

# Green banking and sustainability – a review

Green banking

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## Abstract

**Purpose** – The purpose of this article is to study green banking practices, its methods of adoption and importance of practicing green banking. This study also includes the role and contribution of banks in environmental sustainability and UN Sustainable Development Goals.

**Design/methodology/approach** – The current research paper is conceptual in nature, based on a thorough literature review, websites of financial institutions and literature evaluations among other sources. This study has been supplemented by a variety of research journal articles. The websites of many banks including SBI (State Bank of India) and MayBank (Malaysia) were used and reviewed to know about various green banking practices both nationally and internationally and their contribution toward sustainability.

**Findings** – The devastating effects of recent flooding, droughts and extreme temperatures that several people all over the world have experienced compelled everyone to begin thinking about global warming and its consequences, and to do everything that can be done to address this problem. Governments, businesses and individuals all play a part in preventing global warming and creating a more sustainable world. People have to deal with financial institutions, particularly banks, which play a vital role in this environment by assisting in the development of a robust and successful low-carbon economics. They should make more use of environmental data when extending credit and making investment decisions. The project will assist them in proactively improving their environmental performance while also adding long-term value to their company. Businesses having a bigger carbon output may be viewed as riskier in the future, and banks may shy away from funding such businesses in favor of innovative technology solutions that absorb or reduce carbon emissions. As a result, green banking is the order of the day, a source for sustainable development and it will undoubtedly benefit banks, industries as well as the environment at large.

**Research limitations/implications** – The theoretical implications can be summed in the following points: (1) there is no universally accepted framework for green or sustainable banking so far. However, green banking practices are at different stages of development across countries. As per the case of India, green banking practices are at a development phase in India, and green processes have a significant impact on sustainable development. (2) The study is one of the first of its kind in the academic literature as it links green banking practices with sustainability besides discussing green banking practices of the top public sector Bank of India and top commercial bank of Malaysia. Despite the significant contributions made by this study, many disadvantages should be addressed for future research. The present work was chosen for comfort, it was restricted to green banking practices of two banks only, which limits conclusion and interpretation of outcome to some extent Future research can be conducted by a comparative study with the top green banks or with the cleanest country of the world or green banking practices by those banks toward sustainability in that country can also be a good area for research

**Practical implications** – Managerial implication: The study is extremely helpful to the banking industry in determining the scope of green banking initiatives in sustainable development. This study is a prime study in India to interrelate banking industry towards sustainability and two UN SDGs besides green banking practices of banks. This paper has noted the areas where the banks can make progress for the greener, sustainable economics. It has also aided the banking industry in identifying areas for development so that it may focus on improving social satisfaction and satisfaction of stakeholders across its operating areas. The study is also very



helpful for banks to comprehend how vital these green initiatives, especially green processes, are to improve sustainability.

**Social implications** – The study will serve as a gauge for banking actions toward greener nations and a greener world since these are the efforts toward Carbon Free World, Efforts for controlling global warming, efforts for the greener planet in general which undoubtedly is a significant long-term service to society a reason for better climate and better tomorrow.

**Originality/value** – This paper identifies the need for green banking in sustainability. This article also summarizes the notion of green banking besides outlining some methods and analyzing green banking initiative by SBI (State bank of India) of India, MayBank of Malaysia & UNSDG .

**Keywords** India, SBI, MayBank Malaysia, Sustainable development, Environment-friendly, Green banking, UN Sustainable development goals

**Paper type** Conceptual paper

## Introduction

Green banking is becoming a global standard speedily for adopting socially and environmentally acceptable business operations. This banking is environmentally benign by preventing environmental deterioration and making the earth more habitable. In the last few decades, green banking has become a catchphrase in the area of sustainable banking. In reality, green banking is recognized as sustainable banking, which plays a part in protecting the world from environmental damage with the goal of guaranteeing long-term economic prosperity (Islam, Roy, Miah, & Das, 2020). To protect and make our environment greener, we must take some practical initiatives, which should focus at the business level and appropriate center to focus on environmental factors and implement greening efforts at the corporate level (Islam, 2020). Imbalanced industrialization has harmed the environment and resulted in natural and industrial calamities (Rehman *et al.*, 2021). As per (Bangladesh Banladesh Bank, 2020, [www.bb.org.bd](http://www.bb.org.bd)), green banking is a type of banking with the main goal of protecting the environment and sustainable development (SD) while taking into account all social and environmental aspects. Therefore, the term “sustainable development” has spread throughout the development community and is now used by international agencies, development planners, academics and advocates for environmental and SD (Ukaga, Maser, & Reichenbach, 2011). SD has developed as a new growth model in accomplishing the underlying future goal since 1992. In a larger sense, SD is defined as “long-term cultural, socioeconomic, and environmental wellness,” with the focus on “long-term,” “together with the necessity of integrating our social, economical, and environmental well-being.” (Rahman & Rahman, 2020) interpreted that SD is based on enlightened self-interest, and it frequently involves the triple bottom line of economic, social and environmental concerns. Environmental sustainability, SD and climate change are the crucial parts of comprehensive socioeconomic development in developing nations and can be managed by green banking to a large extent (Monirul Alam, Alam, & Mushtaq, 2018). Green banking has been characterized in a variety of ways by academics, but the overall focus has been on complete banking systems that ensure significant economic growth while simultaneously improving environmental-friendly practices (Lalon, 2015). Banks must take a more significant role related to climate change through green banking and it is effective (Sarker, Khatun, & Alam, 2019; Stephens & Skinner, 2013). Bai (2011) defines green banking as environmentally friendly banking and a set of practices and responsibilities that establishes a business being ecologically friendly. Green banking, often known as moral financial services, is a broad term that refers to environmental-friendly and socially responsible banking activities (Goyal & Joshi, 2011; Sarker, Peng, Yiran, & Shouse, 2020). Companies are becoming more interested in environmental integrity issues as a result of increased external pressure from a variety of stakeholders, including government banking firms, socially conscious investors and society lobby groups (i.e. members of host communities), among others, in accordance with this trend, the recent surge in environmental costs has prompted businesses to include environmental considerations into

all levels of management (Shuvro, Saha, & Alam, 2020). Khawaspatil & More (2013), Ajaz & Aijaz (2021) concluded that Indian banks remain further behind in green banking services execution, despite a lot of opportunities in green banking and RBI notifications, hence strict measures are required to be taken regarding implementation besides awareness and training to customers and bankers must be provided. Only a few banks have taken the initiative in this area. All banks have a lot of potential, and they cannot only preserve our planet but also convert the entire globe to be more energy conscious. Banks must educate their consumers about green banking and implement all techniques to help save the environment while also improving the bank's reputation. After studying research conducted both in India and overseas, it is clear that the majority of banks are gearing up their efforts to acquire SD through the use of green practices.

### Literature review

Green banking is a type of banking activity where banks make the effort to carry out their everyday operations as conscientious members of society by taking internal and external environmental sustainability into consideration and these banks are termed as green or sustainable banks Hossain, Rahman, Hossain, and Karim (2020). Choudhury, Salim, Bashir, and Saha (2013) highlighted that in today's banking competition every bank should step up to the plate to produce a new green product with higher stakeholder involvement and SD. However, Dharwal and Agarwal (2013) while outlining risks found that green banking is a key to mitigate many types of risks such as legal risk, credit risk and reputation risk. They also recommended several green practices, such as carbon credit businesses, green financial goods, green mortgages, carbon emissions mitigation, energy awareness, green construction and social responsibility contributions to society. Ahmad, Zayed, and Harun (2013) investigated that one of the most important aspects of green banking in Bangladesh is to maintain financial viability, which is mandated by the Bangladesh Bank. Meena (2013) identified four benefits of green banking: it reduces deforestation, raises environmental consciousness among staff and consumers, provides advantage of the lower rate and changes corporate activities in an environmentally beneficial manner. Ullah (2013), Bangladesh, arguably the least developed country, is the worst victim of global environmental pollution caused by Western countries' industrialization. Jaggi (2014) investigated SBI and ICICI bank's green banking program and strategies. SBI has implemented a number of initiatives in this area, including the Green Channel Counter, increased commitment to reaching carbon neutrality, online money transfer, wind farms, and so on. ICICI Bank's Green products and services strategy comprises internet banking for anytime, anywhere banking, auto finance and home finance. Furthermore, these banking institutions have taken initiatives to conserve energy, such as depletion (two-sided printing), recycling and using compact fluorescent lighting (CFLs), among other things. Chaurasia (2014) found that there haven't been many green banking services initiatives in India, according to investigators, who recommend that banks should practice greener financing and consider economic and environmental elements as a part of their financing principles, forcing industries to make mandated investments in SD for the greater good of society. (Ortiz-de-Mandojana, Aguilera-Caracuel, & Morales-Raya, 2016) examined that due to institutional pressures, banking institutions are implementing green rules and using green transparency to become more respectable in society. Managers are encouraged to achieve environmental sustainability via institutional forces. Zhixia, Hossen, Muzafary, and Begum (2018) claimed that the Bangladesh bank's enforcement of precise criteria would lead to the successful development of sustainable lending in Bangladeshi banks. The study also showed that a barrier to green growth could be the slower rate of technology advancement, financial innovative products and widespread lack of social and ecological conscience among banking firms. (Volz, 2018) found sustainable banking

where investment and lending decisions are made based on environmental monitoring and risk assessment to fulfill sustainability criteria along with insurance services that address environmental and climatic risk which are significant components of green finance. [Bukhari, Hashim, and Anran \(2020\)](#) while pivoting on green banking adoptions model based on environmental social and governance considered where affinity of variables impacted environmental sustainability. This study found that the process is influenced by a variety of environment factors and banks can wangle the adoption by applying certain operations in a consecutive and analogous manner. [Alsayegh, Abdul Rahman, and Homayoun \(2020\)](#) claimed that the idea of sustainable banking entails using green banking techniques to take ethical, social and environmental concerns into account. [Khairunnessa, Vazquez-Brust, and Yakovleva \(2021\)](#) described that the Bangladeshi banks through their investments in numerous environmental-friendly projects, lessen the negative consequences of climate change and play a vital part in the nation's economic sustainability. Additionally, banking institutions play a significant role in financing numerous industrial projects that could have significant detrimental social or environmental effects. [Zheng, Siddik, Masukujjaman, Fatema, and Alam \(2021\)](#) outlined that the Green Financing is seen as a crucial component of sustainable banking, having a significant influence on the growth of a eco-friendly economy and industry generally. Therefore, it can be said that in enhancing the sustainability practices of the financial sector, the banking sector should focus on ensuring the funding for environment-conscious projects through financially viable banking in order to enhance the competitive edge of banks, generate more earnings, improve existing assets and save on invested capital and other costs. Until recently, green banking appeared to be merely an idea, and environmental concerns did not appear to be particularly relevant to a bank's operations. Initially, a bank evaluating a client's environmental suitability would have been regarded as intruding into their private affairs. However, the current view is that this poses a risk to their business. Although financial organizations are not directly impacted by environmental degradation, they, nevertheless, incur indirect expenses. Unless such measures are adopted, credit, legal and reputation problems will continue to hound these banks. The growing economies are yet to embrace the conceptualization. [Amir \(2021\)](#) argues that the number of studies on the green banking is scarce in developing countries; hence there is a compelling need to unlock the concept in totality. Similarly, [Sharma and Choubey \(2022\)](#) shared the concern for the dearth of studies in green banking space. Moreover, [Chandran and Sathiyabama \(2020\)](#) described that green banking practices have not gained currency in developing countries in general and Indian banks in particular. However, green banking has drawn a lot of attention in developed countries but underdeveloped countries have mostly neglected it ([Weber, 2016; Jeucken, 2010; Khan et al., 2015; Roca & Searcy, 2012](#)) and in nations like India research on green banking is virtually non-existent ([Prakash, Kumar, & Srivastava, 2018](#)). Research has also shown that Indian banks are not ideally suited to carry out green banking practices ([Rajput, Kaura, & Khanna, 2013](#)). The Reserve Bank of India plays a significant role in advancing environmental standards. A developing nation such as India needs to put more emphasis on the social aspect of banking and link it to economic development ([UNEP FI, 2016](#)). On the other hand, in India, the majority of research focuses on corporate social responsibility and environmental management ([Narwal, 2007; Biswas, 2016; Rajput et al., 2013; Sharma & Mani, 2013; Sahoo & Nayak, 2007](#)), green banking strategies ([Bahl, 2012; Tara & Singh, 2014](#)) and green practices adopted by private and public sector banks ([Bahl, 2012; Bihari, 2010](#)). There is a significant gap between what banks seek to promote and what the public perceives them to be doing in terms of green banking ([Jayadatta & Nitin, 2017](#)). Resultantly, there is a dearth of literature pertaining to green banking in India ([Sharma & Choubey, 2022](#)) not much research has been conducted on role of green banking in SD overall, green banking practices by SBI (India), Maybank (Malaysia) and the contribution in achieving UN SDGs for the country. MayBank of Malaysia has been first-lined for the

study due to its top commercial activities in Malaysia and State bank of India preferred for this review owing to the first bank to focus on green banking initiatives. [Kaur and Sandhu \(2019\)](#) since most of the studies conducted on green banking predominantly concentrated on green banking practices or on perception of customers or bankers. This gap justifies the need to investigate the problem stated. Therefore, the present study is an endeavor and an attempt to fill the research gap in this regard.

## Discussion

**Online bill payment:** Paying bills online is a significant lifestyle change, but it is possible. Payments for telephone, television and utility payments, as well as credit card and mortgage, could all be made electronically. In fact, several clients have completely abandoned their paper cheque books in favor of online payments. Not only is bookkeeping a lot easier, but a lot of paper is saved as well.

**Net banking:** Customers who use online banking do the majority of basic banking duties without having to enter the bank physically. For online banking clients must have a unique internet banking ID and password issued by the concerned bank.

**Online saving accounts:** The simplest method of using green banking services and protecting the environment is to open an online savings account and use mobile banking. Opening up direct deposit for your pay cheques, obtaining electronic statements via your bank, and making payments online are all examples of green banking. All these techniques can help your bank cut down on the amount of paper it produces. Internet banking and mobile banking are also excellent tools for staying on top of your finances and avoiding late fees. Other banking action you may take is to advise that your employer subscribe for a "Remote Deposit" program. To make a deposit, remote consumers must physically present each check to their bank. Banks can also clear payments digitally via remote deposits.

**Paperless banking:** All banks are moving to the CBS or ATM platform, and they are also offering online financial products and services. As a result, there is a lot of room for banks to become paperless banking. Private and foreign banks use electronic communication in their offices, but PSU banks continue to rely heavily on paper. Paper fewer statements, on the other hand, are those statements sent by mail to the concerned stakeholders of the bank to avoid huge wastage of paper. Most banks offer people the option of receiving their statements digitally through a protected log-in when they sign up for internet banking. Electronic copies of financial records and statements can therefore be stored rather than paper files. The risk of identity theft is further reduced when statements are received online.

**Green deposits:** The majority of firms will allow employees to get their pay cheques electronically. This mostly expedites the accessibility of your funds and saves customers a trip to the bank, but it also saves paper, a bunch of paperwork involved and so on.

**Green finance or green loan:** Banks can create creative green-based products or offer low-interest green loans. A green credit loan or green finance is being issued for projects that benefit nature and the environment i.e. finance provided for Renewable Energy and Clean Energy projects, Resource Recycling projects, Waste Disposal, Pollution Prevention and Control projects, Green Agriculture Development projects, Industrial Energy Conservation, Water Conservation and Environmental Protection projects, Green Transport projects, Energy Conservation and Environmental Protection Services projects, etc.

**Green building and CSR:** Banks have residential dwellings, branches and ATMs, they may choose to develop green buildings to protect the environment. Indian banks should launch numerous social responsibility activities as part of their green banking program, such as tree planting camps, park upkeep, and pollutant check-up camps, etc.

**Importance of green banking:** Green building and CSR: Banks have residential dwellings, branches and ATMs, they may choose to develop green buildings to protect the environment.

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### **Importance of green banking**

Green banking is regarded as one of the processes for guaranteeing sustainability in which business operations have no adverse impact on the environment. Moreover, environment management is identical to risk management. It is extremely important for both banks and the economy since it avoids numerous hazards in the banking sector. Banks play an intermediary part in the economy because banks have the capacity to contribute significantly to SD. Green banking not only secures the greening of sectors, but it also helps banks improve their asset quality in the future. Green banking enhances the image of the bank by demonstrating and serving its environmental commitment; reduces operational costs due to less utilization of office stationery, energy and water; increases employee productivity and efficiency through skilled and optimum use of technology; and reduces dangers by installing eco-friendly equipment. It saves a lot of forestry by minimizing paper usage; reduces greenhouse gas emissions by teleconferencing and arranging a transportation pool for employees; assists in developing customers' environmental consciousness by organizing awareness program; and reduces the extent of non-performing assets by investing in less risky projects. Green banking involves technical advancements, operational improvements and a shift in client behavior in the banking industry. Green banking program typically include energy efficiency, recycling, ride sharing and environmentally responsible lending. Due to severe environmental regulations enforced by competent authorities throughout countries, industries would be required to observe particular standards in order to conduct business. It improves the mental capabilities of officials and customers to reflect green sensibilities. Green banking saves money and energy by lowering costs and raising the country's GDP.

### **Green banking initiatives by MayBank Malaysia**

Conservation alliance for tigers (MYCAT): MayBank worked with the Malaysian Conservation Alliance for Tigers (MYCAT) in 2011. Over the course of two years, donation of RM 1 million has been made to support research programs aimed at ensuring the effective preservation of wild tiger environment in Malaysia.

Carbon disclosure project (CDP): The CDP is a non-profit organization that gives stakeholders with an in-depth look into how the planet's major corporations are tackling climate change. Companies that participate in the CDP gain better understanding of how to protect ourselves from the effects of climate change and thus become more environmental friendly. Maybank is one of merely two Malaysian banks to partake in the CDP since 2010. The CDP rating indicates a company's degree of loyalty and experience with emissions disclosure. They achieved a total number of 58 for the 2012 CDP assessment, an increase over the past year's score of 37.

Green financing and environmental-friendly projects: Maybank ventures announced a US\$500 million renewable energy fund in November 2011, with the goal of capitalizing on the increased interest in clean and renewable energy. Its 10-year private equity fund consists of a series of diversified renewable energy project holdings across the Asia-Pacific region, with a concentration on China, India, Indonesia, Malaysia, Thailand, the Philippines, Vietnam, Cambodia and Laos. They also support the Malaysian government's Green Technology Financing Scheme (GTFS), which was created to encourage environmental friendly funding. MayBank participated in four major photovoltaic (PV) power plant projects in 2020 as part of a sustainable financing drive, with a total funding of around RM 1.3 billion. These projects,

which will be installed in West Malaysia, will have total output of 390 MW and are expected to be commercially active by the end of 2021 or early 2022, allowing them to replace traditional coal or gas-powered stations in the local energy system and reduce carbon emissions.

Maybank is also contributing RM 70 million to the Sun Lease project to build 30 MW rooftop solar systems for the creation of cheaper power. The bank has increased its environmental concentration in recent years to help the development of a sustainable financial sector, launching its first green fund in 2020 and assisting in the issuance of several green securities across the area. In keeping with its mission to facilitate sustainable economic activity, Maybank has continued to offer funding for sustainable energy and other green infrastructure projects ([MayBank Sustainability Report, 2021](#)).

**Supporting innovation through financing Waste-to-Energy Projects:** In 2020 Maybank refinanced the creation of a waste-to-energy project in Negeri Sembilan with about RM 374 million in financing waste-to-energy initiatives which enhance waste management attempts by blowing up municipal solid refuse to generate steam for power production. This project is expected to convert 600 tons of garbage per day and generate up to 25MW of electricity, with the capacity to expand in the future. Besides, from waste-to-energy capabilities, this plant will also include waste segregation and reusing materials, leachate treatment and a safe disposal.

**Paper consumption and disposal:** Paperless strategy is implemented throughout marketplaces by digitalizing all its internal procedures. Almost 136,570 kg of sensitive papers were securely recycled throughout Malaysian and Singaporean locations.

**Raising awareness and reducing carbon emission:** Maybank runs awareness programs and campaigns through posters, banners, e-bulletins and other regular communications regarding environmental clean consciousness. In 2020 a campaign was launched 'Don't be a Plastic Addict: Bring your Own Container'. The bank also encourages people to switch off their computers, water coolers and other electrical appliances when not in use through different platforms. MayBank reduced electricity consumption by 8.5% to 50,102,311 kWh compared to 2019 as an initiative to reduce carbon emission across its seven strategic buildings in West Malaysia. In 2020, water consumption was reduced by 54,786 m<sup>3</sup> or 11.7% compared to 466,769 in 2019.

**Waste management:** All garbage is responsibly disposed of, with efficient collection, recycling and disposal systems in place, all of which are overseen by licensed contractors to ensure compliance with government regulations. They also hire professionals to properly dispose of outdated electrical gadgets.

### **Green banking initiatives by State Bank of India**

**Green financing and environmental-friendly projects:** SBI is investing in Eco environmental Projects and Renewable energy projects like Solar Roof (INR 91.37 Billion), Wind Energy (INR 20.93 Billion), biomass (INR 940 Million) and on some Hydro Projects (INR 1.65 Billion) as part of sustainable Banking as on 2021 Financial year SBI, India's first bank to create green electricity, has constructed ten windmills with a combined capacity of 15 MW across Tamil Nadu, Gujarat and Maharashtra. Not only that, but the programs would be advanced further with the installation of 20 MW additional capacity in Gujarat. The initiative's primary goal is not just to be economically advantageous but also to protect the environment by reducing reliance on non-renewable resources. Although the installation cost of a 1.5 MW windmill is projected to be over 10 crores, the running cost for the windmills will be almost nothing, proving to be cost efficient. Suzlon Energy has taken up the installation of these windmills with the goal of encouraging Indian banks to go green. Banks will also assist the firms by funding these initiatives at cheaper interest rates. These loans will be dubbed "Carbon Credit Plus" ([ET Bureau, 2010](#)).

**Green housing:** Green housing is another key program launched by the State Bank of India to promote a low-carbon society. The bank has taken on the obligation of providing

financing to people interested in green projects. Green buildings, via improved design and operation, are reducing the negative influence on the environment. Leadership in Energy and Environmental Design (LEED) INDIA, Indian Green Building Council (IGBC) and TERIGRIHA from TERI-BCSD India are the agencies in India with the ability to certify green buildings. SBI, the first bank in India to enter this market, has introduced the “SBI Green Home Loan” as a new product. The bank offers a home loan with a 5% margin concession and a 0.25% interest rate with no processing charge. Natural lighting and reclaimed water were used as conservation strategies (Jaggi, 2014).

Rooftop solar project financing: SBI has begun to promote the green movement by giving huge amounts of credit to projects involving the installation of solar roofs. It would fund 100 MW of solar panels for Rs. 400 crores. The State Bank of India will carry out this development initiative with the assistance of the World Bank (moneycontrol.com, 2017).

Counter for the green channel: On July 1, 2010, SBI took another step toward green banking by transitioning from paper-based banking operations to green channel counters in a number of its locations (SBI, 2010). GCC is presently present at 7,052 SBI branches, with a daily transaction average of more than 100,000. This is the most essential action conducted by the bank because the majority of the bank’s disposal is generally paper, which generates tremendous waste. As a result, trees are being chopped down at a rapid pace, causing environmental devastation.

Long term loans: The bank makes loans at low interest rates to project executors who have environmental goals and considerations, particularly in the case of manufacturing operations (Vadrle & Katti, 2016). SBI’s key endeavor is a cooperative arrangement between SBI and the Export and Import Bank of India (EXIM) to grant a long-term credit to the Aston field Renewable Resources and Group T-Solar Global SA, a Spanish enterprise. Banks have issued a 14-year loan with the aim of constructing a solar power plant in India (Yadav & Pathak, 2013). In addition, the bank has introduced a new loan product called “Carbon Financing Plus”, with the express objective of providing credit to Clean Development Mechanism (CDM) projects (Janakiraman & Karthikeyan, 2016).

Green marathon: SBI has recently proposed hosting marathons every year to promote environmental goals. In February and March 2019, the marathon was conducted in six cities: Delhi, Bangalore, Chennai, Ahmedabad and Chandigarh. The marathon was themed “Race for Green,” and each participant received a sapling to plant after finishing the run for a green city. In addition, the majority of the materials utilized in the marathon’s organization were environmentally friendly. The primary goal of this marathon was to raise awareness about the critical need to embrace green practices (India CSR Network, 2018, <https://indiacsr.in>).

Green bonds: The introduction of green bonds onto the market is a significant step on the part of the bank. The issue was created in order to collect funding for environmentally beneficial projects. In September 2018, the bank raised a total of \$ 650 million. Furthermore, a subscription three times the real value was obtained (Das, 2018). The bank intends to invest the funds in projects involving renewable energy, low-carbon buildings, energy-efficient goods, projects involving sustainable mobility and projects involving pollution and waste disposal. To regulate the goal, a dedicated green bond committee was constituted with qualified people.

Retail and digital banking development initiatives: SBI has developed YONO as a source to distribute awareness about the bank’s omni-channel banking and lifestyle platform activities in order to promote green banking. SBI recognized much digital advancement in Bhopal in September 2018, including SBI “YONO” an omni-channel and lifestyle platform, State Bank Buddy wallet, anywhere banking comprising mobile banking, “SBI INTOUCH” a digital branch and more (the pioneer, 2018).



**Solar ATMs:** SBI claims to be the country's largest employer of solar ATMs. Since its inception in 2008, this initiative has been effective in reducing CO<sub>2</sub> emissions by 2000 tons per year. Until September 2018, the bank has built 1200 solar-powered ATMs and has built over 250 ATMs with lenders covering the roofs of 150 buildings with solar panels. It has a projection to construct approximately 10,000 ATMs in the next two years (businesstoday.in). The main goal of this initiative is to significantly reduce carbon footprints and ameliorate carbon emissions. In order to save energy, the bank has implemented efficient time management systems, automated systems and an effective lighting system in addition to ATMs.

**Annual reports in electronic format:** Another component that contributes to environmental preservation is the distribution of electronic annual reports to shareholders. Paper waste was enormous as a result of mailing annual statements on paper. It was started at the request of the shareholders and for a little fee that is donated to a charity. In 2014, the bank generated Rs. 3.09 Cr. By charging Rs. 100 for every report, it contributed to the SBI Children's Welfare Fund.

**Project on carbon disclosure:** SBI joined the CDP along with 550 other institutions with the goal of developing and enforcing stringent policies to reduce carbon footprints and encourage green banking practices.

### Comparison of green banking initiatives of Maybank and SBI

Green banking initiatives	State bank of India	MayBank
Green Finance and green loans	Rs 400 crore for solar roof panels and approved Rs 319.18 billion(\$4.26 billion) on 2021 for renewable energy projects	US\$500 million renewable energy fund in 2011, RM 3.45 billion financed to eco environmental projects, RM 1.3 billion on photovoltaic (pv) power plant projects in 2020, RM 70 million to the Sun Lease project in 2020
Paperless banking	Retail and digital banking development initiatives like digital banking application, phone banking, electronic annual reports, etc.	Retail and digital banking development initiatives like digital banking application, phone banking, paper recycling process at Singapore and Malaysian Locations, etc.
Green awareness	Programs and campaigns through posters, banners, e-bulletins, marathon, etc.	Programs and campaigns through posters, banners, e-bulletins, etc.
Waste to energy projects	Not found under review	Negeri Sembilan Project, Investment RM374 million
Solar ATM's	1200 Solar ATM and 250 covering roofs of 150 building with Solar panels	Not found under review
Project on carbon disclosure	SBI is the signatory of CDP	May Bank is the signatory of CDP
Green housing	Green Building loans (LEED) INDIA, Indian Green Building Council (IGBC), and TERIGRIHA have ability to certify it	Green Housing Loan is provided for home mortgage and renovation at Malaysian and Singaporean Locations
Environmental Diversity	SBI adopts 15 tigers per year since 2011	To conserve Tiger, MayBank Works with WWF-Malaysia and relevant Government and regulatory agencies. RM 1 million donation has been made to MYCAT to support tigers

It is clear that SBI has 1200 solar-powered ATMs and has built 250 ATM covering the roofs of 150 buildings with solar panels. However, enough solar-powered ATM by Maybank of Malaysia was not found under study and such kind of ATMs with more quantity should be installed by this Malaysian bank towards saving energy to control carbon emission. It is pertinent to mention that both these banks are signatories of CDP that helps companies and cities to disclose their impact on the environment. SBI is doing well by investing in eco-environmental projects and Renewable energy projects like solar roof (INR 91.37 billion), wind energy (INR 20.93 Billion), biomass (INR 940 million) and on some hydro projects (INR 1.65 billion) as part of sustainable banking as on 2021 financial year. Maybank is not that much behind in green finance and has announced a venture of US\$500 million toward clean/renewable energy and RM70 million towards Sun Lease project for solar power generation. Moreover, it supports Malaysian Governments' GTFS. Maybank refinanced to create a waste-to-energy project in Negeri Sembilan with an amount of about RM374 million under waste-to-energy initiatives, but we could not find any such scheme by SBI in India. MayBank decided to go paperless by way of digitalization, and it has also adopted paper recycling process across Malaysian and Singaporean locations. SBI is also in the process of paperless, but the paper recycling process has not been started yet. As per Maybank website and sustainability report, it was found that a well-placed recycling system has been upkept across all branches for collection and recycling of wastage of its branches though such facilities was not found discussed for any SBI branches.

#### *The UN Sustainable Development Goals*

The 2030 agenda is an action plan with a commitment to leave nothing behind to carry out the revolutionary actions required to move the world toward an egalitarian, sustainable and resilient path. It identifies 17 goals, which include 169 targets and followed by 232 indicators to gauge how well they are being implemented. However, the Millennium Declaration, which preceded the 2030 Agenda having eight Millennium Development Goals (MDGs), the framework for global development that was finalized in 2015, is built upon by tackling complex and pressing issues of poverty, rising inequality, climate change, instability and fragility. The SDGs have greatly outpaced the MDGs. The SDGs are committed to ensure everyone is treated with dignity and are based on human rights. The SDGs apply worldwide: The 17 goals have to be carried out across the world whether they are developing or developed nations. The idea of universality also expresses a dedication to regional and international collaboration as well as understanding how to deal with similar problems. Given the disparate degrees of development in the region, this is especially crucial for Asia and the Pacific. The motto "leave no one behind" is a distinctive aspect of the 2030 Agenda; it is a call to action that no goal will be regarded to have been accomplished if it is not attained for all members of society; improvement in national averages is not sufficient. Each goal requires targets that pledge to progress on important enabling variables and methods for achieving, such as new data, technology and resource mobilization, which are required to produce favorable results, in addition to outlining time-bound commitments. Two important goals which the researcher found very much interrelated to green banking have been discussed along with achievement, steps, process of India and Malaysia toward these two goals.

#### **Toward achieving seven and eleven UN Sustainable Development Goals**

UN Sustainable Development Goal 7 (Affordable and Clean Energy): (SDG) 7 emphasizes a global effort to guarantee that everyone has access to affordable, efficient, renewable and modern energy. Availability of safe, modern, long-term energy is vital for enhancing the health and lives of billions of people worldwide.

Over the last decade, the percentage of people globally who have access to power and clean fuel have climbed significantly. In 2018, 90% of the global population had access to power, up from 82% in 2008, and 63% had access to clean fuel and cooking technology, up from 55% previously. At the current rate of progress, the world is not yet on schedule to meet the SDG 7 objective of guaranteeing affordable, dependable, sustainable and modern energy access by 2030. Globally, 733 million people still do not have access to electricity and 2.4 billion people continue to cook using those fuels which are harmful to their wellbeing and the environment ([World Bank Tracking SDG 7 – The Energy Progress Report, 2022](#)).

Indian contribution: India has demonstrated a strong commitment to and achievement in household electrification and it is on track to meet the aim of providing universal access to electricity to every household. According to the Saubhagya dashboard of the Ministry of Power, over 99.99% of houses were lighted at the end of March 2019. Except for Chhattisgarh, all states have achieved 100% electricity. Clean cooking fuel: As of July 2020, the country had 2,824 lakh liquefied petroleum gas (LPG) connections and 72 lakh piped natural gas (PNG) connections; with Gujarat leading in PNG connections (26 lakh), while West Bengal has no PNG connection yet. Among the UTs, Delhi leads in both LPG with 49.8 lakh and PNG with 9 lakh connections.

#### *UN Sustainable Development Goal 13: climate change*

Floods, storms, droughts and extreme weather are all indicators of a changing climate. The global climate is changing. The reason is well-recognized: greenhouse gas emissions caused by human activities such as the use of fossil fuel for heat, electricity and transportation; industrial operations and land use changes. Climate change has the potential to stymie progress in practically every aspect of human existence. It puts agricultural production, water resources, ecosystems, energy supplies and infrastructures at risk. More than 216 million people may be pushed to migrate within national borders by 2050 in time to prevent the worst consequences of climate change ([World Bank, 2021](#)). To fight with climate change, India has committed to an Intended Nationally Determined Contribution (INDC) goal of 40% non-fossil fuel energy generation by 2030, with an objective of 450 GW from renewable sources. India has also launched Unnat Jyoti, a project of affordable LEDs for All (UJALA) to control carbon emission low-cost LED lamps are being distributed under this project. By converting to these LED bulbs, India has saved around 38.6 MtCO<sub>2</sub> (Mt metric ton Carbon di oxide) by December 2020. Niti Ayog ([Niti Ayog.in](#)).

The State Bank of India also recognizes these risks of human pain or economic loss caused by climate change and is working to make renewable energy more widely available in order to lessen its impact. The SBI Group is also working on efforts to assist rejuvenate regional economies by incorporating and managing natural energy resources using area resources, increasing energy self-sufficiency, and developing sustainable communities with local production for local consumption. SBI ENERGY, in particular, is developing and pushing the spread of solar sharing (farming-type solar power production), which produces energy on farmland without interrupting farming, in addition to solar power generation, micro hydropower production and biomass (biogas) power generation ([www.sbigroup.com](#)).

MayBank of Malaysia is also doing better towards achieving UN SDG 7 and 13. MayBank has almost financed RM 3.45 billion to green energy projects to increase resilience and adaptability to climate-related danger and to provide sustainable and modern energy services.

#### **Green banking has significant contribution toward sustainability**

Green banking is a new idea that integrates environmental management and banking operations with the goal of changing the financial industry and creating new, sustainable

business models (Yadav & Pathak, 2013). Mumtaz and Smith (2019) analyzed the process of green finance for SD in Pakistan found that scope of green finance is immense as it helps to curb environment issues in addition to making firms more accountable and competitive in reducing carbon emission. (Jeucken & Bouma, 1999) studied relationship between banks and sustainability found that banks are taking more dynamic approach since last 20 years toward attaining sustainability across the world (Bhardwaj & Malhotra, 2013) explained green banking, an initiative by the banks to encourage the development of environmental-friendly enterprises and also helps in the process of natural environment restoration However, green banking, according to the Indian Banks Association, is standard banking system that takes into account all social and environmental elements in order to promote ecological sustainability and the best possible use of natural resources (Sahi & Pahuja, 2020). (Masukujjaman & Aktar, 2013) refers to green banking to environmentally friendly banking system that helps to prevent environmental deterioration in order to make this world more livable. (Khatun, Mitra, & Sarker, 2021) recounted those institutions as banks can make a significantly positive contribution to sustainable economic. When banks engage in sustainable banking programs, it adds to its value creation and is also part of the strategy for banks (Tyl, Vallet, Nancy, Bocken, & Marion, 2015). Green banking being strikingly important toward achieving the UN set sustainable goals; therefore, the implementation of green banking is the main focus of the Central Bank of Bangladesh as found by (Akter, Siddik, & Mondal, 2018). In the Indian city of Coimbatore, GB practices (environmental training of workers, energy-efficient operations, green policy and overall green initiatives) had a favorable impact on banks' environmental performance found in the study done by (Vidyakala, 2020) The goal of green banking is to achieve sustainability, growth and the development that is sustainable through eco-friendly and sustainable banking system (Brundtland, 1987) and sustainability can also be achieved using online banking, e-banking and adhering to the 3D strategy (de-materialization, de-carbonization and demobilization) in the bank's daily operations (Hossen, Uddin, & Hossain, 2014). After reviewing the above literature, it can easily be assessed that green banking and sustainability has a positive and significant relationship towards sustainable growth and development across the world. Therefore, previous literature supports the idea that despite having substantial risk exposure, the financial sector has responded to the sustainability issue very perfectly as being the intermediate function in the economy; hence, it is concluded that green banking can never be ignored to achieve sustainability.

We are currently confronted with big difficulties such as global warming, heavy electrical waste, and pollutants. Green banking can help in fighting all these challenges. It is one of the most important pillars toward achieving sustainability. Banks are one of the most significant professional bodies that engage with the general public and have potential for the country's long-term development by raising public awareness and offering education. The influence of banks on the environment could be seen in two different ways: internally and externally. Internal activities such as the use of electricity, water, paper and the quantity of various waste produced during banking operations. It is, however, low in comparison to other areas, but it should not be overlooked. External activities, on either hand, do not directly destroy the environment, but they do implicitly impact the environment by being included in other activities such as investing, lending, risk management and so on. Some internally and externally driving forces can help banks support greening. Employees, investors and directors are internal driving factors who can be driven to greenery and create green products and services, as well as make environmentally friendly policies, and, therefore, contribute to sustainability. External factors include competitors and customers, and sustainable growth can be achieved by raising awareness and demonstrating positive attitudes toward green financing. The green marketing plan is now being used by banks to indicate a responsible corporate marketing activity that views environmental concerns as possibilities for development and growth and verifies them throughout all operations.

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## Conclusion

The devastating effects of recent flooding, droughts and extreme temperatures that several people all over the world have experienced compelled us to begin thinking about global warming and its consequences, and to do everything we can do to address this problem. Governments, businesses and individuals all play a part in preventing global warming and creating a more sustainable world. We have to deal with financial institutions, particularly banks, which play a vital role in this environment by assisting in the development of a robust and successful low-carbon economics. They should make more use of environmental data when extending credit and making investment decisions. The project will assist them in proactively improving their environmental performance while also adding long-term value to their company. Businesses having a bigger carbon output may be viewed as riskier in the future, and banks may shy away from funding such businesses in favor of innovative technology solutions that absorb or reduce carbon emissions. As a result, green banking is the order of the day, a source for SD and it will undoubtedly benefit banks, industries, as well as the environment at large.

### *Theoretical implications*

The theoretical implications can be summed in the following points: (1) there is no universally accepted framework for green or sustainable banking so far. However, green banking practices are at different stages of development across countries. As per the case of India, green banking practices are at a development phase in India, and green processes have a significant impact on SD. (2) The study is one of the first of its kind in the academic literature as it links green banking practices with sustainability besides discussing green banking practices of the top public sector Bank of India and top commercial bank of Malaysia. Despite the significant contributions made by this study, many disadvantages should be addressed for future research. The present work was chosen for comfort, it was restricted to green banking practices of two banks only, which limits conclusion and interpretation of outcome to some extent Future research can be conducted by a comparative study with the top green banks or with the cleanest country of the world or green banking practices by those banks toward sustainability in that country can also be a good area for research.

### *Managerial implication*

The study is extremely helpful to the banking industry in determining the scope of green banking initiatives in SD. This study is a prime study in India to interrelate banking industry toward sustainability, and two UN SDGs besides green banking practices of banks. This paper has noted the areas where the banks can make progress for the greener, sustainable economics. It has also aided the banking industry in identifying areas for development so that it may focus on improving social satisfaction and satisfaction of stakeholders across its operating areas. The study is also very helpful for banks to comprehend how vital these green initiatives, especially green processes, are to improve sustainability. To the society: The study will serve as a gauge for banking actions toward greener nations and a greener world, since these are the efforts toward carbon free world, efforts toward controlling global warming which undoubtedly is a significant long-term service to society and a reason for better climate and better tomorrow.

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