees, risk assessment tools are necessary in their credit activities. To assess environmental risks, each bank use a variety of tools that integrate environmental and social risk management elements into the credit appraisal process. The interview results show that environmental risk assessment is the most frequently used tool in environmental management. This environmental impact assessment report is prescribed in the Law on Environmental Protection and is an environmental mandatory requirement for some types of enterprises/projects and to be approved by the relevant State agencies. Those enterprises/projects which are not in the list of environmental impact assessment reports must comply with Law on Environmental Protection, therefore, environmental impact assessment is a tool chosen by banks. In addition, banks can choose to use other tools to assess social and environmental impacts, such as the Social-Environmental Risk Category, and the list of exempted non-funded projects ,etc...

There are no specific guidelines or minimum standards for environmental and social risk management as well as no consistent guidelines for the banking sector is the biggest difficulty for credit institutions when carrying out environmental and social risk assessment in credit activities: All interviewees said that the biggest difficulty in carrying out environmental and social risk assessment is the lack of specific guidelines or minimum standards for environmental and social risk management. In addition, implementation of environmental and social risk assessment in credit extension will incur significant costs for credit institutions. Then, banks meet difficulties in sanctioning the violations, credit appraisal time, and bank officer' experience in the field of environment.

Fifth, green finance is generally considered a profitable and potential business area and is included in bank's short-medium term (1-3 years) development plans.

All interviewees considered grant financing for green investments as a potential business and to plan to expand their green credit activities in the short - medium term. According to interviewees, the environment is the most potential and preferred business segment, followed by science and technology, oil and gas. In addition, several banks also mentioned their business priorities in green credit programs in textiles, forestry, construction, food, ecotourism. However, at present, only 50% of banks have products and services on banking, credit for investment, production and business related to green fields.

Sixth, most banks use self-mobilized capital to provide credit for green fields so there is a lack of diversity in green credit products. Several of them are loan and funded from international organizations, however banks have to meet the financing projects requirements from these organizations.

Of the 10 banks, 7 banks use their mobilized capital to provide credit for green fields. The rest (BNP Paribas, ANZ and VCB) use loans or entrusted funds from international organizations to carry out one part of their green credit activities. It can be seen that the financing of green investments is a potential business segment that banks have begun to take into account in their development strategies. Credit products and banking services tend to serve the needs of investment, production and business in green fields. Green credit loans of banks now mainly focus on agriculture, forestry and hydropower. Banks are interested in green credit products for renewable energy sector as wind power, small solar power. There are many green credit products available in the world such as renewable energy products (geothermal, bioenergy, solar energy, etc.), savings products, energy recycling, energy efficiency investment ... but not in Vietnam. The interviewees said that a few green credit loans related to waste treatment, ecotourism, oil refinery. These are loans financed by international organizations (WB, SECO, JICA, ADB ...). However, in order to receive funding from international organizations with interest-rate incentives and long-term, banks must obey a number of selection criteria of green credits in accordance with the specific provisions of each program. For environmental requirements, banks must follow Vietnamese regulations such as the Law on Environmental Protection which stipulates the Environmental Technical Regulation System and must be certified by the Environmental Management Agencies.

Seventh, banks face many challenges in green credit development

Banks face many difficulties in implementing green credit. In the face of internal difficulties, most interviewees said that the biggest obstacle to implementing green credit are the complexity of appraisal techniques, large loan size that exceeding the bank's financial and management capacity, long repayment period, more risk, and low benefit. In addition, another difficulty in implementing green credit is that customers do not want to fulfill the conditions for implementing green projects in accordance with government regulations.

Eighth, most of the banks have paid more attention to sending employees to training courses,

seminars in order to raise their capacity to work on green banking, green credit, however human resources to assess the environment social risks in green credit activities at banks is still limited.

All banks have sent staff to courses, seminars on green banking, green credit, mainly held by SBV and international organizations, but most of the banks do not have staff trained in depth and specialized in assessing environmental and social risks. Of the 10 banks, only two local banks (VCB, Sacombank) have one staff responsible for environmental impact assessment at each branch, while two foreign banks have foreign experts teams are available to advise in this area when there are environmental and social concerns.

Nineth, SBV should only encourage banks to carry out environmental and social risk assessments in credit granting activities, not compulsory. It is important to have a policy framework or guideline from SBV to encourage green finance.

All interviewees considered it is necessary to regulate environmental and social risk assessment in credit granting activities, however 60% of interviewees think that SBV should only encourage banks implement this regulation, not to be compulsory. All interviewees affirmed that in order to encourage the expansion of credit for green industries, the SBV should develop and implement green credit programs for the whole banking system. Accordingly, some interviewees recommended that the SBV should focus on solving the following issues: (i) SBV should coordinate with environmental agencies, local People's Committees to issue guidance on the list of criteria for identifying green projects, green credit and green credit appraisal tools; (ii) The SBV should also issue a framework for the regulation of environmental and social risks management in credit activities, especially medium and long-term credit, supporting banks to strengthen credit institutions' appraisal capacity for projects for green growth; (iii) SBV should support credit institutions with fund, interest rate, information, reduction of compulsory reserve ratio, window discount, rediscount ... to promote green credit activities in a more positive way; (iv) Banks should be encouraged to intensify consultations with independent experts and environmental organizations on the potential impact from projects.

Last, the improvement of macro factors will be necessary to improve the bank's participation in green credit.

At the suggestion of all interviewees, in order of priority, the improvement of macro factors will be needed to improve the bank's participation in green credit as:

- Sanctions and regulatory requirements in compliance with environmental and social requirements for project owners,
- The second important factor assessed by interviewees is the synergy between state agencies to promote the effectiveness of green credit policies.
- Economic growth.
- Synchronization within the policy framework is needed to improve the bank's participation in green credit. The policy framework (on green growth, tax policies, fees, policies for economic sectors development, etc...) is considered to be the most necessary to improve the participating in green credit of banks (60% of interviewees).

The results of data collected and data analyzed mentioned above are important information that support for describing findings to answer the research questions.

CHAPTER FIVE: EVALUATION GREEN CREDIT STATUS AND SOLUTIONS TO PROMOTE GREEN CREDIT TOWARD SUSTAINABLE DEVELOPMENT IN VIETNAM

5.1 Evaluating the implementation of green credit for green growth in Vietnam

The SWOT tool is used to analyze the implementation of green credit for green growth in Vietnam, with the following strengths and weakness:

**Table 5. SWOT analysis of the implementation of green credit
for green growth in Vietnam**

Strengths (S)	Oppertunities (O)
Green credit is one of the bank's credit operations, the main functions of CIs.	It is opportunity for CIs to develop their green credit activities and banking services for green industries.
CIs' awareness on green credit, green banks in recent years has significantly improved which are reflected in the strategy and vision of the banks, sending employees to attend training courses and workshops related to green credit, green banking, initially having banking products and services for green industries, and using capital mobilized to provide medium and long terms credit for green fields with preferential interest rates.	<p>The Government of Vietnam has promulgated a comprehensive legal basis for green growth for sustainable development of the country, from the Law on Environmental Protection, the Resolution, the National Green Growth and Sustainable Development Strategy to Vietnam's commitment when joining in the world's financial organizations related to environmental protection and climate change, affirming Vietnam's strong determination to maintain the balance between economic development, environmental protection and social stability.</p> <p>Forms of supporting for the development of green industries such as taxation, land prices, markets, capital, technology, etc... have been gradually taken into consideration and institutionalized into state</p>

	<p>policies.</p> <p>SBV has issued a policy to promote green credit activities such as orientation documents, development of a clear action plan system to promote green credit, risk management environmental and social aspects of credit activities of CIs.</p> <p>A number of other financial and credit mechanisms have also been formed to support CIs with capital, fund for green projects (mainly for energy efficiency and cleaner production) through the form of grants, Programs and projects of international organizations.</p>
<p>Most CIs are concerned about the assessment of environmental and social risks in their credit activities. Among of them, several banks have assessed environmental and social risks for short, medium and long term loans as this is an important activity to avoid loss of debt (both principal and interest)</p> <p>Some banks participating in projects financed by international financial institutions have strictly complied with their regulations on environmental protection.</p>	<p>The requirements, standards and techniques for each green sector have also been established.</p> <p>There are now available initiatives of international organizations for environment and society risks management as: Equator Principles, IFC Performance Standards, and UNEP Financial Initiative which are useful reference sources for CIs.</p>
<p>Many CIs have actively implemented a number of green credit programs promulgated by the SBV and have achieved positive results such as: credit program for high technology and clean agriculture, credit program to support afforestation.</p>	<p>SBV has implemented a number of policies and credit programs for development of a number of fields and branches of intensive investment, using high technologies, with incentives on interest rates, terms and mechanisms, risk management mechanism. In essence, it is also the concretization of credit policy towards green credit, green growth.</p>

Weaknees (W)	Threats (T)
Financing to green projects with large investment capital, long recovery period.	High risk, costly so how to preserve capital and maintain profits for the banks.
Green credit outstanding of CIs are still very low, accounting for less than 5% of total outstanding loans for economy.	Credit activities of CIs have not supported the green industries, therefore, the economic development objectives associated with environmental protection and anti-climate change have not been achieved.
<p>CIs have not really set the target of green credit growth in the bank's development strategy.</p> <p>Environmental and social risk management systems of banks have not been developed and implemented widely.</p>	<p>CIs will not keep up with the trend of sustainable development in business that all the nations in the world and Vietnam are pursuing.</p> <p>The bank will not invest in training so there is a shortage of specialized human resources with expertise in the green sector and the ability to evaluate green projects.</p>
Banks have not yet taken their operational advantages in order to have full use of green capital, especially the international capital for green growth.	There are few CIs chosen to participate in the activities of the Environmental Protection Fund and few CIs are entrusted by international financial institutions to carry out environmental protection projects. Thus, CIs will not have opportunity to access to cheap and long time capital from international financial institutions.

5.2 The objectives of green credit development in Vietnam

Speed up the development of green credit to contribute to reallocating resources towards green growth. Green credit help to support the implementation of the tasks of the National Green Growth Strategy in order to transform the economy into a green, low-carbon economy, and climate change adaptation. Accordingly, CIs need to increase the proportion of bank credit investment capital in green industries. CIs must meet the requirements of environmental and social risk management in

their business as required and set up their own department, responsible for green banking, green credit development.

5.3 Solutions to promote green credit towards green growth in Vietnam and implementation schedule

Based on the results of the green credit activities of banking system, the interview results and lessons from other countries like China, Philippines, Germany, etc... the author proposed some solutions to promote green credit towards green growth in Vietnam as follows:

a. Solutions to improve the legal framework, guide the implementation of green credit:

There is a need to have a clear definition of green credit in this policy guideline framework to publicize the activities of the banking sector towards green credit, green banking. It is necessary to develop a green credit portfolio that encourages development to support green growth strategies, sustainable development of the country and the list of industries to be restricted, ban on financing that negatively impact environmental and social.

In addition, guidelines on environmental and social risk management should be developed and finalized in credit activities at CIs. Incorporating environmental and social risk management into the risk management process is a necessary requirement in the credit activities of banks towards green economy and sustainable development. Moreover, according to the international standards of the Basel II Convention, environmental risk management is considered part of operational risk management of banks.

Moreover, it is necessary to develop green credit programs of the banking system in Vietnam for priority economic sectors as: Renewable energy sector and energy saving industries, green industries, green agriculture, and projects on afforestation and regeneration of natural forests.

b. Solutions on developing green bank model in Vietnam:

In the world, banks' application of measures and procedures on environmental and social risk management is becoming more widespread due to the increasing demand for responsibility for environmental protection. At present, there are no green banking model in Vietnam. Accordingly,

green banks not only granting green credit but also needs to greenize its internal operations through the development of modern banking services using high technology and environmental friendly technology to reduce environmental pollution.

c. Solutions to mobilize resources to implement green credit in Vietnam:

There are many ways to mobilize resources for green credit activities of banking system in Vietnam. Capital for investment and development of the State is one of the important sources for the implementation of green credit in Vietnam, playing the role of "bait capital" to mobilize other resources for green growth and sustainable development. Moreover, in the context of international financial resources for green growth, climate change is increasing and diversifying, it is necessary to raise capital from long-term preferential loans from international financial institutions as KfW, WB, ADB, IFC,... as well as international climate finance funds to grant large-scale renewable energy projects. When receiving international preferential capital sources, CIs have opportunities to learn experience in risk management, risk assessment and project evaluation from these financial institutions. In addition, green bond is also one of the most effective ways to mobilize capital for green growth in Vietnam. Green bonds are mobilized to finance green projects such as irrigation projects and projects for environmental protection, which allow enterprises to issue bonds for green projects.

CHAPTER SIX: CONCLUSIONS

6.1 Summary and Conclusions

Vietnam is considered one of the countries most affected by climate change. The impact of climate change in Vietnam is a serious threat to poverty reduction, the achievement of the MDGs and the sustainable development of the country. Green credit is a part of the green economy, thus green credit play an important role in promoting sustainable development and realizing Vietnam's green growth strategy. Green credit is not new in the world but it is still quite new in Vietnam and green credit activities of credit institutions in Vietnam have not been developed so the issue is how to promote green credit for green growth and sustainable development in Vietnam.

To solve this matter, the author have review the literature, previous studies on concepts, role of bank credit for economic growth, green growth and sustainable development. Developing green finance towards green growth and sustainable development is the inevitable path that many countries in the world, including Vietnam make a choice. Through theoretical studies, it has been pointed out that the bank's credit activities aim at providing funds for the operation of individuals and organizations in the economy have promoted economic growth. In particular, green credit activities will impact on green growth and sustainable development. Green credit activities of the bank are market-based lending including retail banking, project finance, asset management, loans and financial investments associated with social liability and environmental protection. Green credit is not only about minimizing negative environmental impacts in bank's operations, but also by ensuring that their financing activities are for green businesses and green technologies. Banks must develop green financial products and green markets towards low carbon economic growth. Green development policies are linked to international, regional environmental protection agreements, and agreements of each bank, however the pursuit of development policies under international environmental agreements and treaties is not mandatory. An overview of the literature described in Chapter two helps the author answer two sub-questions:

How does “green credit” influence sustainable development ?

What are environmental policies in the credit activity of banks?

The qualitative research method is used to collect data through interview results and SWOT tool is used to evaluate the implementation green credit activities in Vietnam, in order to answer the sub-

question left:

Is it necessary for Vietnam Government to regulate policies on green credit for the national sustainable development strategy ?

And then answer the research question: “How does green credit play an important role in sustainable development and what should Vietnam do to promote green credit for sustainable development ?”.

The findings of the study also showed that the objective of developing green credit activities is not clear, the legal system is not complete so green credit in Vietnam has not been effective and has not really become the target of operation of credit institutions as well as borrowers. Thus, some difficulties and problems affecting the feasibility of implementing green bank, green credit and social – environment risk management in credit activities in Vietnam, as following:

In order to promote green credit activities, the State Bank has only issued a single directive on green credit activities. However, it only focused on orienting and encouraging credit institutions to take initiative. There is a lack of legal and technical guidance needed for banks to adhere to or adapt to, while accessing to green credit is a new field in Vietnam. Green activities must follow international standards that the credit system in Vietnam have not much experience. Although there are a number of banks in Vietnam that apply social risk management policies when approving loans, the implementation at banks is different, not consistent.

Vietnam is still in a resource-dependent development model, so finding a balance between economic growth and environmental protection is always difficult, especially in the field of energy development (thermal power, hydropower, wind power, solar power, ..). In fact, there are not many environmentally friendly projects proposed by investors in Vietnam.

There is a limitation on interest and capacity of commercial banks on environmental policy in credit activities. This is a major challenge, as ensuring social and environmental security is closely linked to banking risk management reform, including adherence to the principles of transparency, responsibility, and multi-stakeholder cooperation that may affect the profitability of banks.

Environmental policy has not been applied in a mandatory and uniform manner the whole banking system in Vietnam. In the context of banks seeking to make a profit, compliance with higher requirements for environmental assurance is considered to reduce competition, as customers tend to

find banks with open and simple financing procedures.

Specific financial mechanisms have not been developed for environmentally friendly projects, whereas green projects often have high initial capital, long repayment periods, so banks still face difficulties in securing long-term loans with preferential interest rates for environmentally friendly projects.

Banks are currently lacking reliable information on environmental impacts from the projects to consider granting credit, while the quality of SEA and EIAs implementation is limited and not reliable.

Finally, the study revealed that Vietnam has developed many environmental protection policies, but the effectiveness of implementing the legislation is limited. Many projects that have a major impact on the environment are still approved, or many projects that fail to meet the environmental standards requirements are still allowed to operate and even have been approved for expansion. Compliance with the law is not strict, which hinders green credit operations in Vietnam.

According to Hogwood and Gunn (1984), one of the prerequisites for the effective implementation of a policy is that only one executor makes a single policy. Implementing green credit policies around the world, some countries have issued regulations mandatory banks to follow, some countries only encourage banks to implement. However, in the context of Vietnam, in order to effectively support green credit for sustainable development, the issuance of a green credit policy framework to promote this activity at banks is necessary. It is an answer for research questions.

6.2 Recommendation

The author gives an overview of basic concepts, especially the concepts of green credit, green banking, and the important role of green credit for sustainable development. Furthermore, this study has provided evidences of green credit development experience in some countries around the world, such as: China, Bangladesh, the Philippines, and Germany. Based on the difficulties in green credit activities in China and the success of green credit policies in other countries, for example in Germany and Bangladesh, this study has highlighted several recommendations and proposed lessons in implementing for Vietnam, as following:

Firstly, it is important for Vietnam to develop a credible assessment system for economic sectors in order to built a guiding line for banks to classify projects, especially those that are expected to generate high profits but latent environmental pollution.

Secondly, it is necessary to promote the communication on government regulations and detail guidelines of the SBV on green credit policy, so that businesses and banks know and apply in their activities.

Thirdly, the Government of Vietnam should establish credit guarantee funds or issue a capital support mechanism for banks and financial institutions to provide credit to enterprises using environmental friendly technology with preferential credit conditions.

Finally, the SBV should establish rules that banks are required to report transparently on the environmental performance of credit granting to relevant State Agencies and the public.

in context that the system of credit institutions in Vietnam has been deployed and oriented to develop green credit activity in the future, several solutions that SBV should consider to promote green credit for sustainable growth in Vietnam, such as:

Firstly, SBV should unify concepts and guidelines on green credit. Developing a precise concept of green credit under a policy framework that guides the activities of CIs. CIs shall be requested to report green credit operations to the SBV on a regular basis.

Secondly, SBV should develop a list of incentives, restrictions and bans on credit investment. The list must be a general framework, from which banks and financial institutions could develop their own lists of activities considered as “green”. The list of restrictions must comply with one defined in Law on Environment Protection and other international conventions.

Thirdly, SBV should develop environmental standards for green credit activities. Aside environmental standards defined by Vietnam’s laws, banks must develop detailed guidances on monitoring and evaluating environmental impacts of projects and firms requesting green credit grants. It needs the cooperation between the SBV and other state agencies i.e. Ministry of Natural Resources and Environment well as consulting from international experts.

Fourthly, SBV should design a policy system, supportive tools for green credit and green bank's activities as:

(i) Refinancing policy: SBV may prioritize funding for developing green credit via refinancing/re-discounting on the basis of ensuring the principle that it does not affect the operation of monetary policy and SBV's inflation target of each period. The deployed methods may be the same as the methods of refinancing for 5 priority areas implemented by SBV.

(ii) Required reserve: SBV can reduce the reserve requirement ratio for banks which have high proportion of green credit in their portfolios.

(iii) Interest rate, term of loan: Through receiving preferential interest rate capital from abroad and annual development credit, SBV implements interest rate incentives for credit institutions to develop green credit. At the same time, SBV announces the lending interest rate for business lower than market rate and improves the readiness to engage in green project of enterprises.

(iv) Supportive policies and tools: SBV can introduce a range of incentives to encourage banks to enhance green credit and green bank's activities, such as: raising bank's rating; better considering for banks with high green credit when they want to open new branches; publishing top ten banks with the best green credit's activities on the SBV's website.

(v) Establish green credit funds: Currently, in Vietnam, there are a few funds for developing green credit. The size of these funds is also modest. Therefore, the banking sector having a fund for green credit is necessary to mobilize resource from domestic and foreign to develop green credit activities. The operational capital of the green credit fund is formed from following sources: Grants, contributions, investment trusts from organizations and individuals, domestic and foreign; Income from interest rate of refinancing that banks have to pay SBV; Partial of annual State development credit (with the direction of the Government), and A partial of expense for protecting environment (with direction of the Government and the agreement of the Ministry of Finance).

(vi) Build a pilot green credit program for some industries/sectors/projects (for example renewable energy) in order to help banks gain more knowledge, experiment and evaluation skills and monitor

the green credit loans after disbursement. Banks which participate in the pilot program will share their experiment with other banks, creating spillover effects.

Fifthly, SBV should improve the human resources to promote green credit and green bank activities of CIs. The SBV collaborates with international organizations such as GIZ to provide training course and workshops on green credit well as develop a manual/guidebook on green banking and green credit. The Ministry of Natural Resource and Environment collaborates with Vietnam Business Association, Consumer Protection Association and other media agencies to deliver knowledge and to encourage firms and consumers in producing and using products that are friendly to the environment.

Sixthly, there should be a integrate and coordinate regulations on green credit and green bank on the professional regulations and the training programs of SBV. Green credit and green banking need to be integrated into the banking sector's sustainable development strategies, the five year plan and yearly development orientation. The SBV should collaborate with the Ministry of Natural Resource and Environment to develop a detailed risks classification procedure in line with international standards and then to develop detailed guidance on environmental and social issues.

Finally, Vietnam Governments should have incentives on tax and stable output prices for green investment projects. Thus, The Ministry of Finance, Ministry of Natural Resource and Environment, Ministry of Industry and Trade shall jointly develop tax incentive policies and commit to stable prices for projects which generate electrics from renewal energy, wind, earth and sun power.

6.3 Limitation of the study

Qualitative method was used in study to collect data for analysis. Due to time limitation, only 10 interviewees represented for 10 banks selected among total of 118 banks operating in Vietnam so there will be a limitation of the information collected. However, there are four State commercial banks among 10 banks selected with their loan outstanding account for nearly 75% total loan outstanding of Vietnam's banking system so data collected is reliable and valid for the findings.

One of the limitation of the study is that several data need to be collected and analyzed by

quantitative to statistic the lending rate for each economic sector in green credit activities of banks but researcher could not carry out in this study so it is not enough information about green sectors in detail that banks are funding. Additionally, the author haven't obtained the information on the process of environmental and social risk assessment when granting credit that some banks have developed and applied independently, the information on the process of monitoring disbursement for green projects and bank responses when borrowers do not comply with environmental regulations has not been collected. Therefore, the author does not have enough information to propose in detail the standard contents of the environmental and social risk assessment and management process applied to all banks in Vietnam.

6.4 Thesis contributions

This thesis makes both practical and theoretical contributions. In terms of theoretical contribution, it will contribute to the perception of CIs in Vietnam that sustainable development is a harmonious combination of three factors: economic, environmental and social. Green credit provides capital for economic development but must ensure the protection of the environment and human. So business strategy of CIs must follow this rule.

Moreover, in terms of practical contribution, the thesis will provide practical information on green credit activities in a number of countries around the world, an overview of green credit activities of the credit institutions in Vietnam, and policy gaps. The findings of the study and some of my suggestions will probably help policymakers involved in green credit continue to research and assist to the government to issue mandatory regulations, thus Green credit activities really promote their role in sustainable development in Vietnam.

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APPENDICES

APPENDIX 1: INTERVIEW QUESTIONNAIRE

I. Interview introduction

Hello, my name is Pham Thi Thanh Tung and I am a master student in University of Tampere. As apart of my thesis, I am undertaking a study: How “green credit” influence sustainable development, What environmental policies in the credit activity of banks, How green credit play an important role in sustainable development, and Is it necessary for Vietnam Government to regulate policies on green credit for the national sustainable development strategy.

Thank you for agreeing to participate in this research. Shortly, I will ask you a series of questions about the green credit activities in your bank, but first of all I would like to ask you a few questions about yourself.

Name of company: _____

Date: _____

Start time of interview: _____

Finish time of interview: _____

Interviewee details:

Name: _____

Contact Details: _____

Sex: _____ Male _____ Female

Position: _____

Number of year in this position: _____

II. Interview questionnaire

Definitions: Green credit includes all types of financing or lending, taking into account environmental impacts and enhancing environmental sustainability; for example lending to companies to invest in energy saving, water and fuel projects; to reduce waste or pollution; to build and operate renewable energy facilities (geothermal, bioenergy, hydropower, wind energy, solar power, etc.) or projects related to eco-tourism or to be labeled Ecological in products.

Question 1. Does your bank understand the laws, regulations and guidelines of the Government, Ministries and local authorities related to green growth, sustainable development; understand the commitments that Vietnam must comply with when joining the organizations, associations around the world on green credit or not?

- 1. Yes
- 2. No
- If Yes => propose to list up to 05 recently issued most influential (positive or negative) regulations on the operation or direction of green credit activities of your bank.
 -
 -
 -
 -
 -

Question 2. Does your bank have green credit - green banking regulations?

- 1. Implementation of international donors

- 2. Your own bank statement
- 3. Other (if yes)
-

Question 3. Does your bank consider credit financing for green investments to be a promising business opportunity / business opportunity / business segment, and have specific plans to expand green credit activities in the short to medium term (1-3 years)?

- 1. Yes
- 2. No
- If yes => according to your bank, which green credit programs (for which sector, sector, or target group) will be the promising business / business opportunity / business segment? should be preferred?
- Environment
- Science and technology
- Insurance
- Petroleum
- Other: (specify):
.....

Question 4. Do you think that a regulatory framework and policy on green credit - green banks of SBV are beneficial for encouraging green investment?

- Not at all
- Few
- Moderate
- Significant
- If yes, what issues to focus on?
- Policy framework for green credit - green banks
- Specify the green credit criteria
- Green credit appraisal process
- Other:
- If No, then why (reason):

Question 5. Do you think that encouraging green credit will contribute to sustainable socio-economic development?

- 1. Yes
- 2. No

Question 6. Does your bank have specific green credit / green credit criteria? Does your bank statistic/ classify of green credits? by what criteria? Does your bank have a green credit appraisal process?

- 1. Yes
 - 2. No
 - If yes => specify how do you define green credit, green project? Specifically, how do you develop green credit appraisal process, green project?
-
-
-

Question 7. Does your bank have a unit/division that is responsible for development, banking risk management for green credit, Does your bank apply tools to assess the environmental risk in credit operations?

- 1. Have
 - 2. Not yet but should have
 - 3. Should not have
- If Yes => specify (under what level)

.....

Please list the main tools for environmental risk assessment (if applicable).

-
-
-

Question 8. Has your bank developed and implemented a process for assessing and controlling environmental and social risks? If yes, in this process, the bank has:

- Risk identification (ensuring that the projects, production and business proposals for granting credit are not prohibit according to the provisions of law and internal regulations of the credit institution)

- Yes

No

- Environmental and social risk assessment: Is the environmental and social risk appraisal carried out at the same time as credit appraisal for clients?

Yes

No

- Control of environmental and social risks?

Yes

No

- Reporting, publishing and receiving information?

Yes

No

- Have a sample report on environmental and social risk assessment for medium and high risk in order to make credit decision;

Yes

No

- Is there a form of a report on the environmental and social risk statistics according to the level of risk, sent directly to the Managing Board and the Executive Board?

Yes

No

Question 9. Does your bank have products, services that encourage the seeking of environmentally and socially friendly business opportunities? (encouraging credit in clean, green, environmentally friendly areas?)

Yes

No

If yes, what are the products? (please list up to 05 most popular products in order of 1-5)

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Question 10. Does your bank face internal banking problems (such as business expenses, human resources, risk management, management capacity etc)?

- Yes
- No

If yes, what are the difficulties? (Please order a maximum of 05 difficulties, from 1 (largest) to 5)

- Business costs => profit / profitability / non-interest differences
- Risk is too great
- The duration is too long
- Loan exceeded the financial capacity and management capacity of the bank
- Too technical, technical => technical appraisal capacity
- Too complex financial forecast => Financial appraisal capacity
- Human resources / lack of human resources
- Customers do not have much demand
- Management capacity
- Assessment capacity
- Risk management
- Assets are insufficient
- The ability to forecast green cash flows / financial appraisal capacity for green projects
- Rules, internal procedures not yet supported

Question 11. Does your bank face external factors influencing the bank's policies (such as the level of growth of the economy, the consistency of the policy framework, the coordination between relevant ministries, efficiency in environmental protection efforts, etc.)

- Yes
- No

If yes, what are the difficulties? (Please order a maximum of 05 difficulties, from 1 (largest) to 5).

- policies related to lending operations;
- policies on trade finance (guarantee and discount);
- Policies on loan security, collateral handling;

- Policies on investment operations;
- Policies on banking operation network.
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Question 12. What type of support does your bank need to get involved in green credit? (there may be multiple answers). Please rank up to 05 support types that you consider most important, from 1 = most important to 5)

- Capacity Development (training, workshops)
- Technical assistance
- Methods of safety
- Contribution awards
- Access to information
- Funding support
- Interest rate support
- Other (specify)

III. Recommendations / comments of interviewees:

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THANK YOU!

APPENDIX 2: LIST OF TABLES AND BOX

Box 1 - UNEP Statement of Commitment by Financial Institutions (FI) on Sustainable Development

We members of the Financial Services Sector recognize that economic development needs to be compatible with human welfare and a healthy environment. To ignore this is to risk increasing social, environmental and financial costs. We further recognize that sustainable development is the collective responsibility of governments, businesses and individuals. We are committed to working collectively toward common sustainability goals.

1. Commitment to Sustainable Development

1.1 We regard sustainable development - defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs - as a fundamental aspect of sound business management.

1.2 We believe that sustainable development is best achieved by allowing markets to work within an appropriate framework of cost efficient regulations and economic instruments. Governments have a leadership role in establishing and enforcing long-term priorities and values.

1.3 We regard financial institutions to be important contributors to sustainable development, through their interaction with other economic sectors and consumers and through their own financing, investment and trading activities.

1.4 We recognize that sustainable development is an institutional commitment and an integral part of our pursuit of both good corporate citizenship and the fundamentals of sound business practices.

1.5 We recognize that the sustainable development agenda is becoming increasingly inter-linked with humanitarian and social issues as the global environment agenda broadens and as climate change brings greater developmental and security challenges.

2. Sustainability Management

2.1 We support a precautionary approach to environmental and social issues, which strives to anticipate and prevent potential negative impacts on the environment and society.

2.2 We will comply with all applicable local, national and international regulations on environmental and social issues. Beyond compliance, we will work towards integrating environmental and social considerations into our operations and business decisions in all markets.

2.3 We recognize that identifying and quantifying environmental and social risks should be part of the normal process of risk assessment and management, both in domestic and

international operations.

- 2.4 We will endeavor to pursue the best practice in environmental management, including energy and water efficiency, recycling and waste reduction. We will seek to form business relations with customers, partners, suppliers and subcontractors who follow similarly high environmental standards.
- 2.5 We intend to update our practices periodically to incorporate relevant developments in sustainability management. We encourage the industry to undertake research accordingly.
- 2.6 We recognize the need to conduct regular internal reviews and to measure our progress against our sustainability goals.
- 2.7 We recognize the need for the financial services sector to adapt and develop products and services which will promote the principles of sustainable development.

3. Public Awareness and Communication

- 3.1 We recommend that financial institutions develop and publish a statement of their sustainability policy and periodically report on the steps they have taken to promote the integration of environmental and social considerations into their operations.
- 3.2 We are committed to share relevant information with customers, as appropriate, so that they may strengthen their own capacity to reduce environmental and social risk and promote sustainable development.
- 3.3 We will foster openness and dialogue relating to sustainability matters with relevant stakeholders, including shareholders, employees, customers, regulators, policy-makers and the public.
- 3.4 We will work with the United Nations Environment Programme (UNEP) to further the principles and goals of this Statement, and seek UNEP's active support in providing relevant information relating to sustainable development.
- 3.5 We will encourage other financial institutions to support this Statement. We are committed to share with them our experiences and knowledge in order to extend best practices.
- 3.6 We recognize the importance of other initiatives by the financial services sector in forwarding the aims and objectives of sustainable finance and will seek to assist such initiatives in an appropriate manner.
- 3.7 We will work with UNEP periodically to review the success in implementing this Statement and expect all Signatories to make real progress.

(Source: UNEPFI, 1992)

Box 2 - The Ten Principles of the UNGC

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Box 3 - IFC Performance Standards

Standard 1: Assessment and Management of Environmental and Social Risks and Impacts

Standard 2: Labor and Working Condition

Standard 3: Resource Efficiency and Pollution Prevention

Standard 4: Community Health, Safety and Security

Standard 5: Land Acquisition and Involuntary Resettlement

Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

Standard 7: Indigenous Peoples

Standard 8: Cultural Heritage.

(Source: IFC, 2012)

Box 4 – Equator Principles (E8)

Principle 1: Review and Categorisation

Principle 2: Environmental and Social Assessment

Principle 3: Applicable Environmental and Social Standards

Principle 4: Environmental and Social Management System and Equator Principles Action Plan

Principle 5: Stakeholder Engagement

Principle 6: Grievance Mechanism

Principle 7: Independent Review

Principle 8: Covenants

Principle 9: Independent Monitoring and Reporting

Principle 10: Reporting and Transparency.

(Source: The Equator Principles Association, 2011)

Box 5 - Major Law Groups on Environmental Protection

- Law on Environment Protection (EP) (1993, 2005, 2014)
- Law on Forest Protection and Development (1991, 2004, adjusted 2017)
- Law on Fisheries (2003)
- Law on Biodiversity (2008)
- Law on Water Resources (1998, 2012)
- Law on Natural Resources and Environment of Sea and Islands (2015)
- Law on Land (1993, 2003, 2013)

Box 6 – List of banks interviewed

1. Vietcombank
2. Vietinbank
3. Bank of Investment and Development of Vietnam
4. Vietnam Bank for Agriculture and Rural Development
5. An Binh Commercial bank
6. Sacombank
7. Techcombank
8. ACB
9. HSBC
10. Standard Chartered

Box 7 - Environmental and social policy of Sacombank

Sacombank's environmental policy is based on the principle of sustainable development, always attaching environmental responsibility to business activities, including:

- Classification of environmental risks in business operations;
- Maintaining and taking into account the responsibility of social - environmental protection in business;
- Environmental protection and sustainable protection of natural resources as well as compliance with social principles when financing to any enterprises or individuals;
- Balance social and environmental issues with financial priorities;

Sacombank has developed the "Green Credit" standard to classify investment projects .

Three levels: Type A - high risk environmental project, Type B - risky project average, and Type C - the least likely impact on the environment.

(Source: Sacombank Annual Report, 2011).

Box 8 - National strategies and action plans to strengthen management, protection of the environment and sustainable use of resources.

- National Strategy on Environment Protection to 2020, with Visions to 2030; issued in 2012;
- National Strategy on Biodiversity to 2020 and Vision to 2030; issued in 2013;
- National Strategy on Climate Change; issued in 2011;
- National Green Growth Strategy; issued in 2012;
- National Strategy on Water Resources to 2020; issued in 2006;
- Vietnam Forestry Development Strategy in the period 2006-2020; issued in 2007;
- Vietnam Fisheries Development Strategy to 2020; issued in 2010;
- Mineral Resources Strategies to 2020 with a vision to 2030; issued in 2011;
- Vietnam Sustainable Development Strategy in the period 2011-2020; issued in 2012;
- Vietnam's National Energy Development Strategy to 2020, and vision 2050; issued in 2007;
- Vietnam's Renewable Energy Development Strategy to 2020, and vision 2050.

**Table 6. List of international treaties and commitments signed by Vietnam
in the field of natural resources and environment**

Numerical order	Name of the Convention	Number of signatories	Date signed	The main content of the Convention
1	Stockholm Convention on Persistent Organic Pollutants (POPs)	152	22/5/2001	Managing, reducing and treating environmental pollution caused by POPs
2	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and the Destruction of these Substances	53	13/3/1995	To control the Transboundary Movements of hazardous wastes and other wastes, to reduce hazardous waste generation and to promote environmental management of hazardous waste.
3	Convention on Biological Diversity (CBD)	168	17/10/1994	Conservation and sustainable use of biodiversity resources
4	Cartagena Protocol on Biosafety	103	19/1/2004	Protocol to CBD aims to ensure the safety of biodiversity for genetically modified organisms
5	The Nagoya Protocol on Access to Genetic Resources and the Equitable Sharing of Reasonable Benefits arising from the Use of Genetic Resources	92	23/4/2014	The Protocol provides a transparent legal framework for achieving the objectives of the CBD on the equitable sharing of benefits from the development of genetic resources in order to contribute to the conservation and sustainable use of biodiversity
6	Additional Protocol Nagoya-Kuala Lumpur on Legal Obligations and Compensation	60	23/4/2014	Belongs to the Cartagena Protocol on Biosafety, which deals with liability and compensation in the field of biosafety
7	Ramsar Convention	160	20/1/1989	Conservation and sustainable development of wetlands
8	Convention on the Use of Interstate Watercourses for Non-Navigation Purposes	36	19/5/2014	Use and conservation of international water resources including surface water and groundwater
9	The Vienna Convention for the Protection of the Ozone Layer	28	26/4/1994	Institutional framework for international efforts to protect ozone layer
10	The Montreal Protocol on	46	26/4/1994	Protect the ozone layer by

	Substances that deplete ozone (ODS)			eliminating the production of ozone-depleting products
11	United Nations Framework Convention on Climate Change (UNFCCC)	165	16/11/1994	Stabilizing atmospheric greenhouse gas concentrations at levels that would prevent dangerous human interference with the climate system.
12	Kyoto Protocol	83	25/9/2002	Protocol in the UNFCCC on climate change to reduce greenhouse gas emissions
13	United Nations Convention on the Law of the Sea (UNCLOS)	157	23/6/1994	Defining the rights and responsibilities of states in the use of the sea, establishing clear guidelines for business, environmental protection, improving the management of oceanic natural resources
14	United Nations Convention to Combat Desertification (UNCCD)	196	14/10/1994	Combat desertification and mitigate droughts through national action programs
15	The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	181	20/1/1994	To protect endangered species of wild fauna and flora
16	Agreement on sustainable development cooperation in the Mekong River Basin	4	5/4/1995	Sustainable development, utilization, protection and management of water resources and related resources of the Mekong River Basin

Table 7. List of subjects that must carry out strategic environmental assessment

1	Strategies and master plans for socio-economic development of different socio-economic zones, key economic zones, economic corridors, economic belt
2	Master plan for socio-economic development of provinces, cities, special economic zones under the central government and special administrative-economic units
3	National strategies and plans for the development of the system of economic zones, export processing zones, hi-tech parks and industry zones
4	Strategies and plans for sectoral development that have great impacts on environment
4.1	<i>Strategy, planning development of the sector, the national level</i>
4.1.1	<i>Sectoral development strategies at the national level in industry, agriculture, rural development, transportation, construction, tourism, and health</i>
4.1.2	<i>Strategy and planning development of power industry, hydropower, thermal power, nuclear power; Oil and gas exploration; paper; chemical products, fertilizers,</i>

	<i>pesticides; rubber; textile; cement; steel; exploiting and processing minerals</i>
4.1.3	<i>Strategy, planning development of agriculture, forestry, fisheries, irrigation, livestock</i>
4.1.4	<i>Strategies, planning development of transport infrastructure, seaports, aviation</i>
4.1.5	<i>Strategy and overall planning of the urban system; building materials</i>
4.1.6	<i>Tourism development strategy, golf course</i>
4.1.7	<i>Strategy and planning for the development of the medical examination and treatment network</i>
4.2	<i>Planning for sectors development of inter-provincial</i>
4.2.1	<i>Fisheries development planning</i>
4.2.2	<i>Planning for irrigation development</i>
4.2.3	<i>Hydropower development planning</i>
4.2.4	<i>Transportation development planning</i>
4.2.5	<i>General urban planning</i>
4.2.6	<i>Planning on mineral exploitation and processing</i>
4.2.7	<i>Planning of land use</i>
4.2.8	<i>Planning on the use of natural resources and marine environment</i>
5	<i>Adjusting strategies, planning,</i>
5.1	<i>Strategies and planning of the above lists have not yet been expertised by the competent agencies for environmental impact assessment.</i>
5.2	<i>Strategies and planning of the above lists are potentially harmful to the environment due to implementation of the adjustment plan.</i>