Global and Stochastic Analysis
Vol. 6 No. 2 (December, 2019)

SUSTAINABLE DEVELOPMENT OF THE GREEN BOND MARKET: STUDY CASE FROM VIETNAM

Chuc Anh Tu[1], Ngo Chi Thanh[2], Le Quang Hieu[3], Hoang Thanh Hanh[4], Nguyen The Anh[5]

[1, 4, 5] **Academy of Finance**
[12, 3] **Hong Duc University**

Abstract

The term Green bond (GB) first appeared in 2008, issued by the World Bank (WB) with the purpose of funding its environmental projects. At that time, the total value of issued bonds was small, only a few tens of millions of dollars because the interest of investors was not large. However, until recently, the development of GB shows that this is an effective investment channel for the purpose of protecting the environment. The article also illustrates a brief picture of the GB market in the world, GB of ASEAN countries and GB Vietnam. GB market, in Vietnam, is still a new issue and faces a number of barriers both in terms of policies and perceptions, policies that the Vietnamese government has issued and implemented, therein also pointed out the Pilot Project for GB Issuance in Ho Chi Minh City in order to study the impact of implemented policies and implementation difficulties. At the same time, the article also indicates the directions for the Vietnamese government in boosting GB market

Keywords: Sustainable Development, Green Bond Market, Green Bond Vietnam, Green Bond, Development Green Bond

JEL: N0, N10, O10, O23

1. Introduction

GB has been widely applied all over the world and is considered a financial tool to raise capital for projects that benefit the environment. The money raised from the GB issuance will

be committed to investment in programs which enhance the adaption and lessen the effect of climate change, including projects about clean energy, public transport and clean water... Most of the green bonds on the market are issued by major international financial institutions such as European Investment Bank (EIB), International Finance Corporation (IFC) and WB.

The GB concept: The GB concept was provided by WB in the "Strategic Framework on Development and Climate Change" in 2008 as a solution to help countries around the world raise capital for strategies to address climate change, hence the global development (Nong Minh Trang, 2015). The Green Bond Principles (GBP), 2015 defined GB as any type of bond that the proceeds from the bond issuance are used for financing or refinancing a part or all of the new or active green projects, which are eligible for funding and comply with the four principles of the GBP. Potential projects can be funded by GB mobilization, according to GBP, including but not limited to areas such as renewable energy, energy efficiency, waste disposal, animal conservation, environmentally friendly transport, sustainable management of resources such as land, water and projects related to climate change adaptation. In other words, GB is a kind of debt securities like other bonds, with or without interest bonds, rated credit, with term and interest, in order to attract capital for projects that benefit the environment. According to the definition of the Climate Bonds Initiative (CBI), GB is a bond issued to raise funds for government, banking, local or issuing businesses, labeling GB as debt securities including securitization, private issuance, guaranteed bonds. Thus, GB is defined as a kind of securities with fixed income to attract capital for projects with environmental benefits. Accordingly, the proceeds from this bond issuance will be committed to investment inprograms which enhance the adaption and lessen the effect of climate change, including projects about clean energy, energy efficiency, public transport and clean water...GB can be issued by government, commercial banks, development banks, international financial institutions, companies....

The GB characteristics: The characteristic which tells GB from other common bonds is that the purpose of GB mobilization is to fund special environmental-related projects, including environmental projects and projects with environmental benefits. In addition, because of the purpose of using the capital, GB also has a number of special provisions on debt repayment mechanism, recourse or nonrecourse of of issuing organizations.GB is a kind of debt securities like other types of bonds, with or without interest; GB is also rated by professional credit rating agencies (CRA); with term and interest. GB is only different from other types of bonds at two basic points: (i) the proceeds after subtracting the costs related to the offering used to finance or refinance green projects, environmental projects or projects

with environmental benefits and (ii) different provisions on on debt repayment mechanism, recourse or nonrecourse of issuing organizations. The GBP provides four principles about GB that issuers have to comply with, including:

(1) Determine standards for green projects selection;

(2) Establish project evaluation and selection process;

(3) Manage capital mobilized from green bonds;

(4) Report on the use of capital.

In that, the first principle stipulates that issuing units have to specify which type of green project will be funded. The project selection criteria are often given by independent experts to assure the investors that these projects will comply with technical factors. After determining the project selection criteria, the setting up of the project selection process will be carried out. Projects funded by capital from GB will have to be strictly assessed with a rigorous process through screening, identifying and managingthe potential impacts of the projects on the environment and society. In order to ensure the development of GB, the management of capital collected from GB has to be strictly monitored by requiring issuers to record in detail the management of the proceeds from bonds. This information has to be publicized to ensure the monitoring process as well as increase investors trust in the market. Issuing organizations have to report on the use of the proceeds from GB issuance is the fourth principle. Normally, issuers have to conduct annual reports, provide information on how the fundings are used and the sustainable environmental impacts that the projects have made.

GB development is beneficial for bond issuers, investors and society. With regard to issuers, the issuance of GB in the stock market will help to diversify investors, especially investors who are interested in environmental, social and corporate governance factors in their investment analysis. With regard to investors, GB will be a good financial asset for investment to help to diversify investment portfolios, disperse risks and find appropriate resources. In the trend that countries are focusing on sustainable development and greening the economy in the coming time, the GB market will constantly increase in both quantity and quality. Therefore, this will be a kind of asset that is highly appreciated, stable and has good liquidity with long maturity. With regard to society, GB is also an effective tool to raise investors awareness about projects which deal with environmental issues such as climate change, environmental pollution...At the same time, the issuance of GB will help to attract large capital flows in society so as to support the implementation of environmentally friendly projects and meet social responsibility goals, contribute to sustainable development in the future

GB classification

There are currently four types of Green Bonds (additional types may emerge as the market develops and these will be incorporated in annual GBP updates).

Green Use of Proceeds Bond: a standard recourse-to-the-issuer debt obligation for which the proceeds shall be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer and attested to by a formal internal process that will be linked to the issuer's lending and investment operations for eligible projects. Pending such investment or disbursement, it is recommended that the issuer make known to investors the intended types of eligible investments for the balance of unallocated proceeds

Green Use of Proceeds Revenue Bond: a non-recourse-to-the-issuer debt obligation in which the credit exposure in the bond is to the pledged cash flows o f the revenue streams, fees, taxes etc...and the use of proceeds of the bond goes to related or unrelated Green Project(s). The proceeds shall be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer and attested to by a formal internal process that will be linked to the issuer's lending and investment operations for eligible projects. Pending such investment or disbursement, it is recommended that the issuer make known to investors the intended types of eligible investments for the balance of unallocated proceeds

Green Project Bond: a project bond for a single or multiple Green Project(s) for which the investor has direct exposure to the risk of the project(s) with or without potential recourse to the issuer

Green Securitized Bond: a bond collateralized by one or more specific projects, including but not limited to covered bonds, ABS, and other structures. The first source of repayment is generally the cash flows of the assets. This type of bond covers, for example, asset-backed securitizations of rooftop solar PV and/or energy efficiency assets.

2. Literature review

Recent instability and crises related to the world economy show that about one billion people still have to live in poverty together with increasing climate and environmental impacts, indicating the need of the transition to the green economy. Currently, there have been many studies on financial policies and financial tools to encourage countries to change to the green economy. In the study of Irene Monasterolo and Marco Raberto (2018), fiscal and monetary policies, as well as new financial tools, play an important role to meet the Paris Agreement. However, the profound uncertainty characterizes their design and their potential impacts on the growth, the stability of financial market and credit and inequality. The author

developed the EIRIN flow-of-funds behavioural modelto simulate the introduction of green fiscal policies and green sovereign bonds and show their impact on the investment of companies in the brown and green sectors, on unemployment, on credit and bond markets. EIRIN is a consistent Stock-Flow and derived from the balance sheet approach. It applies the Leontief production function without replacing production factors, ie. Labor, Capital and Raw Materials. Its fields are endowed with adaptive behaviors and expectations, and interact with other sectors and the foreign sector through a variety of markets. The simulationindicates that green public policies can promote the green growth by affecting the expectations of companies and credit markets. Green sovereign bonds represent a short-term win-win solution, while green fiscal solutions have a higher immediate distribution impact, causing negative feedback on the economy. These results are affected by conditions (finance, budget and public debt/GDP) in which both solutions are implemented.

According to the study of Yao Wang and Qiang Zhi (2016), green finance is a new financial model for integrating environmental protection with economic profit, emphasizing the green and financial issues, and two of them are controversial issues. The authors studied the current status of green finance in the field of renewable energy and found some shortcomings, and then proposed some solutions for market mechanism development and policy formulation. By showing the internal conflicts between green finance and environmental protection, the author proposed practical solutions to achieve a better ecological balance.

In their study, Marian Catalin Voica, Mirela Panait and Irina Radulescu (2014) believed that climate change had negative impacts, in a large extent, on the activities of economic actors. Gradually, companies and public institutions have recognized the need to adapt to new climate conditions, leading to the adoption of environmentally friendly behaviors leading to the application of environmentally friendly behaviors and promoting socially responsible strategies.The authors evaluated the role of private investors and public agencies in green investment, mainly in the infrastructure and the Government also created the legal and institutional framework to encourage direct investors and portfolios in this area.

According to Michael Flaherty, Arkady Gevorkyan, Siavash Radpour, Willi Semmler (2017),funding climate mitigation and adaptation policies is an essential issue in climate negotiations. Emissions trading programs and carbon tax policies are widely discussed as feasible mitigation strategies, from which the revenues can be used for adaptation efforts. In most of the current models, the burden of issuing mitigation and adaptation policies falls on the current generation.

Sachs (2014) proposed to share the interdisciplinary burden, showing that the implementation of climate policies would demonstrate a Pareto improvement strategy for both current and future generations. According to the author, the GB proposal represents an opportunity that can be carried out immediately to begin the Sachs plan; the GB issuance can finance immediate investment in climate mitigation so that debt can be paid by future generations, who will benefit the most from reducing the damages on the environment. The Sachs model is a discrete-time overlapping generation model that we generalize and turn into a continuous-time version that represents three main phases. The authors solved this three-phase model using a new digital procedure called NMPC that allows finite horizon solutions and phase changes. Solutions show that issued bonds can be repaid and the debt is sustainable over a finite period of time. The authors also studied in terms of economics whether or not the current macroeconomic environment is convenient to conduct the phases successfully in these climate links.

The United Nations Conference on the Human Environment in 1972 and later gained prominence by way of a report to The World Commission on Environment and Development (WCED) (1987) Our Common Future, Oxford University Press, New York, "Sustainable development is development that meets the needs ofthe present generation without compromising the ability of future generations to meet their own needs". In 1987 after report of the World Commission on Environment andDevelopment entitled 'Our common future', It contains within it two key concepts (Smith and Warr, 1991): a) The concept of needs, in particular the essential needs of the world are poor, to which over-riding priority should be given and b) The idea of limitations imposedby the state of technology and social organizations on the environment's ability to meet present and future needs. In 1992 after the UNCED conference in Rio de Janeiro, The objectives of sustainable development has crystallized down to entail three pillars: economic development, social development and environmental protection (Elkington, 1998).

These consider nature as something external to humans, a resource to be consumed and exploited, but with moderation to make it last (Baker, 2007). Resilience theory is an alternative approach to equilibrium-center theories and models that guide management actions in many natural resource systems. The resultant "resilience framework" is based on observations of thresholds, abrupt or non-linear shifts of key system variables, and multiple (possible) states that characterize complex system behavior (Chapin III et al., 2009; Gunderson et al., 2012). The notion was the surprise and discontinuous nature of change. Holling's insights modified the way in which theorists perceived (ecological) systems and

how practitioners have attempted to manage them. It is interesting to note that ecological resilience is similar to the cybernetic concept of a "viable system" as advanced by Ashby and Stafford (Ashby, 1957; Stafford, 1981). "Green Infrastructure is an interconnected net-work of waterways, wetlands, wildlife habitats, and other natural areas; greenways, parks, and other conservation lands; working farms, ranches, and forests; and wilderness and other open spaces that support species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life for (American) communities and people" (Mell, 2008).

Godswill Megwai, Ndey Isatou Njie, Tobias Richards (2016), provides an account of green economy initiatives, exploring national strategies, policy options and effectiveness so far in some developing countries. The concept is recognized as a possible path to achieving global financial stability. The article indicates that differentcourses of active steps have been initiated which variesfrom country to country, depending on their level of development, institutional capacity, government framework and resources. This paper identifies green economy national initiatives and policies along with its effectiveness in selectedUN member states, namely Croatia, Ethiopia, Kenya, Thailand and Guyana. The '6 Is' policy categories were applied as the assessment framework for evaluating the different policy measures implemented in the selected countries. Preenithi Aksorn, Chotchai Charoenngam (2016), this research has focused on the practice of life cycle management through the process of community infrastructure development in Thailand. The main objective was to identify success factors influencing community infrastructure projects throughout the life cycle. The assessment was based on fresh and thorough informative investigation of the community background. The activities of projectswere investigated by documentation, observing and interviewing professional management agencies, government agencies, local governments, and by questing villagers. All contextual conditions relevant to the phenomenon were drawn out and studied carefully. In-depth information that was put into practice was gathered by a multiple case studies investigation in which the semi-structured interview instrument had been illustrated earlier. Triangulation method was used to check and establish validity in the studies by analyzing research questions from multiple perspectives. The data was analyzed and identified for the precise outcomes. The finding showed 12 key success factors were influenced throughout the life cycle management investigation. Srikanta Routroy* and C.V. Sunil Kumar (2016), In the present scenario, achieving the green capability has become one of the typical features that is pitching hard along the explorations and transitions of the manufacturing supply chains. Since the ceremonious, common and static solutions do not

helpto transform the dynamic natured manufacturing supply chains into green manufacturing supply chains. This is mainly due to the increased complexity (of manufacturing supply chains) outpacing the advancement achieved. Hence, there must be a process geared up to identify and prioritize the significant areas to focus and dynamically adjust the targets for continuous improvement toachieve green capability. To address these issues, the current study proposes a methodology consisting of five phases to institute the directions for achieving green capability and it is integrated with a benchmarking approach to provide the basis for continuous improvement. In order to present its utility, it is deployed in an Indian manufacturing company. Mohammed Ebrahim Hussien*, Rashidah Zainal Alam and Chamhuri Siwar(2016), Rapid population growth, industrialisation and an enhanced quality of life lead to high energy demand. This demand for energy exerts pressure on non-renewable resource and environment. Classical economic philosophy emphasizes either the demand or the supply side of the market, which exacerbates the issue. Furthermore,the traditional notions have some limitations in promoting the sustainability of resources and the environment for the well-being of the next generation.However, models of sustainable development do address both the demand and the supply aspects of resources simultaneously. In order to realize the goal of sustainable development, an inclusive and comprehensive policy element is needed. Accordingly, different policy elements were introduced in order to address the sustainability issue of energy and environment. The paper reviews the potential of these energy policy elements introduced by the Malaysian government in order to enhance energy efficiency as the nation moves towards becoming a developed and high-income country by 2020. Additionally, the paper discusses a plausible inter-temporal sustainability pathway which applies an economic growth model, which reveals that adhering to the sustainability notion could enhance the economic production and efficiency of energy resource utilization.

K.Mohamed Jasim, T.Paramasivan (2017), ecological, green marketing and green supply chain problems - fish marketing societies (FMS) in the Tamilnadu coastal areas. The main objective of this research is to analyze the ecological problems for the FMS in the Tamilnadu coastal areas, to determine the green marketing strategies for the FMS in the Tamilnadu coastal areas and to identifying the green supply chain problems for the FMS in the Tamilnadu coastal areas. The nature of the research is descriptive method, and the sample size is 606 respondents from the various locations in the Tamilnadu coastal areas and data collection method used in the research is ‘questionnaire method’. Data was analyzed by using SPSS 16.0. Findings, suggestions and conclusions were made by keeping an eye on the objectives. Pelopidas Siskos, Pantelis Capros (2015), the penetration of alternative fuels in

transport is widely acknowledged to be essential towards a sustainable low carbon future of transport system. The main market barrier for alternative fuels is the lack of the associated infrastructure development. This paper presents the involved decision makers related to the market of alternative fuels and depicts the importance of their coordination through public intervention, regulations and incentives. The focus of this paper is on the key market and economic factors related to the uptake of biofuels, electricity and hydrogen infrastructure in Europe. Identifying the decision makers and understanding their relationship is a key factor for enabling policy-makers to eventually design targeted strategies towards the envisaged sustainable development of transport sector. Hussain Ali Bekhet and Nor Hamisham Harun (2018), this study aims to analyze the dynamic relationship between renewable electricity generation and its determinants in Malaysia from 1980 to 2016. F-Bound test and VECMare applied. A dynamic long-run relationship exists among the variables use. Long-run elasticity of labor and non-renewable electricity generation on renewable electricity generation is positive elastic and negative elastic, respectively. The short-run elasticity of capital, GDP and financial development on renewable electricitygeneration is negative elastic, positive elastic and negative inelastic respectively. Also, long-run bidirectional causalitybetween FD and renewable electricity generation, unidirectional causality running from capital, labor, non-renewable electricity generation, and GDP to renewable electricity generation is discovered. However, short-run unidirectional causality from capital and labor to renewable electricity generation and renewable electricity generation to FD is found. Accordingly, these findings highlight important messages to policymakers in the process of sustainable energy through the determinants influence the renewable electricity generation in Malaysia.

3. Methodology

The purpose of the study is to understand the reality of GB in Vietnam, the advantages and disadvantages of implementing GB in Vietnam. Specifically:

Step 1, Systematize the research literature review, by collecting relevant works on the topic, through specific studies presented in Literature Review, by collecting specialized articles and reports related to GB, GB characteristics and classification in the world as well as in Vietnam.

Step 2, Conduct a GB market survey around the world through studying the reports of *climatebonds.net*, the GB market in Southeast Asian countries,which is analyzed through the report of Climate Bonds Initiative in 2018 and the GB market in Vietnam. Government policies are analyzed to find out the role of policy in creating and developing this market.

With regard to the GB market in Vietnam, the article studies classifying methods according to Decree 01/2011/ND-CP, Decree 58/2012/ND-CP, Decree 90/2011/ND-CP, Circular 100/2015/TT-BTC, Circular 111/2015/TT-BTC, Circular 99/2015/TT-BTC. At the same time, the article studies the Pilot Project for GB Issuanceby local authorities and gets evidence of conduction in Ho Chi Minh City to analyze and evaluate the results and difficulties in the implementation process.

The information is collected through telephone interviews with specialized staff at the Office of Financial Markets, the Finance Department, banks and financial institutions, the Ministry of Finance, the State Securities Commission.

4. Results and Discussions

4.1. The GB market in the world

Recent reports show that there is a variety of GB issuers. If in 2007, GB was first issued by the World Bank, now the issuers of GB include European Investment Bank (EIB), Asian Development Bank (ADB), Germany Development Bank (GDB), Japan Development Bank (JDB), local authorities of European and American countries. At the same time, the demand for GB is increasing. By the end of 2016, the total outstanding balance had been about USD700 billion, issued by 780 organizations, focusing on sectors such as transportation, energy, water, waste treatment, agriculture and afforestation. The GB report of *climatebonds.net* said that, in 2017, the total value of global issued GB reached USD155.5 billion thanks to the growth in the number of issuers, the green financial support policies of countries and the demand for green bond investment skyrocketed. In that, the top three markets are the US, China and France, accounting for 56% of the total value issued in 2017.

The growth of the GB market comes from timely support policies of the government, for instance, the GB Guidelines in China and India. In India, the Securities Exchange Board India (SEBI) published the guidelines in May 2017 after consulting with the Ministry of Finance and the Ministry of New and Renewable Energy. This handbook highlights the main areas of green project investment, performs duties such as semi-annual reports, post-issuance and pre-release verification...

In China, the Green Finance Committee was established in 2014, in that, People's Bank of China(PBOC) is the governing body with the participation of senior officials from administrative agencies, financial sector and research institutes. The PBOC released the guidelines on green bonds for the interbank market in December 2015 and the green project portfolio recognized by the Green Finance Committee. The GB Guidelines for state-owned

enterprisespublished by the National Development and Reform Commissionin 2016 and the Guidelines for listed companies on the stock market announced by the State Security Commission of China (SSCC) in 2017 are important documents, promoting market development.

4.2. The GB market of Southeast Asian countries

Association of Southeast Asian Nations (ASEAN). With an estimated combined GDP of USD2.57 trillion in 2016, the ten members taken together represent the sixth largest economy globally.GB issuance from ASEAN issuers has picked up pace significantly in 2018. This has further helped to develop the GB market in the region, Table 1

Table 1. GB issuance in ASEAN countries

Region	Green bondmarkets	Issuers	Issued(USD)
ASEAN	6	19	5bn
Asia-Pacific (APAC)	17	206	108bn
ASEAN share of APAC	35%	9%	5%
ASEANshareofglobal	11%	3%	1%

[Source:Climate Bonds Initiative. All data and graphs as of 30 Nov 2018]

Global green bond issuance started with Development Banks raising funding for climate-related projects in 2007-2008. Issuers from Asia-Pacific entered the market in 2013 and have contributed 22% of global green bond issuance to date. In recent years, the GB market in ASEAN has become really diverse. In February 2016, AP Renewables became the first GB issuer of the region with a PHP10.7 billion (USD226 million) green bond, certified under the Geothermal Criteria of the Climate Bonds Standard. The ADB provided creditby guaranteeing 75% of the bond.

In 2017, Singaporean and Malaysian issuers joined the market with 2 and 3 deals, respectively. Indonesian issuers debuted in Q1 2018, the first Thai issuer – in Q2 2018.The USD1.25 billion green Sukuk from the Republic of Indonesia issuedin March 2018 made the country the 5th nation globally to have placed a green sovereign issue, contributing 25% of total ASEAN issuance as of November 30th 2018. Non-financial corporations are the largest GB issuers, representing 30% of the total amount issued in the region. Green loans are a strong feature of the ASEAN market, with USD1.1 billion issued, equivalent to 22.5% of the total value of transactions in ASEAN. Green loans are propular amongst real estate companies in Singapore. In terms of countries, Indonesia represents the largest source of GB at 39% of total ASEAN issuance. Singapore comes second at 35% and Malaysia third (19%). The

Philippines, Thailand and Vietnam share the rest of the market. Brunei, Cambodia, Laos and Myanmar have yet to record a green bond issuance. With 19 issuers, the number of GB issuers in ASEAN is quite a few. The largest Southeast Asia issuer is the Republic of Indonesia, contributing USD1.25 billion to the country's total of nearly USD2 billion. Sindicatum Renewable Energy Company (Singapore) is the only repeat issuer from the region, with 2 bonds issued in 2018. Malaysia has the largest number of issuers in the region. TLFF I (Indonesia) is one of only a couple of issuers globally in thesustainable agriculture sector. It raised proceeds to finance a sustainable rubber plantation and afforestation in early 2018. With these highlights, ASEAN is considered one of the most attractive markets in the world. Several foreign investors have issued green local ASEAN currency bonds demonstrating interest in these domestic markets.

The use of external reviews is a notable feature of the ASEAN GB market. 81% of deals, by volume, benefit from either a second party opinion (72%), certìied under the Climate Bonds Standard (6% of total issuance), and a green rating (3%). CICERO is the leading regional provider of second party opinion (by number and amount), followed by Sustainalytics. Malaysian ratings agency RAM Holdings, the leading and largest credit rating agency in Malaysia and South-East Asia, started providing environmental benefit ratings to green bonds in January 2018, responding to the demand for such services in the region.51% of deals by volume (or 40% by number of bonds) are compliant with the ASEAN Green Bond Standards.

4.3. The GB in Vietnam

4.3.1. GB is classified by issuing source

(1). Government bonds, Government guaranteed bonds, Figure 1

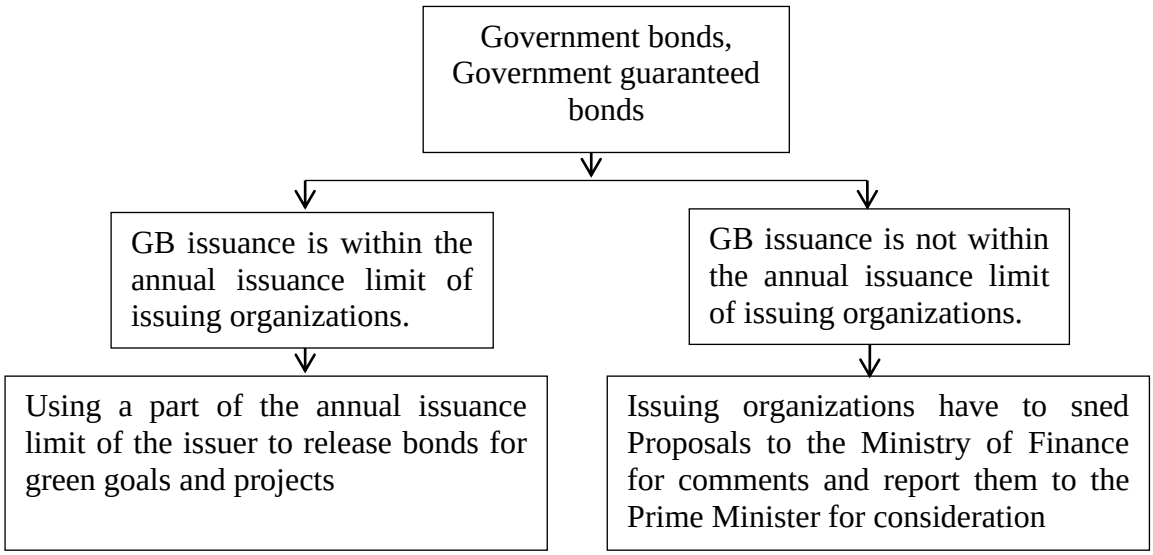

Figure 1. Government bonds, Government guaranteed bonds

[Source: Decree 01/2011/ND – CP, Circular 111/2015/TT – BTC, Circular 99/2015/TT - BTC]

(2). Local government bonds, Figure 2

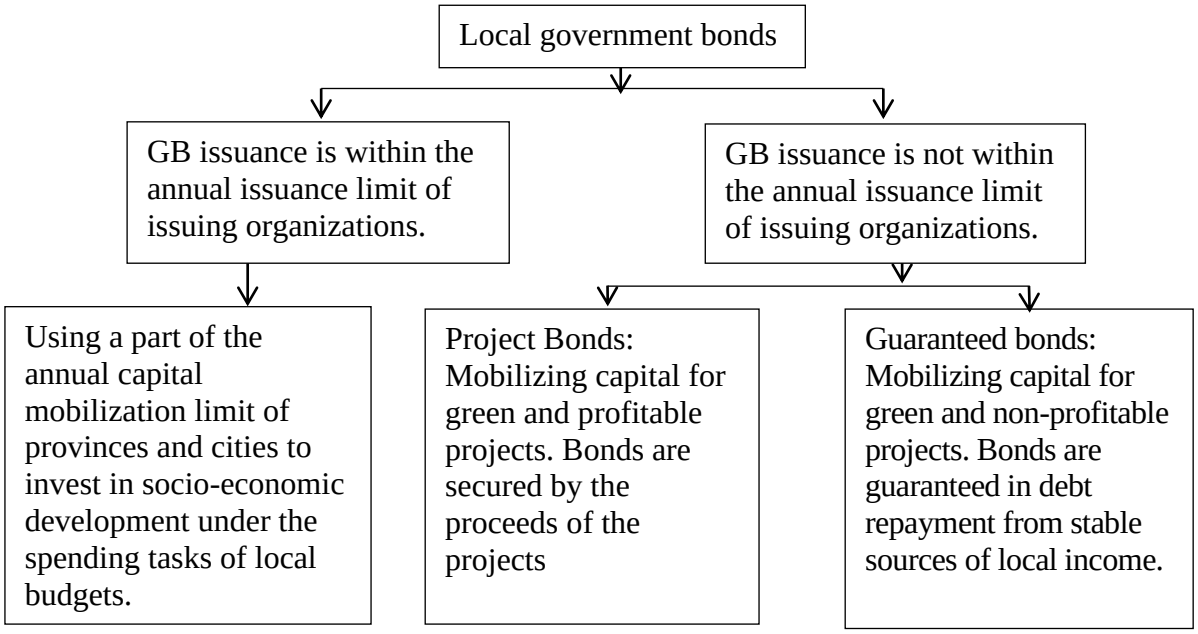

Figure 2. Local government bonds

[Source: Decree 01/2011/ND-CP, Circular 100/2015/TT – BTC

(3). Corporate bonds, Figure 3

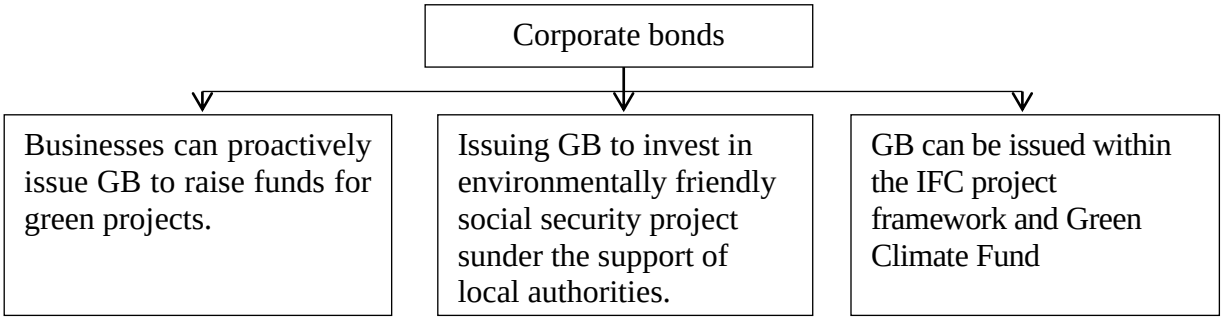

Figure 3. Corporate bonds

[Source: Decree 58/2012/ND-CP, Decree 90/2011/ND-CP]

Two Vietnamese local government entities–Ho Chi Minh City and Ba Ria Vung Tau–followed in their footsteps by issuing the first VND-denominated GB andlisted them on Hanoi Stock Exchange.In Vietnam, the consequence of climate change has increased the level and the cycle of natural disasters such as droughts, floods, sea level rise...which has seriously affected the socio-economicdevelopment and people's life. Research by international organizations also indicates that climate change could cost Vietnam USD15 billion per year, equivalent to 5% of GDP. Vietnamese authorities also estimate that each 1-meter rise in the sea level will affect the lives of about 20% of the population. Flooding and saline intrusion due to sea level rise will narrow the area of agricultural land in both the Red River Delta and the Mekong River Delta. Industries will also be affected because of a shortage of raw materials and energy, leading to higher production costs. In this context, Vietnam determines that green growth is an important strategy for sustainable development. Pursuant to Resolution No 24-NQ/TW of June 3rd 2013 of the 11th Central Committee about being active in response to climate change, improvement of natural resource management and environmental protection, on October 20th 2015, the Minister of Finance issued Decision 2183/QD-BTC approving the Action Plan of the finance sector to implement the National strategy on green growth toward 2020. Accordingly, the Decision clearly stated the formulation and improvement of the financial policy framework to develop the green capital market and green financial products. Green capital market policies include setting up a green financial framework for activities on the capital market such as issuing regulations and conditions for stock listing (green listing), reporting (in sustainable reporting) and in monitoring (by green financial criteria); Mobilizing funds to invest in green growth through capital markets for green businesses, projects and products through listing and issuing green stocks; Issuing bonds, investment certificates...for green projects, programs and fields; Developing green indicators for monitoring, evaluating and trading on capital markets; Issuing regulations or guidelines on environmental and social risk management for market organizations, for market members who are financial institutions and listed businesses; Activities of Sustainable Stock Exchange.

After a period of application, in 2018, the GB concept was officially recognized in Item 1, Article 21, Decree 95/2018/ND-CP. Accordingly, "*Green bonds are government bonds issued for raising funds for environmental projects as defined in the Law on environmental protection (also called as green projects) and included in the list of projects to which public investment funds are allocated in accordance with the Law on public investment and the Law on state budget".* Defined GB products include: (i) Green corporate bonds, issued for green

projects or green products; (2) Government bonds and local government bonds, issued for green goals, programs and projects. In order to develop an open bond market and approach international standards, on August 14th 2017, the Prime Minister issued Decision No. 1191/QD-TTg approving the bond market development roadmap during 2017-2020, with a vision toward 2030. Accordingly, the Decision sets out the development viewpoints: Develop the bond market both extensively and intensively, ensuring systemic safety, gradually approaching international practices and standards and modernizing the market's infrastructure, thus turning it into a crucial channel for raising medium- and long-term capital at reasonable capital costs; Continue focusing on developing the government bond market as a basis for developing the bond market; Further develop the corporate bond market to create favorable conditions for enterprises to raise capital, especially medium- and long-term capital, thereby enhancing their corporate governance and information disclosure. The objectives are that the outstanding balance of the bond market will reach around 45% of GDP by 2020 and 65% of GDP by 2030; outstanding balance of the market of corporate bonds will reach about 7% of GDP by 2020 and around 20% of GDP by 2030. The Ministry of Finance shall assume the prime responsibility, the State Bank of Vietnam shall coordinate with the Ministry of Planning and Investment to promulgate mechanisms and policies aiming to develop the GB market to create favorable conditions for issuing entities to mobilize capital through bond issuance to implement green projects. The policy of sustainable and environmentally friendly economic development was guided by the Party and the Government in Resolution No 24-NQ/TW dated June 3, 2013 of the 11th Central Committee, Decision No 1393/QD-TTg dated September 25th, 2012 approving the National strategy on green growth, Decision No 403/QD-TTg dated March 20th, 2014 on approval of the National Action Plan on Green growth in Vietnam for the period of 2014-2020 and Decision No 2053/QD-TTg dated October 28th, 2016 promulgating Action plan for implementing the Paris Agreement on combating climate change

In Decision No 1191/QD-TTg dated August 14th, 2017 approving the bond market development roadmap during 2017-2020, with a vision toward 2030, the Prime Minister has assigned the task of developing the GB market to create favorable conditions for issuing entities to mobilize capital through bond issuance to implement green projects. Implementing the Party and Government guidelines in the above documents, the draft Decree states that GB is a type of Government bond, complying with the issuance process of Government debt tools. Particularly for the purpose of using the capital from GB issuance is used for green projects, and every year, the issuer have to report the use of capital for green projects and

assess the environmental impacts. On August 6th, 2015, the Governor of the State Bank of Vietnam issued Decision No 1552/QD-NHNN on issuance of Action Plan of the banking sector to implement the National strategy on green growth toward 2020. However, for a developing country like Vietnam, the national budget is still tight and the support of international organizations is limited, the active participation of the financial system in the greening campaign of the economy plays a very important role. According to the United Nations Environment Programme (UNEP, 2016), green economy is an economy aiming at improving people's happiness, social justice and significantly reducing the risk of environmental degradation. Green economy is an economy where people are the center, policies create new resources–Financial-monetary market policy dated August 24th, 2016 on sustainable and equal economic growth. Green growth is a development model that focuses on improving the quality of growth, changing the production structure and consumption in a sustainable way and improving people's lives, reducing greenhouse gas emissions, improving adaptability to climate change (UNEP, 2016).

4.3.2. Pilot Project for GB Issuance, achievements and challenges

Pilot Project for GB Issuance: Based on the government's policies, in October 2016, the Ministry of Finance approved the Pilot Project for GB Issuance proposed by Hanoi Stock Exchange. The project is based on the legal basis of Decision No 2183/QD-BTC on approving the Action Plan of the finance sector to implement the National strategy on green growth toward 2020; Current regulations on bond issuance, as Decree 01, Decree 58, Decree 60 and Circulars guiding bond issuance (Circular 99, Circular 100, Circular 111). The objectives of the project are (i) Open a channel to mobilize commercial capital for green projects and programs in public and private sector in order to gradually universalize the capital supply for green projects and programs; (ii) Develop a model of mobilization, using management, information transparency, encouraging green bond development, thereby establishing support policies and ensuring the stable development of GB; (iii) Promote green fiscal policy and green financial sector to gradually change the awareness in investment and development in the direction of sustainability and green growth. The GB issuance under the Project is implemented in accordance with the ordinary bond market; the proceeds from bond issuance are used to invest in projects related to environmental protection.

On October 20th, 2016, the Ministry of Finance approved the Pilot Project for GB Issuance by local authorities and directed relevant units to pilot their green bonds. Accordingly, green bonds are piloted in Ho Chi Minh City (VND 523.5 billion, 15-year term) and Ba Ria-Vung Tau (VND80 billion, 5-year term). This capital is used for the projects of

sustainable water resource management, climate change adaptation, sustainable infrastructure projects and green projects. The current Vietnam capital market management agency has strengthened the publication of environmental and social information through introducing a Sustainable Reporting Manual for listed companies and publishing mandatory social-environmental information in the annual reports of listed companies. The release of a set of Sustainable indicators as reference for the portfolios and the GB issuance plans at provincial governments and business is expected to become become a springboard for the development of green products and services in the near future.

Achievements

General results of GB development in Vietnam: the development of green bonds has been conducted by Vietnam since the end of 2015. When implementing the cooperation program between the State Securities Commission and the German Corporation for International Cooperation (GIZ), Hanoi Stock Exchange (HNX) developed the Project on GB market development. Green capital markets include products of GB (green corporate bonds issued for green projects or green products); Government bonds and local government bonds issued for green objectives, programs and projects; green indicators, sustainability indicators, carbon indicators; certificates, green investment certificates issued by the investment funds. HNX and Ho Chi Minh City Stock Exchange (HOSE) have been actively developed solutions to actualize the attraction of investment in the GB market. Vietnam also cooperates with a number of international organizations to issue pilot GB. HNX has organized several government bond auctions to invest in green projects such as solar cell wind power projects, irrigation projects or investment projects for sustainable tourism. HOSE is also working on developing Environmental-Social-Governance sustainability indicators (ESG) to raise awareness of sustainable investment and development, improve listing standards, create standards for company transparency and market, and create new products for the market.

Local GB issuance results in Ho Chi Minh City: after the Pilot Project for GB Issuance of local was issued by the local government, the Ho Chi Minh City authorities organized a rapid implementation. Specific measures are as follows:

Determining the tasks of the local government: refer to the "Green Project List" of the State Bank to build a list of "environmental projects" when issuing GB; Defining priority areas and projects: Ho Chi Minh City has not identified and implemented environmental projects priorities yet, but has established an "environmental project list" to supplement Ho Chi Minh City's bond issuance dossier, which focuses on clean water, waste water treatment...Preparing documents and developing plans for issuance to the Ministry of Finance

(after building the "list of environmental projects" in 2016; expected 2017 with explanatory notes and indicators to assess the effectiveness of impacts on the environment in the transparency report of the issuance. Building a financial management model for the proceeds from GB. The local authorities follow the instructions from the Department of Banking and Finance to put into the General Management Account of the Budget, the GIZ consultants should have a separate monitoring book and make their own management account and separate budget to repay GB debt in the long term (learn from the green bond model of Johannesburg, South Africa).

Issuance plan: In 2016, issuing via HSBC guarantee, 15-year term, a total of VND3,000 billion; including 11 projects in the Green Project list with a total investment of VND2,619 billion, with VND 523.5 billion from issued bond capital in 2016. In 2017, Issuing VND 2,000 billion, the term is 10, 15, 20 and 30 years, including 8 green projects with a total investment of 2,989 billion, with VND364 billion from issued bond capital in 2017. Green project list: using the green project list of the State Bank. The process of making a green project list is (i) the Department of Planning and Investment shall create a list of projects to issue common bonds, and transfer it to the Department of Finance reporting to the City People's Committee, sending to the Ministry of Finance; (ii) The Ministry of Finance asks for GIZ advice; (iii) Based on the "Green Project List" of the State Bank, GIZ shall consult with experts from the Ministry of Natural Resources and Environment and the State Bank to select green projects included in the "Green Project List" of the issuance; (iv) The Department of Finance reports to the Ministry of Finance about the "Green Project List". The Department of Finance requires investors to provide data and explain environmental impacts (implemented for the 2017 issuance); (v) The GIZ experts shall calculate the environmental impact efficiency indicator and include it in the prospectus of the issue as a basis for further evaluation. On December 21st 2018, the People's Committee of Ho Chi Minh City was selected as an authorized issuing organization; the bond value is VND 100,000, the issue volume is VND800 billion, a 30-year term with the method of underwriting, the issuance date of December 27th 2018, bonds are sold at par value. Up to now, there has been no evaluating report on the situation of implementation and issuance of GB in both Ho Chi Minh City and Ba Ria-Vung Tau.

Challenges

The implementation of GB issuance in Ho Chi Minh City has shown significant challenges. As follows:

Firstly, in terms of policies*:* There are only policy orientations in decisions such as Green Market Strategy (Decision 1393/QD-TTg dated September 25th 2012), National Action Plan on Green Market (Decision 403/QD-TTg dated March 20th 2014), Action Plan to implement the Paris Agreement on combating climate change (Decision 2053/QD-TTg dated October 28th 2016), Approving the bond market development roadmap (Decision 1191/QD-TTg dated August 14th 2017 stipulateing the formulation of mechanism for the green bond market). The only specific regulation is the Circular on the information disclosure-Circular 155/TT-BTC dated October 6th 2015; "Green project list" issued by the State Bank of Vietnam for reference

Secondly, in terms of public debt limits and issuance scale: the limit of budget loans approved by the Ministry of Finance and the National Assembly is really tight every year, including localities with central budget transfers like Hanoi and Ho Chi Minh City. In fact, Ho Chi Minh City's loan limit is at most equal to 70% of the local budget by decentralization.

Thirdly, in terms of environmental assessment and reporting: currently there are no specific guidelines for 04 international standards on green market in Vietnam. The Ministry of Finance's guidelines are general management of the green bond proceeds, without accounting, managed by separate accounts. The Ministry of Finance and the State Securities Commission have not issued regulations on evaluation and reporting for GB yet. Ho Chi Minh City has not had any priority regulations for green projects.

Fourthly, in terms of administrative procedures: The regulations on procedures for formulation, appraisal, approval and implementation of current projects are complicated and prolonged (Law on Public Investment, guidelines of Decrees and Circulars...) affecting the progress of disbursement and project implementation. There are many difficulties not only in local GB issuance but also in GB market implementation.

Fifthly, difficulties in selecting pilot bonds: With regard to government bonds, the capital from government bonds is mostly integrated into the state budget, so it is difficult to distribute the capital from issuing government bonds to green projects and programs. With regard to local government bonds, according to current regulations, the locality can issue bonds to mobilize capital for programs and projects under the spending tasks of the local budget. Therefore, it is possible to attach the purpose of green issuance to issued bonds. With regard to corporate bonds, there is currently no incentive mechanism for enterprises when mobilizing capital for green projects, so it is quite difficult for them to issue green bonds.

Sixthly, financial difficulties: Green growth requires remarkable resources to invest in technology improvement, implementation of green investment projects while domestic

resources, especially the State budget remains very limited and has to be used to accomplish many other important goals. Required financial resources for green growth are huge while attracting and mobilizing financial resources for this sector is not easy because of the mechanism of accounting capital sources from bond issuance; tax policy for green bonds...

Finally, difficulties in mechanism and policies: The legal framework and reporting guidelines to support sustainable growth are inadequate, and there is a lack of independent organizations with sufficient capacity to assess sustainable development indicators for companies. The inclusion of environmental criteria in the report will increase the cost of businesses while the awareness of sustainable development is still limited...There are no specific regulations on the issuance and management of GB such as Evaluation criteria and competent authorities in appraising the greenness of projects; Regulations on the purpose of using capital from issuing bonds. The lack of incentive mechanisms and conditions for the issuance of investment in GB such as tax preference policy for the issuance and investment of GB, therefore, the participation of commercial banking systems and enterprises in the GB market is very limited

5. Implications

Firstly, the Government shall issue specific documents related to GB, which clearly specify the standards in determining GB, green projects as well as the principles in the issuance and management of the capital from GB. These standards need to be developed in accordance with the GBP 2015 and are consistent with the characteristics of Vietnam in the process of economic, political, environmental and social development so that GB will be appropriate with the domestic market and quickly become a financial tool of interest in the market. GB-related principles also need to be specified and detailed for the GB issuer to comply.

Secondly, completing the legal framework for each type of GB. As for corporate GB, supplementing regulations on the purpose of issuing bonds to mobilize capital for green projects and programs. Giving the guidelines on the mechanism of reporting and publicizing information on the issuance and management of the use of bond capital for green projects. With regard to Government bonds and local government bonds, guiding the mechanism of issuance, management and supervision of the capital. In addition to issuing GB within the annual budget limit approved by the Ministry of Finance and the National Assembly, it is necessary to allow localities to issue guarantee GB and project GB (the local government GB not within the capital mobilization limit of provinces and cities). Specifically, with regard to

project GB, mobilizing capital for green and profitable projects: bonds are guaranteed by the revenue of the projects. With regard to gurantee GB, mobilizing capital for green and non-profitable projects: bonds are guaranteed in debt repayment from stable local income (utility services such as electricity, water, bridges...). In addition, to increase the security of bonds in order to reduce issuance costs, local authorities shall guarantee a part of the debt repayment obligation of bonds

Thirdly, promoting the issuance of GB for green projects and programs under the expenditure of local budgets. This not only creates greater transparency compared to ordinary bonds, but also helps to link local governments with the market in addressing climate change issues, at the same time, being more proactive in raising funding for green programs and projects. Moreover, authorities shall issue a set of responsible investment principles in the shortest time (requiring listed companies to provide general reports on the company's social and environmental activities and risks, as a basis for investors to identify key sectors that meet GB funding and investment standards) to encourage socially and environmentally responsible investment activities

Fourthly, the State shall strengthen the implementation of policies, especially tax and fee policies to encourage enterprises to mobilize capital to invest in green growth through issuing and listing green bonds and green stocks. At the same time, there should be a mechanism to encourage and support enterprises; investment funds in favorable investment procedures and mechanisms when issuing bonds and investment fund certificates for green projects, programs and fields; research to establish a Sustainable Development Fund on the basis of consulting the experiences of other countries and review the system of current policies to ensure the concentration and avoid dispersion. To promote the liquidity for GB, the State Bank shall create a mechanism to accept the use of GB in open market activities with a higher discount rate than similar bonds; allow credit institutions to use GB (Government guaranteed bonds ...) as required reserves. Along with that, there should be an orientation for the issuance of GB to the international market in order to obtain a large amount of foreign currency for the green economic development

Fifthly, incentive policies should be issued to encourage and attract GB investors. After determining the principles related to GB, the State shall provide incentives in taxes, fees or other advantages for issuers as well as domestic and foreign investors. Policies related to green growth in general, green financial system in Vietnam in particular, should be widely propagated, especially the business community and investors. The components of the supply-demand market will contribute to the issuance and development of GB in Vietnam. At the

same time, the Government shall cooperate with foreign organizations such as WB, UNDP, GIZ...to be consulted and guided to develop GB in the market, contributing to the development of the green financial system.

Finally, the need for transparent information related to the issuance and use of funds from GB should be strictly regulated as a basis for the inspection and supervision of interested entities. The authorities shall issue a set of indicators to assess sustainable development companies in order to attract investors' interest in GB.

6. Conclusions

In conclusion, it can be seen that the actual demand is opening up the potential for vigorously promoting the GB market in Vietnam. In that, the coordination between the public and private, domestic and foreign sectors, the linkage between financial institutions, banks and enterprises and technology solution providers is essential to maximizing all resources for the development of a "clean" and sustainable economy. In addition to the pilot issuance of green local government bonds, the authorities shall coordinate together to develop a comprehensive plan to implement GB issuance in accordance with international practices in Vietnam. Accordingly, there should be a legal document at the level of the Government decree on GB program, which stipulates on the purpose of using capital from bond issuance, the mechanism of accounting capital from bond issuance, reporting on the use of capital, tax policy... as a basis for implementation

GB is not the answer to all issues of sustainable development in Vietnam; however, GB is likely to be a "springboard" for sustainable development initiatives and solutions. With GB, we no longer have to consider to select between economic development and environmental protection. We can encourage businesses, the most emitting divisions in the economy, to move towards self-mitigating and eliminating negative impacts on the environment while ensuring their profitability; or local communities will have the opportunity to participate in the economic system and not only increase their income but also enjoy the going-up quality of life... When Vietnam builds itself a professional GB market, it will create a new transition in the socio-economic foundation. Vietnam has a lot of potentials in issuing GB, but the challenges and barriers are significant. The article has pointed out some policy barriers (the policy system is not complete as a legal basis for participation in the market of issuers), complicated and prolonged administrative procedures; in terms of debt limits and issuance

scale (small limit and scale); environmental assessment and reporting has not been implemented properly

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