

# Scenario of Green Banking and Green Finance in the Economy of Bangladesh

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## ABSTRACT

Green banking, green financing in green projects and sustainable finance are very popular and significant terms to build up an environment friendly and green economy. This study is aiming at evaluating the performance and present scenario of green banking, green financing in Bangladesh with a focus on the financial sector's integration of environmental sustainability in banking practices. By physical visit to check out green banking practices and collecting data from some selected commercial banks and analyzing data of Bangladesh Bank and the performance reports of the sample commercial banks, the research tries to find out the trend of green banking and green financing practices in Bangladesh with an effort to achieve the UN Sustainable Development Goals. Through trend analysis, it assesses a result that in recent years there is a rising trend in practicing green banking and green financing under sustainable finance. Some challenges in green banking practices are also discussed with some recommendations for strengthening green banking practices in Bangladesh. As the study is done with the latest financial data analysis, it is expected to help the policy makers to take more effective action plan for increasing green banking practices and green financing in Bangladesh to achieve the sustainability in advancement with green economy.

**Key words:** Green Banking, Green Finance, Sustainable Finance, Refinance Scheme, Green Project

## INTRODUCTION

The environmental issues have increasingly found attention in the financial sector and the significance of greener and more inclusive financial systems is being increasingly recognized globally by academics, policy makers, and private firms. We are conscious that the problem of global warming necessitates an international solution. Given the direct effects of climate change on biodiversity, agriculture, forestry, dry land, water supplies, and human health, many ecosystems will not be able to adapt promptly. Society expects businesses to play a part in protecting the environment because of anomalous weather patterns, an increase in greenhouse gas emissions, deteriorating air quality etc. (Lalon, 2015). Environmentally conscious business practices are gaining attention from most of stakeholders such as consumers, regulators, government and researchers (Piaralal, Nair, Yahya, & Karim1, 2015).

In the context, the concepts of “green economy”, “green growth”, and “low-carbon economy” evolved. United Nations Environment Programme (UNEP) defines the green economy as “the process of reconfiguring businesses and infrastructure to deliver better returns on natural, human and economic capital investments,

while at the same time reducing greenhouse gas emissions, extracting and using less natural resources, creating less waste and reducing social disparities". Green growth is a more focused concept: growth created through investment in the environment. Consequently, green financing/green banking has seen significant progress in recent times because banks as financier has a huge influence on providing funding for the projects undertaken by industries, and thereby green banking can play a significant role in the creation of growth through investment in the environment and ensuring responsible behavior of other businesses too. In general, "green banking" refers to banking methods that support environmentally conscious finance strategies and internally sustainable procedures that reduce greenhouse gas emissions. Thus, green banking employs a two-pronged strategy. First and foremost, green banking is concerned with the green transformation of the banks' internal processes. This means that to reduce their carbon footprint from banking operations, all banks should implement appropriate strategies for using automation, renewable energy, and other measures. Second, all banks should embrace ecologically conscious lending practices, considering projects' environmental risks before approving funding; in particular, they should encourage the expansion of up-and-coming "green" initiatives and projects (Millat, Chowdhury, & Singha, Bangladesh Bank, 2013). According to United Nation's Environment Programme, green financing is to enhance financial flows from the public, private, and non-profit sectors to encourage sustainable development managing environmental and social risks, pursuing sustainable opportunities, and ensuring accountability (Programme, 2024). Green Financing describes activities and programs for sustainable development, eco-friendly goods, and regulations that promote financial investment to support a more sustainable economy (Hoshen, et al., 2017). Climate finance, carbon finance, environment financing, and sustainable finance are some of the phrases that are frequently used interchangeably with the idea of green finance (Bhatnagar & Sharma, 2022). By investing and understanding the connections between environmental performance, green finance, and green innovation, governments can improve economic development and environmental performance by implementing policies that encourage green innovation and better allocate financial resources, which will ultimately help the world develop in a sustainable, environmentally friendly, and sustainable way (Wang, Wang, & Chang, 2022). Developing countries like Bangladesh are struggling with the challenges of climate change and its related environmental consequences. Bangladesh is one of the most vulnerable countries to climate changes due to rising global sea levels that have degraded natural habitats and increased the economic hardship (Akter, 2018). Green financing is a vital financial instrument in any country's sustainable economic growth (Zhang D. a., 2019). Therefore, the green financing is the key to play an important role to address the climate change issues towards achieving of sustainable development goals (SDGs) of the country.

## LITERATURE REVIEW

The banking sector in Bangladesh must recognize its social and environmental obligations and encourage the international community to lower carbon dioxide emissions in order to protect future generations and maintain its competitiveness (Ullah M. A., 2020).

The study by (Zhixia, Hossen, Muzafary, & Begum, 2018) focused on green banking practices in Bangladesh with the relationship with environmental sustainability and depicted some major techniques and suggestions for the practitioners with a view to success of green banking practices. The study also focused on different types of green banking activities in Bangladesh in accordance with the guidelines of Bangladesh Bank.

According to (Ullah M. M., 2013) in general, green banking in general is a great tool to raise public awareness of global warming since it allows business people to do their part to improve the environment and the quality of life on Earth. All banks have a lot of potential, and they have the power to not only preserve the planet but also to make the entire globe more energy-conscious. In order to preserve the environment and improve their reputation, banks need to inform their clientele about green banking practices.

A study conducted by (Chen, Siddik, Zheng, Masukujjaman, & Bekhzod, 2022) mentioned that through the use of information technology and physical infrastructure, green banking intends to increase the effectiveness and efficiency of banking operations in reducing ecological impacts. Again, as the developing economies are more vulnerable to the consequences of climate change and global warming, regulations affecting to sustainability and the environment are crucial.

(Uddin & Ahmmed, 2018) outlined the relation between Islamic and green banking in Bangladesh's sustainable development. The report indicates that Islamic banks support green banking since it conforms to "Shari'ah." and green banking has a greater connection to Islam since it supports the attributes of green banking, such as cleanliness, social responsibility, limiting resource waste, and upholding ethics.

The study by (Mehedi & Kuddus, 2017) was made on the implementation of green banking in a commercial bank of Bangladesh and found that there should be given more emphasis on green banking implementation of that bank though the performance of the bank is praiseworthy.

(Shakil, Azam, & Raju, 2014) found implementations of the existing guidelines of Green Banking by banks in Bangladesh are still largely voluntary or optional in nature. Though most of the PCBs and FCBs adopted the policy of Green Banking, SCBs and SDBs have not yet taken any step to adopt the policies due to less priority and not considered as mandatory.

Green banking is considered as socially and environmentally responsible banking to finance for the green projects. Green financing can create a goodwill to the consumers of the bank that the bank is determined to save the environment and encourages other industrial sectors for practicing green activities (Choudhury, Islam, & Bashir, 2015).

The research conducted by (Islam & Faruquee, 2022) mentions that through a commitment to social and corporate environmental responsibility, an institution's environmental policies are made more transparent to shareholders, increasing brand value and building stakeholder trust has a beneficial impact on financial performance

A study by (Sultana, Dutta, & Khair, 2021) was made on customer's satisfaction of a private commercial bank of Bangladesh and 70% of respondents to a survey said that if the bank improved its green banking procedures, customer satisfaction would rise. The study also revealed a communication gap between bank officials and customers regarding green banking and emphasized on successfully adoption of sustainable green banking in Bangladesh including rooftop gardening, urban plantings, and cutting back on paper use.

(Shayana, Raj, & K, 2017) mentioned that with a view to promoting green banking, banks should raise awareness through media, offer e-learning programs, provide training and incorporate green banking in annual reports and include green funds for sustainable investments. The study also states that banks should also adopt paperless operations, support mobile and online banking, invest in energy-efficient systems and focus on low-carbon technologies to reduce ecological impact.

The study (Mamun & Rana, 2020) investigates the relationship between Bangladeshi commercial banks' profitability and green financing and the findings indicate a positive correlation between green financing and returns. According to the survey, green initiatives like cutting back on paper use and implementing green projects into action support the growth of the banking sector in a sustainable way.

The relationship between green banking practices and the environmental performance of Bangladeshi commercial banks is examined by the study (Zhang, Wang, Zhong, Yang, & Siddik, 2022), along with the mediating role of green finance. Significant challenges to the growth of green banking are also identified by the study which includes high expenses, protracted payback times, a lack of client understanding, technical difficulties, a staffing shortage, problems with diversification, and credit risks.

Financial performance and green banking practices are positively correlated. The profitability of a bank increases with increased investments in green accounting (Hossain, Rahman, Hossain, & Karim, 2020).

Future bank investment opportunities will be accelerated by the emergence of a new sector centered on social and environmental challenges. The government of Bangladesh should increase awareness of environmentally beneficial initiatives (Xia, Fatema, & Ibrahim, 2022).

The research by (Rahman, Rahman, Tanchangya, & Esquivias, 2023) made a comparative analysis of green banking practices between Bangladesh and India and it shows that more green banking initiatives has been

taken by the regulatory authority more investment in green projects has been made in India than in Bangladesh.

A study (Hoque, Masum, & Babu, 2022) emphasizes the need for a balance between environmental sustainability and profitability and encourages private banks to invest in green banking because it is associated with better financial success.

The literature by (Khairunnessa, Vazquez-Brust, & Yakovleva, 2021) reveals that the government of Bangladesh is very supportive in promoting sustainable banking and financing activities. Especially, the government is committed to UN agenda to attain Sustainable Development Goals (SDGs) and to make efforts a success. The efforts underway are very much aligned with the sustainable banking ventures.

In exception to the above literatures, our research analyzes government's role and the recent performance of green banking and green financing under sustainable finance of Bangladesh and examines the trend of the performance in comparison to previous years which will increase awareness of the concerned people and help the policymakers of the banking industry in taking decision to increase green banking practices and sustainable financing not only to increase bank profitability but also successfully support the SDGs' environmental objectives.

## Objectives

The objective of this study is to find out the present scenario of Green Banking practices including Green Financing performances in green projects in Bangladesh as a part of sustainable finance to attain the Sustainable Development Goal and to build up an environmentally friendly green economy.

The specific objectives are as follow:

- i) To understand green banking practices, green finance and sustainable finance in Bangladesh
- ii) To identify the role of government for implementation of green banking
- iii) To examine trend and the present scenario of green banking and green financing and its impact on attaining sustainability in the economy.
- iv) To identify the challenges for green banking practices and ways to increase green banking practices

## METHODOLOGY

The research is based on both primary and secondary data sources. The primary data was collected by physical visiting corporate office and some branch offices of the sample commercial banks to observe in house and operational green banking practices with some questionnaires with the bank employees and customers. The secondary quantitative and descriptive data used in this research was gathered from several trustworthy sources including annual reports of from some commercial banks, Bangladesh Bank's quarterly reports, annual reports, publications and relevant articles. Furthermore, the information is collected from many journals, articles, bank websites, newspaper reports, and Bangladesh Bank websites. The data are examined for issues and practices related to green banking.

## THEORETICAL DISCUSSION

Banks and Non-Bank Financial institutions are the major players in the financial sector of Bangladesh which can keep a significant role in implementing green activities through green banking practices in their in-house operational activities and disbursement of green financing to the green projects of the country for achieving Sustainable Development Goal of the country.

### Methods of Green Banking for customer services:

Popular green banking practices refer to resource conservation through online banking, internet banking,

mobile banking various transactions like fund transfer, utility bill payment, credit card bill payment, checking balance, statements, credit card bill payment without visiting bank office physically and reducing use of paper. By using recyclable materials and providing green credit cards banks can further cut down paper use with an environmental focus. Again the banks and other financial institutions can green banking practices

### **In-house green activities of Banks and NBFIs include:**

To promote sustainability, the organization will reduce grid power reliance by maximizing the use of solar and renewable energy, adopt green architecture, implement energy-saving technologies, minimize paper use through online practices, conduct regular energy audits, and utilize natural light and ventilation. Additionally, it will prohibit plastic bottles, prefer virtual meetings over physical travel, and ensure efficient use of office supplies and equipment (Millat, Chowdhury, & Singha, Bangladesh Bank, 2013).

To build a new or organized building infrastructure, banks and financial institutions (FIs) are required to install solar power panels, rainwater harvesting systems, and solid waste management systems (Hoque, Mowla, Uddin, Mamun, & Uddin, 2019) (Khairunnessa, Vazquez-Brust, & Yakovleva, 2021).

### **Green activities in financing include:**

To enhance environmental sustainability, the organization will conduct environmental risk assessments for projects, financing only those that comply with sustainability guidelines. It will provide green loans to support solar energy, biogas plants, effluent treatment plants, output practices like Hybrid Hoffman Kilns in brick fields. Additionally, the organization will develop green banking products, promote mobile and online banking, and incorporate environmental sustainability initiatives into its corporate social responsibility (CSR) programs, including financial support for the Climate Risk Fund (Millat, Chowdhury, & Singha, Bangladesh Bank, 2013).

Green Financing involves a variety of financial tools designed to promote sustainable development. Banks and non-bank financial institutions are disbursing funds to finance energy efficiency, climate resilience, and renewable energy projects under the guidelines and policy given by Bangladesh Banks. Banks provides low-interest loans for ecologically sustainable projects that Bangladesh Bank has introduced in green banking policy. Green SUKUK or Islamic green bonds are also some Islamic financial tools as a means to attract capital for renewable energy and environmentally friendly infrastructure. In order to support the nation's attempts to adapt to and mitigate the effects of climate change, Bangladesh also supports microfinance programs that help rural populations access renewable energy sources and sustainable agriculture as green financing.

### **Role of Government of Bangladesh in Greening the Economy**

As the regulator of all banks and non-banking financial institutions of Bangladesh, Bangladesh Bank determines the guidelines and policies for running and promoting green banking activities time to time. In an effort to embrace the learning-by-doing philosophy, Bangladesh Bank's Green Banking Policy has been phased out.

The green banking initiative unfolds in three phases: Phase 1 focuses on policy formulation, environmental risk integration, internal management programs, green finance, and stakeholder engagement; Phase 2 emphasizes sector-specific policies, green strategic planning, and enhanced environmental management; while Phase 3 aims to design innovative products and standardize reporting with external verification (Millat, Chowdhury, & Singha, Bangladesh Bank, 2013).

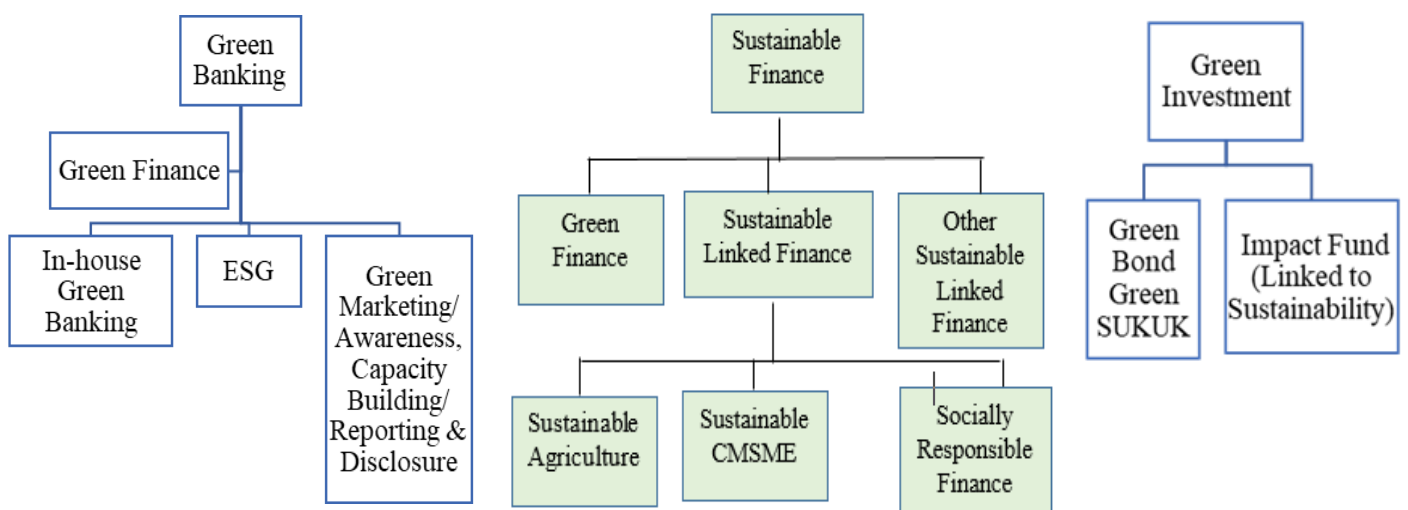
In order to achieve SDGs the government undertook a series of major policy reforms and institutional changes. The policy reform includes; (i) the adoption of the Bangladesh Climate Change Strategy and Action Plan and (ii) the creation of the Climate Change Trust Fund from its own resources to finance projects for implementation of BCCSAP. Further, to provide a roadmap for climate finance in the country's public financial management systems, the country adopted a Climate Fiscal Framework in 2014, which is another

significant step towards linking climate policies and strategies with the resource allocation process. Besides, Bangladesh has also developed “National Adaptation Programme of Action” (NAPA) and “Nationally Determined Contributions” as part of its engagement with UNFCCC. The government is in the process of implementing the National Financial Inclusion Strategy (NFIS) that was approved by the Cabinet in July 2019. In January 2020, the Bangladesh Financial Intelligence Unit (BFIU) BFIU issued an electronic Know Your Customer (e-KYC) guideline to open accounts in the financial sector without filling up any paper-based documents.

The main objective of The Eighth Five Year Plan is to start the implementation of period 2021-2024 in a way that it brings Bangladesh closer to the goals of achieving upper mid-income status UMIC status by 2031 and attaining SDGs targets through managing the challenges of LDC graduation, which will also help to eliminate extreme poverty by 2031. These include building infrastructure of similar level of upper middle income economy, reducing moderate poverty to 12 percent and extreme poverty to 5 percent, graduation from LDC to developing country by 2024 (8th Five Year Plan (July 2020-June 2025), n.d.).

Green banks screen investment applications through required sustainability evaluation methods, assessing client preferences for fund allocation to ensure that all deposits support sustainable and environmentally friendly projects (Islam M. S., 2015). Green finance tackles a number of important issues, including infrastructure development, climate risk vulnerability, green products, and energy supply. Bangladesh has embraced a window of sustainable growth path in order to lessen environmental degradation and make effective and efficient use of its natural resources (Rashid & Uddin, 2018).

The development rhetoric is by the green economy reducing ecological dangers and scarcities is the current goal in order to support green building, green energy, and green manufacturing. In addition to upholding intended social and labor norms, greening industry involves enhanced industrial production processes, resource-efficient productivity, and policy making. Without a question, finance plays a significant role in this greening process, if not the most significant role. Additionally, in response to this need, authorities and financial service providers are already acting. Uniting the sustainability agenda with just corporate considerations embedding a financial culture that is socially and environmentally conscious while taking global concerns and local contexts into account, empowering the bottom of the pyramid by supporting corporate social responsibility initiatives and providing funding for innovative, sustainable entrepreneurship (Rahman A. , 2018).



According to the definitions of Sustainable Finance Department of Bangladesh Bank in accordance with the definitions of concerned international stakes such as EU, UNEP and IFC, the practice of giving environmental, social, and governance (ESG) factors adequate weight while making investment decisions in the financial industry is sometimes referred to as sustainable finance. More precisely, environmental considerations can include both adaptation and mitigation of climate change as well as broader environmental issues like pollution avoidance, biodiversity preservation, and the circular economy. Social considerations might include human

rights concerns as well as issues of inequality, inclusivity, labor relations, and investments in communities and human capital. The incorporation of social and environmental factors into the decision-making process is largely dependent on the administration of public and commercial institutions, which includes management structures, employee relations, and executive remuneration. Green Finance is one of the major component of Sustainable Finance or in other word Green Finance is a subset of a wider definition of Sustainable Finance (Kabir, et al.). Sustainable Finance Department of Bangladesh Bank has classified Sustainable Finance and Green Banking as below:

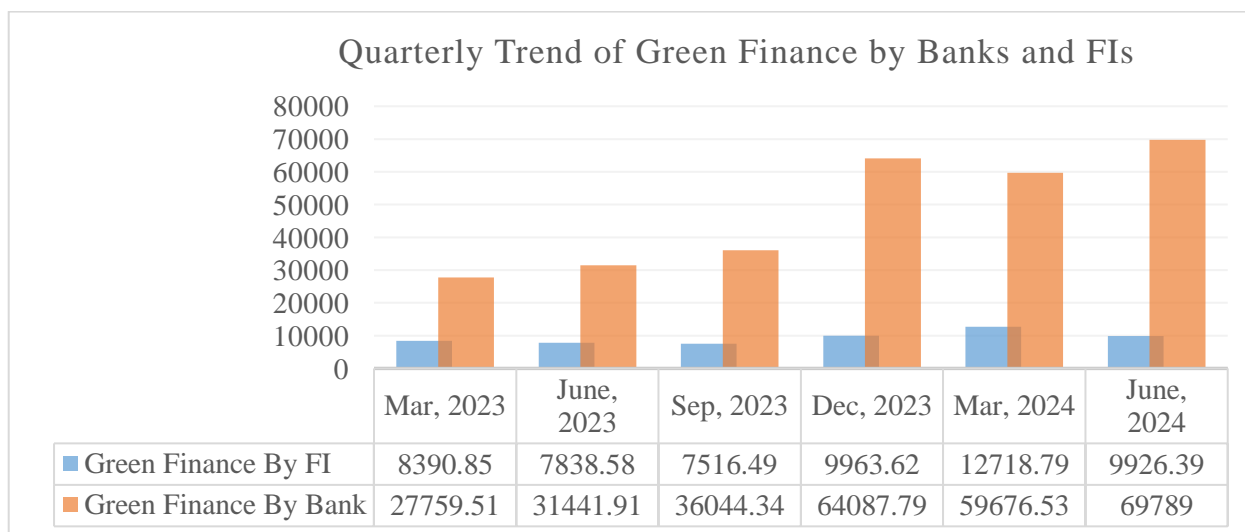
The challenge faced by Bangladesh is on how to go for infrastructure development in harmony with environmental protection and climate change concerns as against climate Action. For attaining these national development objectives and to meet funding support the Bangladesh government intends to issue a green SUKUK as financing instrument for infrastructure development. In order to achieve sustainable development and environment friendly economic growth the Ministry of Finance of Bangladesh issued a new investment instrument for sustainable financing, namely SUKUK Investment Guideline, 2019 (8th Five Year Plan (July 2020-June 2025), n.d.).

### Performance Analysis

#### Scenario of present Green Financing under Sustainable Finance in Bangladesh:

The COVID-19 epidemic has highlighted the importance of sustainability, sustainable banking, and sustainable finance in boosting economic resilience, as Bangladesh Bank has realized. Bangladesh's sustainable finance strategy seeks to support the nation's shift to a sustainable economy by promoting resilient and inclusive financial practices. Environmental management is crucial since the banking industry must manage social and environmental risks as part of its financing operations. Bangladesh Bank (BB) has set standards for green and sustainable finance in order to make sure that present financing meets present needs without endangering sustainability in the future. With an emphasis on sustainable finance, corporate social responsibility, and financial inclusion, BB's sustainable banking initiatives include regulatory measures, monitoring, refinance assistance for green goods, and internal environmental management initiatives. As per Bangladesh Bank, banks are required to allocate at least 5 percent of their portfolio to green finance and at least 20 percent to sustainable finance.

During the April–June 2024 period, banks and finance companies contributed a total of 79,715.39 million taka to green finance, representing an increase of 7,320.07 million taka compared to the January–March 2024 period.



Source: Quarterly Review Report on Sustainable Finance of Banks & Finance Companies by Sustainable Finance Department, Bangladesh Bank for April-June, 2024.

In the reporting quarter of April to June 2024, 14 out of 34 finance companies and 57 out of 61 banks are

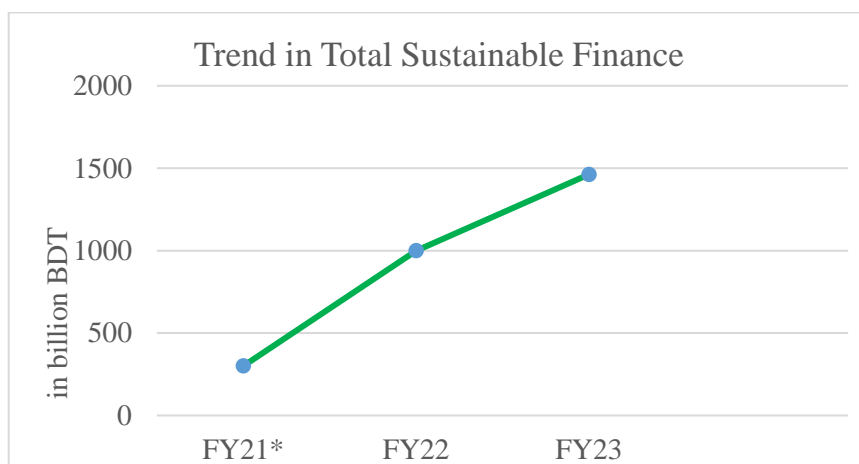
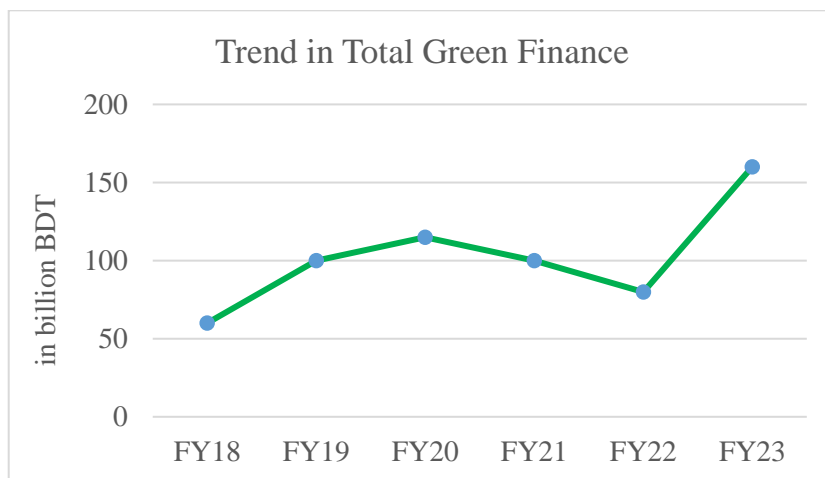
involved in sustainable finance. An overview of these banks' and finance companies' sustainable finance initiatives over this time frame is given.

Green Finance in FY23												
Category of Green Finance												
In million BDT												
Types of Banks/ NBFIs	Renewable Energy	Energy Efficiency	Alternative Energy	Liquid Waste Management	Solid Waste Management	Recycling & Manufacturing of recyclable goods	Environment friendly brick production	Green/ Environment friendly establishments	Green Agriculture	Green CMSME	Green SRF	Total
SOCBs (06)	18.19	179.98	-	5,053.40	-	231.05	207.75	3,297.85	219.58	622.95	-	9,830.75
SDBs (02)	7.90	-	-	-	-	2.40	-	-	8.10	0.50	-	18.90
PCBs (40)	4,896.61	26,744.83	79.71	18,872.94	4.00	7,564.56	4,173.27	39,102.99	2,708.75	5,261.62	4,548.80	113,958.08
FCBs (09)	320.00	727.97	-	-	-	-	-	584.93	201.60	768.50	-	2,603.00
Bank's Total	5,242.70	27,652.78	79.71	23,926.34	4.00	7,798.01	4,381.02	42,985.77	3,138.03	6,653.57	4,548.80	126,410.73
NBFIs (33)	2,586.05	12,319.92	8.50	881.86	31.89	265.53	50.00	3,970.56	269.30	2,338.98	866.37	23,588.96
Grand Total	7,828.75	39,972.70	88.21	24,808.20	35.89	8,063.54	4,431.02	46,956.33	3,407.33	8,992.55	5,415.17	149,999.69

Note: The figures in the parentheses are the number of banks/ NBFIs.  
Source: Annual Report 2022-23, Bangladesh Bank.

FCBs = Foreign Commercial Banks, PCBs = Private Commercial Banks, SCBs = State owned Commercial Banks, SDBs = Specialized Development Banks.

This table show the total amount disbursed as green finance for the year 2023 was Tk.126.41 billion by banks and BDT 23.58 billion by NBFIs which is 5.84% of total Term Loan disbursed for the year.



F21\* (January -June 2021)

Source: Annual Report 2022-23, Bangladesh Bank



## Bangladesh Bank Refinance Scheme for Green Products/Initiatives

To support financing for green products, in 2009 Bangladesh Bank launched a revolving refinance scheme with an initial allocation of BDT 2.0 billion at a lower cost, which was later increased to BDT 4.0 billion. Initially including 6 green products, the refinance scheme has been expanded to include 68 eligible green products by FY22, considering market demand and consultations with experts with a provision of interest rate ceiling of 5-6 percent for the Banks and financial institutions.

Disbursement Trend of BB Refinance Scheme for Green Products/Initiatives					
				(in Million BDT)	
Products	FY19	FY20	FY21	FY22	FY23
Bio gas	4.56	1.24	2.17	4.70	1.47
Solar home system	0.19	0.45	1.32	3.61	0.93
Solar mini grid	0.00	0.00	27.50	0.00	0.00
Net metring rooftop solar system	0.00	0.00	0.00	9.00	0.00
Effluent treatment plant	108.44	132.50	193.14	20.00	67.10
Environment friendly brick production	5.00	100.00	0.00	55.00	152.50
Vermi compost	0.79	1.26	1.67	3.37	1.16
Green industry	152.33	198.70	400.00	200.00	393.37
Green building	0.00	0.00	0.00	400.00	433.59
Safe working environment	39.96	88.10	60.00	59.90	23.11
Energy efficient machineries	10.00	46.29	200.00	34.50	48.76
LED bulb/tube manufacturing/assembly plant	0.00	0.00	24.00	0.00	0.00
PET bottle recycling plant	0.00	0.00	0.00	2.50	0.00
<b>Total</b>	<b>321.27</b>	<b>568.54</b>	<b>909.80</b>	<b>792.58</b>	<b>1,121.99</b>

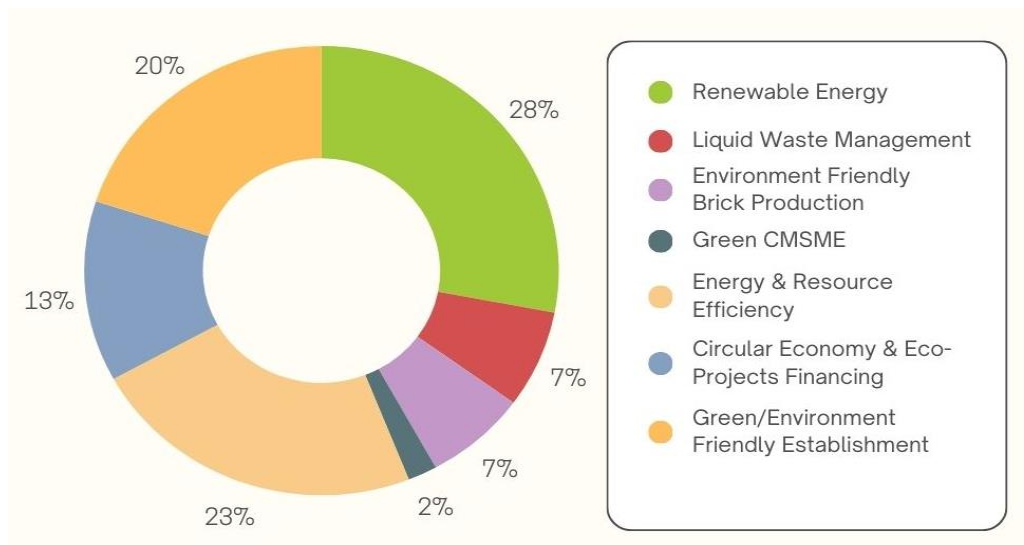
Source: Annual Report 2022-23, Bangladesh Bank

## Green Transformation Fund of Bangladesh Bank

Bangladesh Bank's latest initiative to promote sustainable finance is the Green Transformation Fund (GTF), announced in February 2016 with an initial allocation of USD 200 million aimed at supporting export-oriented sectors. Initially the fund was restricted to the textile, leather, and jute industries, and later it was broadened to include all export-oriented industries in June 2019. This made it easier for manufacturers to obtain foreign exchange financing for the purchase of environmentally friendly capital machineries and the implementation of sustainability projects. In December 2022 a local currency GTF was created with a sum of BDT 50 billion, from which BDT 1.778 billion was disbursed to five clients by June 30, 2023 and as of FY22, the GTF was disbursed USD 140.94 million over 47 projects and Euro 71.21 million across 30 projects.

## Performance of Some Commercial Banks in Green Banking and Sustainable Finance:

Bank Asia integrates sustainability into all of its operations and plays a key role in supporting the country's Sustainable Development Goals (SDGs). In 2023, the bank's disbursement under Green Finance reached 5.47% (Tk.2,634.23 million), exceeding the target of 5%, while Sustainable Finance amounted to 25.22% (Tk.53,170.77 million), surpassing the 20% target set by Bangladesh Bank. The financing was made in different sectors i.e. Renewable Energy, Energy & Resource Efficiency, Liquid Waste Management, Green/Environment Friendly Establishments, Circular Economy, Green CMSME, Sustainable Agriculture, Sustainable MSME, Socially Responsible Financing etc. The bank is committed to becoming a green, triple bottom line bank by integrating both financial and environmental considerations into its decision-making. Through the activities including online and paperless banking, lowering greenhouse gas emissions, and putting energy-efficient procedures into place, the bank encourages green banking practices. Again the bank promotes eco-friendly initiatives like horticulture, biogas production, plant nurseries, wastewater treatment, Zigzag and HHK technologies, and more. In the credit risk management approach, the bank strongly emphasizes on environmental and social risks. With the green banking initiatives and funded projects, the bank hopes to have a beneficial social and environmental impact. Under Green Finance, Bank Asia allotted Tk. 1,074.05 million in 2023 to Energy & Resource Efficiency and Renewable Energy. This funding will help businesses enhance their energy and resource efficiency, significantly lowering operational costs while utilizing renewable energy, all without harming the environment. In 2023, Bank Asia disbursed Tk. 679.84 million for liquid waste management projects and Tk. 672.29 million for green and environmentally friendly establishments, with outstanding balances of Tk. 544.62 million and Tk. 1,589.62 million respectively, helping industries reduce their environmental impact.



By utilizing daylight and energy-efficient bulbs in its corporate offices, saving over 30% of electricity annually Bank Asia has achieved significant energy savings. The bank focuses on reducing paper consumption by using email for both internal and external communications, and loan sanctions are now uploaded in PDF format to the MISDB, eliminating the need for hard copies.

In 2023, Tk. 5.71 billion was disbursed to 64,496 rural farmers by the bank while Tk. 1.01 billion was disbursed to 13,926 farmers through the Online Credit Approval System (OCAS). Again, the bank has automated the issuance of debit cards, cutting the processing time from 7-9 days to 2-3 days. This results in the savings of 490,000 pages and a 100,000 delivery reduction in courier expenses. Furthermore, Bank Asia's Green Banking programs included email correspondence, SMS banking, and e-statements financed Tk. 679.84 million in liquid waste management projects and resulted in net savings of Tk. 10.49 million. The Regulatory Bank and Bank Asia have signed agreements for Bank Asia to take part in the refinance program for green projects, initiatives, and goods. The bank has also teamed up with Bangladesh Bank to obtain Green Transformation Fund funds.(GTF) and the Technology Development/Upgradation Fund (TDF). The outstanding amount of our GTF Fund as of 31.12.2023 was EURO 3.395 million & USD 0.087 million (PLC B. A.).

## BRAC Bank PLC

In 2020, 2021, 2022, and 2023, Bangladesh Bank named BRAC Bank one of the country's top 10 sustainable banks for its environmentally friendly and sustainable financing methods. Through responsible lending, BRAC Bank sees significant potential in promoting sustainable business practices and raising environmental awareness. In addition to aligning its operations with national development priorities and the Sustainable Development Goals (SDGs), the bank plans to continue searching for opportunities in bankable climate adaptation projects, green climate funds, and green bonds.

Protecting the environment and society by promoting climate action measures and saving natural resources is a commitment of the bank. BRAC Bank is strengthening its sustainability effort through digital banking initiatives including mobile banking, net banking, and ATM services, which lower emissions and paper usage, s. Additionally, the bank has expanded access in remote rural and semi-urban areas by introducing digital products and services. Furthermore, the bank is expanding its corporate social responsibility (CSR) investments in environmental initiatives, including programs for agriculture and climate adaptation. As part of its commitment to sustainable internal operations the bank has implemented systems to lower energy use and uses energy-efficient equipment, such as LED lamps. It is enhancing its usage of renewable energy including adding solar panels at its main office and future locations and collaborating with the Partnership for Carbon Accounting Financials (PCAF) to evaluate the carbon impact of its loan portfolio to manage its carbon footprint. Again, BRAC Bank maintains a significant portfolio in responsible financing, supporting energy-efficient machinery, renewable energy, and eco-friendly projects.

### Key highlights, 2023

Disbursement Performance	Amount in Tk. million
Green Finance	25,668.00
Sustainable MSME	68,357.00
Sustainable Agriculture disbursement	3,528.00
Socially Responsible Financing	34,882.00

The bank has expanded its corporate social responsibility (CSR) focusing on environmental projects through sponsoring climate adaptation programs, agricultural adaptation initiatives, and research into different adaptation tactics. BRAC Bank has created scheduling systems to lower energy use and uses energy-efficient technology for internal operations, such as LED lamps that emit less UV radiation. Additionally, the bank and IDCOL are partners in a Green Climate Fund project that supports the textile and ready-to-wear businesses. It is also measuring the bank's total greenhouse gas (GHG) emissions, finding alternative green funding, and piloting an Environmental & Social (E&S) Toolkit for trade finance alongside ADB (PLC B. B.).

### A trend analysis of the selected commercial bank performance:

Bank Name	Category	(in BDT Million)				
		2021	2022	Growth Rate between 2021 & 2022	2023	Growth Rate between 2022 & 2023
		Disb. (BDT Mln)	Disb. (BDT Mln)		Disb. (BDT Mln)	
City Bank PLC	Sustainable Finance	49,190.00	66,230.00	34.64%	150,547.00	127.00%

	Green Finance	2,680.00	4,910.00	86.21%	11,084.00	126.00%
Eastern Bank PLC	Sustainable Finance	35,624.02	42,729.10	19.94%	92,529.60	116.00%
	Green Finance	2,034.18	2,165.50	6.46%	11,800.00	443.00%
Prime Bank PLC	Sustainable Finance	53,170.77	52,937.53	-0.44%	107,136.72	202.38%
	Green Finance	Data not available	3,214.70	-	7,848.20	244.13%
BRAC Bank PLC	Sustainable Finance	74,265.72	105,230.00	41.69%	235,365.02	123.67%
	Green Finance	46,494.00	50,674	8.99%	25,667.90	-49.34%
Bank Asia PLC	Sustainable Finance	37,301	34,677.53	-7.03%	5,317.10	-84.66%
	Green Finance	3,782	3,248.59	-14.10%	2,634.20	-18.91%

Source: (Annual Report , 2022) (Annual Report , 2023) (PLC B. A.) (PLC B. B.) (Plc C. B.) (Plc P. B., Prime Bank Plc) (Annual Report 2022) (Annual Report 2021) (Sustainability Report 2023, 2023) (Sustainability Report 2021) (Sustainability Report 2022) (Annual Report 2021)

By analyzing the above comparative table, we can find that there is a positive or growing trend of green financing and sustainable financing in some commercial banks though some of the banks are performing in negative trend. But by analyzing the data sources from Bangladesh Bank's annual report we can notice that overall there is a positive upward trend in practicing green banking, green financing and sustainable financing in Bangladesh.

### Challenges and Constraints of Green Banking in Bangladesh

Lack of knowledge and comprehension of environmental sustainability in general people and the stakeholders of bank and non-bank financial institutions is one of the main hindrances in practicing green banking and green financing in Bangladesh. It becomes difficult to implementation and progress of energy efficient systems and renewable energy technology due to lack of infrastructure.

Regulatory shortfalls and uneven environmental policy enforcement sometimes make it difficult to implement the expansion of green financing. Again, financial institutions find it more difficult to evaluate and finance green initiatives due to limited access to technical expertise and concessional green financing. Many organizations face problems in implementing sustainable practices due to the high upfront costs associated with green initiatives and the perceived risk of poor short-term profitability.

### RECOMMENDATION TO MEET UP CHALLENGES OF GREEN BANKING

To cope up the challenges on the way of green banking practices and green financing some recommendations can be mentioned.

Awareness of climate related risk and environmental sustainability need to be increased more among the people of Bangladesh and significance of green banking practices to be realized both by the bankers and customers.

Bangladesh Bank and the concerned regulatory authorities can strengthen the green banking policies more and offer some incentives like tax rebate, low-interest rate, rewards etc. in favor of the green financing and green banking practices.

The commercial banks and non-bank financial institutions should prioritize green infrastructure projects in their financing schemes and also financing for the green products as per guidelines of the Bangladesh Bank. The banks need to innovate new green banking product and create a sustainable investment fund to support and finance the green projects like renewable energy, energy efficient building, electric vehicles and other environmentally friendly projects.

The banks need to arrange proper training and technological support for the employees to maintain proper green banking practice. Finally, the management and board of the bank and non-bank financial institutions must promise to protect the environment by their banking operations and make a target to ensure green banking practices and green financing in every effort.

## CONCLUSION

Bangladesh has made significant progress in banking reforms among 38 SBN (Sustainable Banking Network) countries to drive development and fight climate change. These reforms for integration require banks to assess, manage, and report on environmental, social, and governance risks in their lending operations. The regulatory support and rising awareness of the people about the environment have also plays a significant role in the progress of green banking practices and green financing. Since Bangladesh Bank issued green banking rules in 2011, commercial banks are increasing green finance practices more and more with a focus on waste management, energy efficiency, and renewable energy. Bangladesh is emphasizing on renewable energy sources including solar, wind, and biomass to reduce reliance on fossil fuels and improve energy security because of its extreme climate change vulnerability. For reduction of water pollution in Bangladesh's rivers and lakes, green financing is also necessary for controlling industrial waste through water effluent facilities. In keeping with Bangladesh's climate goals and global frameworks such as the Paris Agreement and the UN Sustainable Development Goals (SDGs), these projects are contributing to the development of a low-carbon, sustainable economy.

While Sustainable Finance incorporates Environmental, Social, and Governance (ESG) considerations into long-term investment strategies, Green Finance gives priority to financing initiatives that lower greenhouse gas emissions and advance renewable energy. Businesses can save operating expenses and increase their competitiveness in international markets by investing in energy-efficient technologies like LED lighting and energy-saving machinery. The goal of green banking is to promote green technologies and finance in the projects which reduce pollution in order to lower carbon emissions. Small and medium-sized Enterprises (SMEs) find it challenging to obtain financing due to a number of ongoing issues, such as low knowledge of green finance products and the high upfront costs of green technologies. Furthermore, due to lack of thorough data on environmental implications the evaluation of green projects becomes more difficult. The future of green finance in Bangladesh is bright despite some obstacles. Both domestically and internationally, there is an increasing need for green investments, such as green bonds and low-carbon technologies. Banking sector of Bangladesh is the crucial player in assisting green projects. Though some banks are performing well in green banking practices and green financing, the other banks and non-bank financial institutions are expected to broaden their green financing portfolios by making loans for sustainable, energy-efficient, and renewable energy projects more easily accessible in order to hasten the shift to a green economy. Furthermore, increasing the financial sector's understanding of the advantages of green banking and implementing more stringent ESG lending rules will help bring it into line with international sustainability norms and draw in both domestic and foreign investors.

## Limitations

The main limitation of the study is that only 5 commercial banks performance in green banking practice were taken in consideration as sample data out of total 61 scheduled banks and 35 non-bank financial institutions in Bangladesh. Another limitation is that global green banking performance is not compared with the

performance of Bangladeshi green banking performance. Therefore, further study is necessary to analyze green banking performance of every commercial bank and the performance is to be compared with global perspective.

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