
GREEN BANKING IN INDIA: LEGAL AND OPERATIONAL INSIGHTS WITH A COMPARATIVE STUDY OF BANGLADESH

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Abstract:

Green banking, as a financial model, is the incorporation of environmental sustainability into conventional banking activities through responsible lending, investment, and organizational practices. This paper critically examines the legal and operational landscape of green banking in India, evaluating the effectiveness of existing regulations such as the Banking Regulation Act, 1949, RBI's green finance guidelines, and SEBI's disclosure mandates. Although these instruments mark progressive steps, India currently lacks a comprehensive statute exclusively addressing green banking, resulting in fragmented implementation.

The research also examines legal issues, including green finance definitional uncertainties, lack of a binding taxonomy, greenwashing risks, and weak statutory enforcement of ESG practices. The paper features an exhaustive case study of the State Bank of India, examining its position as a pioneer public sector bank in embracing green finance tools. To place the situation in a broader regional context, the analysis is conducted comparatively with Bangladesh, which has had more central and compulsory green banking measures under the direction of Bangladesh Bank.

The paper concludes with policy suggestions intended to bolster India's legal and regulatory frameworks. The study adds to the body of literature in sustainable finance by pointing to the nexus of law, policy, and environmental stewardship in banking.

Keywords: Green Banking, Environmental Sustainability, Reserve Bank of India, ESG Regulation, State Bank of India

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Introduction:

Green banking is a new phenomenon in the world of banks, with a perception of incorporating environmental sustainability into the very operation of the bank itself. Green banking entails a range of practices from marketing green schemes to minimizing carbon footprints and providing financing on green projects. With its coincidence of financial operations and sustainable development objectives, green banking attempts to strike a balance between economic growth and conservation³. Green banking in India is a reaction to growing environmental concerns and the global trend towards sustainable development. Indian banks are rapidly embracing greening initiatives like paperless banking, power-saving outlets, and green funding for renewable energy schemes. They not only restrict environmental abuse, but also promote bank image and consumer trust⁴.

Even the Reserve Bank of India (RBI) itself hasn't been behind in green banking standards and guidelines, which prompt banks to look at the environment while evaluating risk and lending. These regulatory invite financial institutions to take responsibility for their effects on the environment as well as be forward in lending to sustainable projects⁵. In addition, green banking is among world trends in which banks are accepting their role towards the mitigation of climate change. Banks are contributing to a greener future by green financing of projects and green ways. It is not so much a transformation for environmental miseries as it is a chance for new banking innovation and growth⁶.

Overall, green banking in India is a strategic step to adopt environmental sustainability into financial operations. With regulatory endorsement, innovative practice, and strict adherence to ecological responsibility, Indian banks are becoming a part of the transformation towards a sustainable future increasingly.

Research Questions

1. What are the current laws and regulations governing green banking in India?

³ Reserve Bank of India, Notification: Framework for Acceptance of Green Deposits, RBI/2022-23/022, (Apr. 11, 2023).

⁴ Anju Sharma & Nidhi Yadav, Green Banking: A New Initiative for Sustainable Development, 5 Int'l J. Com. & Mgmt. Res. 87 (2019), available at <https://www.allcommercejournal.com/article/253/5-1-20-368.pdf>.

⁵ Reserve Bank of India, Discussion Paper on Climate Risk and Sustainable Finance, (Feb. 28, 2024).

⁶ Securities and Exchange Board of India, Consultation Paper on Issuance of Sustainable Bonds, (Aug. 2024).

2. What are the key legal and operational challenges hampering the growth of green banking practices in India?
3. What is competency and performance of the green banking system of India against Bangladesh in regulation and operation?

Research Objectives:

1. To examine the legal and policy environment facilitating green banking initiatives in India.
2. To study the practical and legal issues encountered by banks, the case of SBI being used as a case study.
3. To study comparatively green banking regulations in India and Bangladesh and elicit best practices.

Research Methodology:

The research employs a doctrinal legal research approach assisted by empirical case analysis. Sources of primary legislation are statutes such as the Banking Regulation Act, Companies Act, and RBI/SEBI circulars. Secondary sources are articles published in journals, reports, and websites of regulatory bodies and banks. Qualitative case study will be developed based on publicly available data for SBI green banking practices. Comparative analysis will be used to analyse India and Bangladesh's regulatory environment. The study will provide recommendations based on gaps in current laws and practices so that a complete picture of the legal environment for green banking in India can be understood

Legal Frameworks pertaining to Green Banking in India:

India's green banking legal and regulatory framework is changing at a very rapid pace with increased focus on climate resilience and sustainability. The Banking Regulation Act, 1949 serves as the cornerstone of India's banking legal framework, empowering the Reserve Bank of India (RBI) to regulate and supervise banking operations. This Act provides the RBI with authority to issue directives, oversee banking policies, and ensure financial stability, thereby facilitating the integration of sustainable and green banking practices within the sector⁷. The

⁷ *The Banking Regulation Act*, No. 10 of 1949, § 35A, Acts of Parliament, 1949 (India).

Reserve Bank of India (RBI) has taken many meaningful steps towards the greening of financial institutions. In 2023, RBI issued the Green Deposit Framework for promoting regulated entities towards environmental sustainability. These amounts are specifically aimed at directing capital toward financing green activity like renewable energy, pollution abatement, and climate-resilient infrastructure. Institutions need to have a board-approved policy for fund deployment, institute third-party verification, and undertake yearly impact assessment to uphold credibility and transparency in deploying proceeds⁸. Additionally, in February 2024, the RBI issued a draft framework on climate-related financial disclosures, requiring scheduled commercial banks and major NBFCs to report governance, strategy, and risk management regarding climate risk by fiscal 2026, and report certain metrics and targets from fiscal 2028 onwards⁹. Again, in March 2025, the RBI updated its Priority Sector Lending (PSL) guidelines by increasing loan ceilings for renewable energy and broadening the list of eligible borrowers to facilitate improved credit flow into green industries¹⁰. RBI membership in the global Network for Greening the Financial System (NGFS) since 2021 further affirms India's resolve to integrate environmental concerns into financial stewardship¹¹.

The Securities and Exchange Board of India (SEBI) has also played a crucial role in the growth of green finance in terms of policy instrument regulation. SEBI established a regulatory framework for green bonds in 2017, comprising green project eligibility criteria and transparency requirement on proceeds usage with independent assurance¹². SEBI also released the Business Responsibility and Sustainability Reporting (BRSR) framework requiring reporting of the top 1,000 listed entities' environmental, social, and governance (ESG) performance in an attempt to enhance transparency on corporate sustainability¹³. SEBI included addition of sustainable securitized debt instruments such as social bonds and

⁸ Reserve Bank of India, *Notification: Framework for Acceptance of Green Deposits*, RBI/2022-23/022, (Apr. 11, 2023).

⁹ Reserve Bank of India, *Discussion Paper on Climate Risk and Sustainable Finance*, (Feb. 28, 2024). <https://fidcindia.org.in/wp-content/uploads/2024/02/RBI-DRAFT-CLIMATE-RELATED-FINANCIAL-RISKS-28-02-24.pdf>

¹⁰ Reserve Bank of India, *Master Directions - Priority Sector Lending (PSL) – Targets and Classification*, RBI/FIDD/2024-25/05, (Mar. 15, 2025).

¹¹ Network for Greening the Financial System, *Members*. <https://www.ngfs.net/en/about-us/membership>

¹² Securities and Exchange Board of India, *Circular on Disclosure Requirements for Issuance and Listing of Green Debt Securities*, SEBI/HO/DDHS/CIR/P/2017/005, (May 30, 2017).

¹³ Securities and Exchange Board of India, *BRSR Reporting Format for Top 1000 Listed Entities*, (May 10, 2021). https://www.sebi.gov.in/sebi_data/commndocs/may-2021/Business%20responsibility%20and%20sustainability%20reporting%20by%20listed%20entitiesAnnexure1_p.PDF

sustainability-linked bonds in 2024 to cover different sources of funding for environmentally focused projects¹⁴.

These are complemented by more general government policy approaches. The Government of India, in May 2025, also released a draft Climate Finance Taxonomy to classify economic activities based on their environmental footprints for investment alignment with the country's climate goals¹⁵. A plan launched in 2023 under the Lifestyle for Environment (LiFE) initiative also incentivizes voluntary green activity like reforestation and organic farming by providing tradable green credits for issuing the same¹⁶. These are also complemented by eight national missions of the National Action Plan on Climate Change (NAPCC) for sustainable development and institutions like the Indian Renewable Energy Development Agency (IREDA) providing finance facilitation for renewable and energy-efficient projects¹⁷.

Aside from the regulatory obligations, India has also established voluntary legal regimes for corporate environmental responsibility. The Ministry of Corporate Affairs (MCA) published National Voluntary Guidelines (NVGs) in 2011 for encouraging ethical business practices, including environmental sustainability guidelines¹⁸. SEBI requires Business Responsibility Reports (BRRs) in terms of these NVGs from listed companies¹⁹. The Companies Act, 2013 with effect of Section 135 requires companies having a specified net worth or turnover to spend 2% of their average net profits on Corporate Social Responsibility (CSR) activities, like environmental sustainability activities²⁰. The National Green Tribunal (NGT), under the

¹⁴ Securities and Exchange Board of India, Consultation Paper on Issuance of Sustainable Bonds, (Aug. 2024).

https://energy.prayaspune.org/images/pdf/SEBI_Discussion_Paper_on_Sustainable_Finance_Scope_August_2024.pdf

¹⁵ Ministry of Finance, Draft Climate Finance Taxonomy, Government of India, (May 2025).

[https://dea.gov.in/sites/default/files/\(F\)%20Draft%20Framework%20of%20Indias%20Climate%20Finance%20Taxonomy%20for%20publication%206th%20May%202025%20\(1\).pdf](https://dea.gov.in/sites/default/files/(F)%20Draft%20Framework%20of%20Indias%20Climate%20Finance%20Taxonomy%20for%20publication%206th%20May%202025%20(1).pdf)

¹⁶ Ministry of Environment, Forest and Climate Change, Green Credit Programme Implementation Rules, GSR 856(E), (Oct. 13, 2023).

¹⁷ Indian Renewable Energy Development Agency, About IREDA.

<https://www.ireda.in>

¹⁸ Ministry of Corporate Affairs, National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business, (July 2011).

¹⁹ Securities and Exchange Board of India, Mandate on Business Responsibility Reports, SEBI/CFD/DIL/LA/1/2012/43/CFD, (Aug. 13, 2012).

²⁰ The Companies Act, No. 18 of 2013, § 135, Acts of Parliament, 2013 (India).

<https://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf>

National Green Tribunal Act, 2010, is a special judicial body for green cases, for effective and efficient implementation of environmental legislations²¹.

Though the green banking industry in India is in its mature and dynamic phase, there are plenty of challenges. These are standard reporting formats, increased stakeholder sensitivity, and capacity development of micro-financial institutions. Nevertheless, through constant regulatory support and increasing global and domestic awareness towards sustainability, the green banking segment in India is set to experience paradigm-determining growth. The integration of environmental matters in a general sense into banking law, company law, and public policy reflects India's strategic commitment to maintaining economic growth with ecological integrity²².

Legal Challenges in Green Banking

India's green banking industry is evolving at a very fast pace but with different regulative and legal issues that restrict its boundless potential. In spite of serious attempts by the Reserve Bank of India (RBI) and other regulative bodies, structural as well as system-related issues continue to restrict easy meshing of sustainability in the financial sector. This paper explains a review of the central legal issues still persisting in India's green banking and how their abatement is essential towards establishing a strong and reliable green finance industry. The greatest concern is the lack of a harmonized climate taxonomy that specifically identifies what makes an investment 'green'. In the absence of an integrated system, banks and financial institutions are able to create their own standard, leading to varied standards, improper classification of projects, and even undermining the integrity of green financing. While the RBI's draft disclosure framework on climate-related risks requires banks to disclose governance, strategy, and risk management mechanisms related to climate concerns, it stops short of providing a comprehensive taxonomy to verify and classify green investments uniformly. This regulatory gap creates uncertainty for banks and investors and slows the

²¹ The National Green Tribunal Act, No. 19 of 2010, Acts of Parliament, 2010 (India).

<https://legislative.gov.in/sites/default/files/A2010-19.pdf>

²² Reserve Bank of India & UNEP, Report on Sustainable Financial Systems in India, (2016).

<https://www.unepfi.org/psi/wp-content/uploads/2016/10/Sustainable-Financial-System-India.pdf>

growth of genuinely sustainable finance initiatives²³. Another significant legal challenge relates to the availability and quality of environmental data. Banks occasionally do not have quality, consistent, and complete data required for evaluation of the environmental sustainability of investments effectively. Lack of quality data is a constraint to constructing sound risk assessment frameworks and evaluation of appropriateness of environmental impact. Additionally, data reporting inconsistency across institutions is a constraint that makes regulators' and investors' determination of banks' actual environmental performance quite challenging. Increasing transparency and standardization of environmental data collection and reporting is thus critical to the effective application of green banking policies²⁴. Sifting sustainability considerations into conventional financial systems also gives rise to additional legal challenges. Banks have to redefine their conventional models for risk assessment so as to incorporate environmental considerations, which means a radical change in how they quantify creditworthiness and risk exposure. This transition demands significant capacity development and competencies, which numerous financial institutions can lack. Lack of clarity of the regulatory frameworks for integrating environmental issues into financial decision-making also contributes to the issue in the case of banks. Lacking specific special legal tools or standards, banks risk improper application of sustainability criteria, which might result in regulatory attention or image issues²⁵. Policy consistency and regulation consonance are of particular concern. Too many regulatory entities with similar mandates may lead to conflicting or duplicative requirements imposed upon banks. Variation between domestic regulations within India and international best practice—such as the European Union's Sustainable Finance Disclosure Regulation (SFDR)—create compliance issues for globally active banks or banks providing cross-border green finance. Uniformity of different regulatory systems and simplicity of things are essential to ensure unproblematic acceptance and adoption of the green banking standards²⁶. Legal recourse by negatively impacted sectors is also likely to introduce complexity. Industry segments that are intensely fossil fuel-dependent or environmentally harmful activities are destined to view green banking norms as discriminatory, leading to litigation asserting

²³ See Outlook Bus., RBI's draft disclosure framework to enhance climate risk reporting, <https://outlookbusiness.com> (last visited May 30, 2025); Allcloud.in, Challenges in green finance taxonomy, <https://allcloud.in> (last visited May 30, 2025).

²⁴ Insightful Banking, Importance of environmental data in green banking, <https://insightfulbanking.com> (last visited May 30, 2025); Lawdocs.in, Data transparency issues in green finance, <https://lawdocs.in> (last visited May 30, 2025).

²⁵ Insightful Banking, Legal complexities in sustainability integration, *supra* note 2

²⁶ *Id.*; see also EU Sustainable Finance Disclosure Regulation (SFDR), Regulation (EU) 2019/2088 (Nov. 27, 2019).

infringement of constitutional rights, e.g., the right to pursue any trade or calling. While courts will force policy decisions unless unequivocally arbitrary or unconstitutional, the threat of legal litigation introduces ambiguity and can discourage policy implementation²⁷. Operational challenges also hinder green banking uptake. There are few genuinely green, viable projects to fund that have scale and credit quality to finance. Underwriting frameworks for new industries such as renewable energy or clean technology are undeveloped, preventing banks from effectively using green funds. Additionally, green financing cost—e.g., third-party verification, impact assessment, and continuous regulatory compliance—can be infeasible, particularly for local banks. These operational challenges have to be overcome through open guidelines and support mechanisms in order to trigger green investment²⁸.

The green bond market of India, being the primary vehicle for directing funding to green ventures, is also not without challenges. The majority of the renewable energy schemes lack the high credit ratings that would help draw investors and, therefore, raise doubts over their cost viability. This clogs up the green bond market's growth and liquidity. In addition, the absence of specific tax benefits or fiscal relief for green bond investors makes them less competitive relative to conventional bonds. Policy reform and regulatory encouragement are required to unlock the full potential of green bonds and stimulate more participation²⁹. India has made extensive efforts to encourage green banking, however it still faces serious legal and regulatory issues. An integrated strategy has to be adopted to address these challenges, such as establishing a carefully designed and coherent climate taxonomy, enhancing disclosure of environmental information, regulatory framework harmonization, and support for financial institutions. Addressing these challenges, India can establish a green banking system which is sustainable and credible as per its economic and environmental objectives.

Case Study: Green Banking Initiatives by the State Bank of India (SBI)³⁰

I. Internal Environmental Impact

²⁷ India Corporate Law, Legal risks for industries under green finance policies, <https://indiacorporatelaw.in> (last visited May 30, 2025).

²⁸ ETBFSI.com, Operational challenges in green finance adoption, <https://etbfsi.com> (last visited May 30, 2025).

²⁹ ResearchGate, Green bond market challenges in India, <https://researchgate.net> (last visited May 30, 2025).

³⁰ Jayanta Kumar Bihari & Laxmipriya Swayin, *Green Banking Practices in India: A Case Study of State Bank of India*, 3 INT'L J. ADVANCED RES. COM. MGMT. & SOC. SCI. 125 (2020).
<https://www.inspirajournals.com/uploads/Issues/664451584.pdf>

The State Bank of India (SBI), one of the country's largest and most influential financial institutions, has been quietly but steadily reshaping its approach to sustainability over the past five years. Its journey toward becoming a greener bank is not just about ticking regulatory boxes — it's a reflection of a broader vision to integrate environmental responsibility into the fabric of its everyday operations.

Strategic Steps Toward a Sustainable Future

SBI's internal push for sustainability began with a strategic shift in mindset. Recognizing the scale of its operations and their potential environmental footprint, the bank established a dedicated Sustainability Board to ensure that environmental goals are met not only within its main banking branches but also across its subsidiaries and joint ventures.

Backed by a robust Sustainability Policy, SBI has prioritized reducing its carbon footprint, managing water usage more efficiently, handling waste responsibly, and investing in renewable sources of energy. These commitments are not just theoretical—SBI's Carbon Disclosure Project (CDP) scores have shown notable improvement, signaling increased transparency in its climate-related disclosures.

In an effort to lead by example, SBI has also started issuing Green Bonds to raise funds specifically for environment-friendly initiatives. Further aligning with global trends, the bank has pledged to achieve carbon neutrality by 2030, and its membership in the EV-100 initiative reflects its dedication to transitioning to a fleet of 100% electric vehicles within the same timeframe.

Managing Energy Consumption with Care

Like most large organizations, SBI relies heavily on electricity from the grid, which contributes a significant portion of its carbon emissions. To mitigate this, SBI has actively turned to renewable energy. By March 31, 2020, the bank had installed rooftop solar panels across various offices, achieving a total renewable energy capacity of 35 megawatts. Additionally, SBI operates 15 MW of captive wind energy and another 17 MW from rooftop solar installations.

In the financial year 2019-20, the bank's energy expenditure amounted to around ₹1,413 crore, which covered 4.63 million gigajoules (GJ) of electricity and 0.88 million GJ of diesel used in generators. To reduce reliance on diesel, SBI started replacing generators in semi-urban and

rural branches with solar battery backups and introduced E-VERITO electric vehicles at its corporate centres.

Leveraging Digital Innovation for Environmental Good

SBI has recognized the power of digital transformation in conserving natural resources. One of its major accomplishments was setting up a state-of-the-art TIER-3 data center in Hyderabad, a certified green building located in a seismic-safe zone. This center runs efficient IT operations while minimizing its environmental load.

The bank also launched Easy Approve, a cloud-based paperless platform for internal note approvals, eliminating the need for bulky files and significantly reducing paper usage.

Eco-Friendly Banking Channels

To make green banking accessible to the public, SBI introduced several customer-facing initiatives:

- **Green Remit Cards (GRCs)** allowed customers—particularly migrant workers—to remit funds easily. Over 1 lakh transactions took place every day using this platform in FY 2019-20.
- **Green Channel Counters (GCCs)** were set up at all retail branches, enabling transactions like withdrawals, deposits, and fund transfers without paper slips. These counters handled an average of 7.6 lakh transactions per day.
- **Digital e-Corners**, powered by solar energy in many cases, have been rolled out at over 2,200 locations, offering services round-the-clock. Around 2,000 ATMs now run partly on solar energy.
- SBI also stopped printing transaction slips for 43 types of failed transactions, a simple yet impactful move to curb paper waste.

These combined measures, during FY 2019-20 alone, led to savings of approximately 300 tonnes of paper, helping preserve about 7,900 trees, save 26,800 cubic meters of water, and cut down 177 tonnes of waste and 2,700 tonnes of CO₂ emissions.

Green PINs: A Small Change with a Big Impact

In another push toward digitization, SBI replaced the traditional method of PIN generation with Green PINs. This digital system allows customers to generate debit and credit card PINs

through mobile and online banking channels, including ATMs, SMS, and IVR. In FY 2018-19 alone, over 9.4 crore Green PINs were generated, and 6.41 crore followed in the next year.

This digital shift not only improved customer convenience but also saved 307 tonnes of paper, preserved more than 8,000 trees, and led to a reduction in 27,400 cubic meters of water usage, 180 tonnes of waste, and 2,767 tonnes of CO₂ emissions.

II. External Environmental Impact:

The State Bank of India (SBI) has gone far beyond greening its internal operations—it has taken proactive steps to finance and facilitate broader environmental progress across the nation. With a focused commitment to clean energy, sustainable infrastructure, and environmentally responsible financing, SBI's external environmental impact has been both measurable and far-reaching.

Powering India's Clean Energy Ambitions

From 2015 to 2020, SBI significantly boosted its support for renewable energy initiatives in line with the Government of India's sustainability goals. By the end of March 2020, SBI's renewable energy portfolio encompassed 608 projects, collectively contributing 11,488.48 MW to the national grid. The total value of these sanctioned projects stood at a substantial ₹25,914.82 crore—a figure that demonstrates the scale of SBI's commitment to sustainable power generation.

To fund these efforts, SBI strategically accessed multiple international credit lines:

- World Bank Group: SBI utilized USD 422.7 million from this line of credit to support the rollout of grid-connected rooftop solar PV projects across India.
- KfW (German Development Bank): SBI tapped into USD 30 million from KfW's credit line to support further solar energy initiatives.
- European Investment Bank (EIB): By January 2020, SBI had completely drawn funds from EIB's facility to finance three renewable energy projects, which together added 493 MW of clean energy capacity.

These international financing arrangements reflect SBI's crucial role in bridging global capital with local green infrastructure.

Green Bond Initiatives: Structured, Transparent, and Impact-Driven

SBI has also emerged as a front-runner in India's green bond market, with a well-structured Green Bond Framework guiding the entire lifecycle—from fund allocation to project monitoring and impact assessment.

Use of Proceeds

The proceeds from SBI's green bonds have been strictly allocated to eligible green projects, with a strong focus on solar power and sustainable transportation systems. This ensures that every rupee raised directly contributes to reducing environmental impact.

Project Evaluation and Monitoring

A dedicated **Green Bond Committee** evaluates the eligibility of projects and oversees fund utilization. Project tracking is conducted through **SBI's Core Banking Solution (CBS) platform**, which allows for real-time monitoring of loans and bond proceeds across the board.

Measured Impact

The financed projects have delivered tangible environmental benefits. SBI's investment in solar energy infrastructure has directly helped in **reducing greenhouse gas emissions** and expanding India's clean energy capacity. Moreover, the green bond proceeds played a key role in funding the **Hyderabad Metro Rail Project**, which utilizes regenerative braking technology and supports a modal shift from road transport to clean rail transit—a significant step toward sustainable urban mobility.

Global Assurances and Certifications

To establish trust and ensure transparency, SBI's green bonds received third-party validations:

- **Pre-issuance assurance of USD 50 million** and post-issuance assurance of USD 650 million were conducted by KPMG.
- The bonds were certified by the Climate Bonds Initiative, an international standard-setting body focused on climate-aligned investments.

Catalyzing Sustainable Transformation Through Finance

SBI's external environmental impact is rooted in the principle that financial institutions can play a transformative role in shaping a sustainable future. Through its strategic lending to renewable energy projects and its pioneering green bond issuances, SBI has not only supported

India's green energy agenda but also set new benchmarks for environmental accountability in banking.

By leveraging global funding sources, ensuring rigorous project selection and monitoring, and maintaining transparency through third-party validation, SBI continues to prove that banking and sustainability are not just compatible—they're interdependent in driving national and global progress

Comparative Analysis of Green Banking in Bangladesh and India³¹

With the mounting pressures of climate change, environmental degradation, and resource-intensive industrial practices, there is a growing need for financial systems to adopt environmentally responsible frameworks. In response, green banking has emerged as a strategic tool to align economic growth with ecological preservation. Within South Asia, Bangladesh and India have each made distinct contributions to this movement, shaped by their unique policy environments, institutional capacities, and market dynamics. This comparative study delves into their respective approaches to green banking—examining **regulatory structures, implementation strategies, technology integration, challenges**, and alignment with the **Sustainable Development Goals (SDGs), especially SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action)**.

Regulatory and Institutional Frameworks

Bangladesh

Bangladesh was one of the earliest adopters of green banking in South Asia, with the Bangladesh Bank (BB) launching its Green Banking Guidelines in 2011. These guidelines required all financial institutions to incorporate sustainability principles into their core operations. Over the years, Bangladesh Bank has established several key institutional mechanisms:

Green Finance and Climate Risk Fund (CRF): This fund supports eco-friendly projects such as solar power systems, biogas plants, and energy-efficient kilns. Notably, in 2012 alone, over BDT 20 billion was invested in such green initiatives.

³¹ Md. Hasanur Rahman et al., *Green Banking Initiatives and Sustainability: A Comparative Analysis Between Bangladesh and India*, 7 *Res. in Glob.* 100184 (2023), <https://11nq.com/oDrMb>

Green Transformation Fund (GTF): A BDT 50 billion refinance window to support environment-friendly imports and promote green technology among exporters.

Refinance Schemes: BB disbursed BDT 838.4 million through revolving credit mechanisms to support installations like solar-powered irrigation systems and effluent treatment plants (ETPs).

Additionally, banks are now expected to allocate at least 5% of their loan portfolio to green finance, and the regulatory environment is evolving to accommodate green bonds and climate-focused financial instruments.

India

India's regulatory landscape for green banking is more decentralized. While the Reserve Bank of India (RBI) has issued broad advisories encouraging sustainable finance, it has stopped short of mandating compliance. Instead, the green banking momentum is driven by influential institutions such as the State Bank of India (SBI). Key efforts include:

- Major investments in renewable energy projects (solar, wind, hydro).
- Introduction of green loan products and eco-housing finance schemes.
- Launch of green bonds to support environmental infrastructure.
- Embracing green technologies—like solar-powered ATMs, paperless banking, and digital-first customer engagement.

This market-led approach has allowed greater innovation and scalability, especially among large public and private sector banks.

Implementation Strategies

Bangladesh

- Bangladesh has pursued a broad-based implementation strategy, touching multiple sectors:
- Priority funding for solar home systems, biogas digesters, energy-efficient brick kilns, and municipal waste recycling.
- Rapid expansion of digital and paperless banking services, including mobile payments and online banking.

- Pioneering green bond issues—such as BDT 1 billion by Sajid Foundation and BDT 30 billion by Beximco’s Green Sukuk.

Growth in ATM infrastructure (over 13,000 machines as of mid-2022), although the shift to solar-powered ATMs remains slow.

India

SBI has been instrumental in deploying green banking at scale through diverse, impact-driven initiatives:

- Installation of over 1,200 solar-powered ATMs nationwide.
- Financing of more than 750 renewable energy projects.
- Public engagement through initiatives like the Green Marathon to raise environmental awareness.
- Launch of Green Channel Counters (GCCs) to minimize paperwork and energy use.
- Development of innovative green financial products, such as Green Home Loans, and participation in global funds like Neev Fund II.

Green Bonds and Financing Mechanisms

Bangladesh

Although still nascent, Bangladesh’s green bond market is gaining momentum. With support from the International Finance Corporation (IFC), Bangladesh Bank is seeking to unlock USD 172 billion in climate-aligned investments by 2030. Focus sectors include:

- Renewable energy
- Green buildings
- Sustainable waste management

India

India has a more mature green bond ecosystem. For instance, SBI raised USD 800 million in 2019 and USD 100 million in 2020, with a further USD 500 million issuance planned for 2023. The funds support a range of environmental projects, including large-scale solar infrastructure, clean transport, and energy efficiency upgrades.

Alignment with Sustainable Development Goals (SDGs)

SDG 7 – Affordable and Clean Energy³²

Bangladesh: Institutions like SREDA and IDCOL have installed over 5 million solar home systems and implemented mini-grids and biogas plants. Ambitions include achieving 300 MW rooftop solar capacity.

India: Flagship schemes like Saubhagya, PMUY, and SATAT have expanded access to clean electricity and liquefied petroleum gas (LPG). India is also investing heavily in green hydrogen, supported by robust private sector participation in solar power.

SDG 13 – Climate Action³³

Bangladesh: The country has adopted a national climate strategy (BCCSAP) and formed the Climate Change Trust Fund (CCTF). With assistance from the World Bank, Bangladesh has secured over USD 858 million in climate adaptation financing.

India: Green banking efforts, especially through SBI, align with the National Action Plan on Climate Change (NAPCC). Key projects include solar irrigation, electric vehicles, and energy-efficient housing. India's NDCs target 450 GW of renewable capacity by 2030.

Challenges Facing Bangladesh's Green Banking Sector

Despite its progressive regulatory stance, Bangladesh's green banking system grapples with significant hurdles:

- Shortage of trained professionals in sustainable finance.
- Many banks fall short of the 5% green loan mandate.
- Absence of uniform environmental performance benchmarks for project appraisal.
- Delays in accessing international climate finance and concessional funding.
- High risk perception and transaction costs for green projects.
- Limited availability of green financial products in conventional banking portfolios.

Way Forward

³² U.N. Dep't of Econ. & Soc. Affs., *Sustainable Development Goal 7: Ensure Access to Affordable, Reliable, Sustainable and Modern Energy for All*, <https://sdgs.un.org/goals/goal7> (last visited May 30, 2025)

³³ U.N. Dep't of Econ. & Soc. Affs., *Sustainable Development Goal 13: Take Urgent Action to Combat Climate Change and Its Impacts*, <https://sdgs.un.org/goals/goal13> (last visited May 30, 2025).

Bangladesh and India represent two contrasting but complementary approaches to green banking. Bangladesh's top-down, regulator-led model ensures policy coherence and nationwide standards. India's market-driven model, led by institutions like SBI, has fostered innovation, international financing, and rapid deployment.

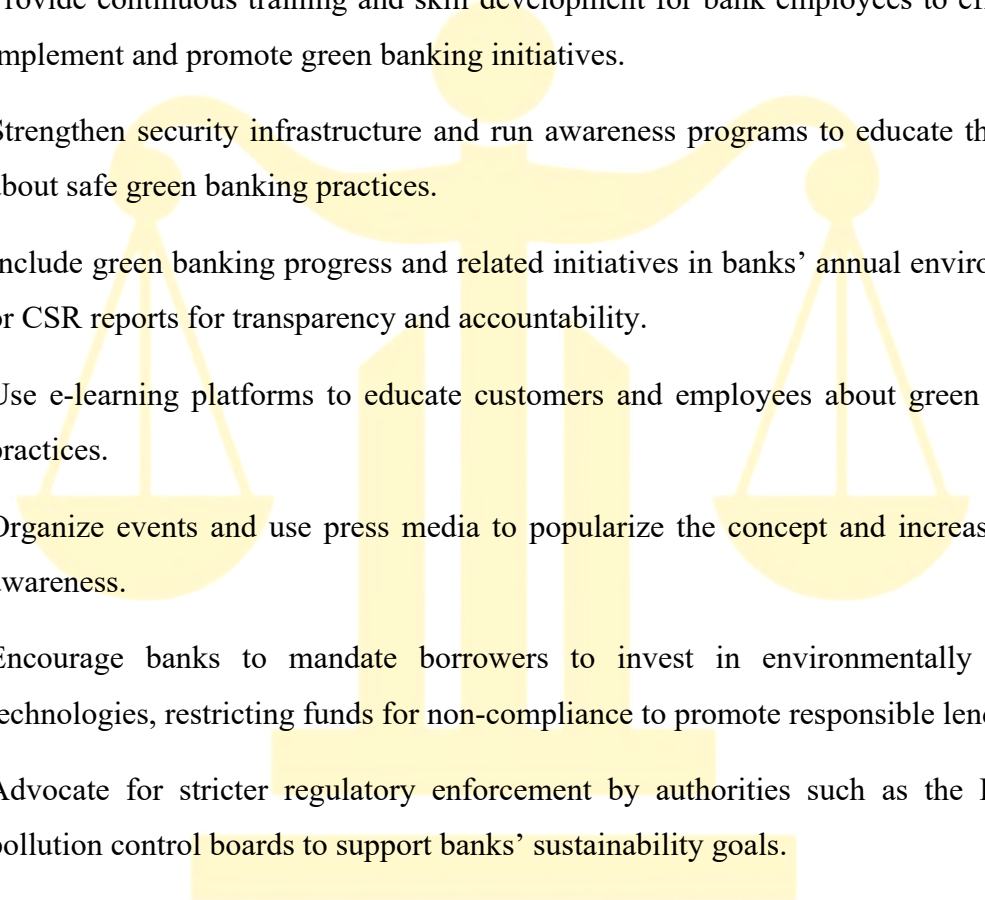
To strengthen their green banking ecosystems, both nations should consider:

- Investing in capacity-building and technical training for bankers and project evaluators.
- Establishing formal channels for regional knowledge exchange and best practice sharing.
- Promoting public awareness and incentivizing green behavior among consumers.
- Diversifying green financial products and implementing risk-sharing tools to de-risk sustainable investments.

By refining their frameworks and leveraging their respective strengths, Bangladesh and India are well-positioned to lead South Asia toward a low-carbon, climate-resilient future and make meaningful contributions to the global sustainability agenda.

Recommendations for Promoting Green Banking Practices

- Organize seminars, workshops, and public meetings to familiarize customers with green banking concepts, benefits, and usage.
- Display motivating messages like “You have saved paper, energy, time, and money” on ATM screens and other digital platforms to encourage green banking adoption.
- Educate users on security concerns related to green banking, emphasizing adherence to bank guidelines to minimize risks.
- Provide customer training programs focused on online and mobile banking to build confidence and promote eco-friendly transactions.
- Raise awareness among business communities about environmental issues and encourage them to adopt sustainable practices through financing and incentives.
- Promote various forms of electronic banking and conduct media campaigns across social media, TV, and print to increase public awareness.
- Enhance bank websites with comprehensive information and resources on green banking for customer education.

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- Increase funding and support for environmentally friendly projects to drive sustainable development.
 - Develop clear policies to integrate sustainability into existing management and operational frameworks within banks.
 - Establish dedicated units or teams within banks to assist customers in performing eco-friendly transactions and guide digital banking usage.
 - Conduct regular customer engagement sessions to gather feedback, assess satisfaction, and initiate reward programs to boost participation in green initiatives.
 - Provide continuous training and skill development for bank employees to effectively implement and promote green banking initiatives.
 - Strengthen security infrastructure and run awareness programs to educate the public about safe green banking practices.
 - Include green banking progress and related initiatives in banks' annual environmental or CSR reports for transparency and accountability.
 - Use e-learning platforms to educate customers and employees about green banking practices.
 - Organize events and use press media to popularize the concept and increase public awareness.
 - Encourage banks to mandate borrowers to invest in environmentally friendly technologies, restricting funds for non-compliance to promote responsible lending.
 - Advocate for stricter regulatory enforcement by authorities such as the RBI and pollution control boards to support banks' sustainability goals.
 - Emphasize reducing the bank's carbon footprint by conserving energy and minimizing paper usage.
 - Offer environmentally conscious rewards or incentives to motivate customer participation in green banking.
 - Promote corporate social responsibility activities focusing on environmental and social sustainability efforts.

- Bridge knowledge gaps by actively educating users on the benefits of green banking and digital tools for sustainable transactions.
- Push for faster adoption of green banking models in India, aligning with global standards and climate-conscious banking practices.

Future of Green Banking

Green banking is expected to evolve into a mainstream practice in the near future, supported by a wide range of eco-friendly products, services, and regulatory frameworks. The emphasis on environmental sustainability will continue to grow, influencing both policy and consumer behaviour in the financial sector.

- **Recognition of Eco-Conscious Institutions:** Regulatory authorities such as the Reserve Bank of India are likely to acknowledge and reward financial institutions that actively promote green loans and sustainable financing. Annual recognition may be used to incentivize environmental responsibility, encouraging other institutions to adopt similar practices to maintain competitiveness and public trust.
- **Green Rating Agencies (GRISIL):** Specialized agencies like the Green Rating and Information Services of India Ltd. may be established to assess and rate the environmental performance of both lenders and borrowers involved in green finance. These ratings would offer transparency and help investors and customers make informed, sustainability-driven choices.
- **Eco-Friendly Investment Funds:** The emergence of green mutual funds will provide climate-conscious investors with opportunities to support environmentally beneficial projects. These funds may also enjoy tax incentives, making them financially attractive while promoting sustainable development.
- **Green Insurance Products:** The Insurance Regulatory and Development Authority (IRDA) is expected to introduce insurance schemes that cover a range of environmental risks. These green insurance products will offer financial protection against ecological damage, pollution-related liabilities, and climate-related events, further embedding sustainability into risk management practices.

Conclusion

In the context of liberalization, privatization, and globalization (LPG), India's banking sector must rise to the challenge of integrating sustainability into its core operations. As financial intermediaries, banks wield significant influence over industrial behavior and investment patterns. By embedding environmental and social considerations into their credit appraisal and risk assessment processes, they can steer industries toward cleaner technologies and more responsible environmental practices.

Despite growing awareness, Indian banks have yet to fully operationalize green banking principles. This inertia could prove costly, both environmentally and economically, undermining India's climate commitments and long-term development goals. The financial sector must, therefore, evolve into a key enabler of sustainable development—actively supporting the country's transition to a low-carbon economy and aligning with global climate targets.

The integration of green banking should not be seen merely as a regulatory obligation, but as a strategic opportunity to build a resilient, inclusive, and future-ready financial system. Delaying such action will only widen the gap between ambition and achievement. The time to institutionalize green banking is now—before environmental costs become financially unmanageable and development goals slip beyond reach.
