

A Study on Green Banking Initiatives in the Public and Private Sectors Banks of India

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Abstract

Environmental damage and concerns have resulted from economic growth. This requires immediate attention to global ecological balance and the development of methods and initiatives to prevent deterioration. Sustainable development is a priority in every industry and helps to preserve the environment. Green movement goes beyond slogans and concepts. Globally, green efforts are operational standards in almost every sector. The country's major financial services sector i.e. banking industry, is consistently ranked among the largest in the world. Although the banking sector may not directly contribute to environmental damage, it does indirectly contribute to environmental issues. In general, banking operations are environmentally benign and do not harm the environment through internal operations that result in pollution or the disposal of hazardous material. However, banks lend loans to industries and other businesses that conduct their operations in a manner that is detrimental to the environment. In light of the green economy initiative, which is a part of the more comprehensive sustainable development strategy, green banking has become a policy. Banks, as corporate citizens, use the phrase "green banking" to refer to the creation of inclusive banking practises that promote sustainable economic development. Green Banking encourages banks to use eco-friendly technology, engage in sustainable projects, and switch customers to electronic channels by promoting awareness. The nature of this investigation is qualitative. This research study is intended to explore the various green banking initiatives that have been implemented by a selected public and private sector banks in India and recommends measures to implement this green initiative more effectively. The research examined secondary sources from various government papers produced by the Government of India and other published reports of public and private sector banks in India.

Keywords: *Green Banking, Sustainable Development, Green initiatives, Environmental Protection*

Introduction

Economic growth had negative consequences on the environment and given emergence to issues including rising greenhouse gases, worsening air quality, strange weather patterns, and higher carbon emissions (Yadav and Pathak 2013). As a result, environmental quality deteriorates. This necessitates an immediate attention on the ecological balance of the world and the adoption of processes and activities

to prevent the situation from deteriorating. Currently, sustainable development is a priority in every industry and contributes to the conservation of the environment. Today's green movement goes beyond slogans and concepts. Green initiatives have grown internationally and become operational guidelines in practically every field. The persistent natural disasters, scarcity of renewable energy sources, ongoing erosion, and contamination of natural resources compelled policymakers to take steps toward a more environmentally responsible future. The similar weaving may be observed in government economic policies that promote green economy (Goyal & Joshi, 2011). A great number of nations are working toward the goal of aligning their economies with a universal framework for sustainable development that is in line with the standards that have been established by the World Wide Fund for Nature, the International Union for the Conservation of Nature and the United Nations Environment Programme.

Financial organisations such as the banking sector, are one of the most influential economic factors impacts on overall industrial activity and economic expansion. (Sahoo & Nayak, 2007). The country's major banking industry, is consistently ranked among the largest in the world. Banks are regarded environmentally friendly as their 'internal' operations have minimal influence on the environment, however their customers' actions have a significant external impact. Consequently, encouraging environmentally friendly initiatives and prudent lending should be one of the financial industry's obligations. (S, 2016). In light of the green economy initiative, which is a part of the more comprehensive sustainable development strategy, green banking has become a policy. Banks, as corporate citizens, use the phrase "green banking" to refer to the creation of inclusive banking practises that promote sustainable economic development. Green Banking is a method for encouraging banks to embrace environmentally friendly activities, such as employing technology that does not affect the environment, investing in projects that promote sustainability, and transferring customers to electronic channels by raising awareness.

According to Indian Banks Association (IBA, 2014), a "Green Bank" is a conventional bank that considers all social and environmental/ecological issues to preserve the environment and protect natural resources. It is not just about saving the environment; in the long run, it will also improve the value of the bank's assets by reducing their environmental impact. The Intergovernmental Panel on Climate Change has estimated that between 1.6 and 3.8 trillion US dollars will need to be invested in energy systems by the year 2018. In order for the European Union to achieve its climate change objectives by the year 2030, it will need to make additional annual investments in energy efficiency and renewable energy sources worth €180 billion. Asia also needed annual expenditures of US\$1.7 trillion in order to have a sustainable infrastructure. Over the coming years, the financial sector will be crucial to achieving sustainable development.

According to the RBI, Green Banking should benefit the environment (IDRBT, 2013). As part of green finance, it is building a substantial offering to shift resource-efficient and low-carbon trade and the general green family. Currently, all banks are working on this, taking into account all social and environmental actions that strive to preserve the environment. To accomplish the intended outcome, green banking necessitates collaboration between banks, the government, non-governmental organisations, institutional financial investors, the central bank, consumer and business communities. The banks' green initiatives encompass internal environmental management, environmental finance, product ecology, environmental disclosure and reporting, principle design and implementation, and stakeholder advocacy.

Review of Literature

Xin Zhang (2022) evaluated the main benefits and challenges of adopting green banking and environmental performance in his study. Convenience sampling of 352 respondents' data was recorded.

Empirical research conducted using a SEM methodology reveals that, green banking operations have a substantial and positive influence on both the environmental performance of a bank and the green funding sources available to the bank. Lack of client awareness, high investment costs, technological challenges, and insufficient staff expertise were the main barriers to the execution of green banking. The study suggests reducing long term costs, facilitating online banking accessibility, reduce carbon emission are the key ways to attain green banking leads for sustainable economic development of the nation.

Murugan,S (2021) through their research, shed light on the fact that the term "green banking" is relatively recent development in the realm of finance. In their function as the organisation responsible for supporting economic and development projects, banks significantly contribute to the process of fostering overall sustainable development. The "green banking" concept refers to the process of adopting banking strategies that are inclusive and will enable the continued growth of a sustainable economy. The banking industry is subject to technical advancements, operational enhancements, and a shift in customer behaviour as a result of these developments.

VijayaKumar et al. (2020) in their research work on "Sustainable Development perspective: A study on Banker perception on Green Banking initiative among banks with special reference to Karnataka" determined that green financial practises would function as a catalyst for banks and other financial firms. According to the findings of the report, financial institutions are required to establish both short and period green objectives, develop green procedures, and put greening practises into practise in an organised method in order to account for the open possibilities, options, and development.

According to **Asian Development Bank, (ADB 2019)** Financial institutions prioritise conventional projects, which use outdated energy technology, such as fossil fuels, because the initial rate of return on renewable technologies may be lower. Therefore, the formation of new policies centred on greening "business as usual" is a crucial step in sustaining the economy's development in a sustainable manner.

Rumila & Guruswamy (2015), in their study opined that, in order to support the greening of the economy and the restoration of the environment, banks must encourage environmentally friendly investments and give preferential credit to businesses who have already made the switch or are making an effort to do so. The study shows that banks' use of retail electronic payment systems to execute green banking initiatives helps reduce carbon footprint.

Bihari & Pandey (2015), analysed the initiatives taken by public and private sector banks in India towards sustainable banking in their study. The research examined the paperless banking practises implemented by banks. It was determined that banks are employing a variety of strategies to improve their image in accordance with the green banking idea.

RBI (IRDBT, 2014) expressed that Green banking aims to minimise or eliminate any negative environmental effects by optimising internal bank processes, physical infrastructure, and IT infrastructure. For Indian banks, they had put in place "Green Coin Ratings," which are green grading criteria. According to this grading system, banks are graded based on their carbon emissions and how much of the resources used to decorate their buildings and the systems they employ, such as personnel, computers, printers, organisations, etc., have been reused, renovated, or renovated. They are also assessed according to the number of green projects they have worked on and the recognitions given to borrowers for making their companies more environmentally friendly.

Dr. K. C. Chakrabarty, the Reserve Bank of India's deputy governor, spoke on April 23, 2013, in Mumbai at a conference for the Yes Bank-GIZ-UNEP Sustainability Series on Environment and Social Risk Management. In which, he emphasised on the notion of green banking and stated that green banking has

evolved as a significant tool for addressing sustainable development challenges and raising public knowledge of environmental responsibility. In order to support the restoration of the environment, green banking mandates that banks promote environmentally friendly investments and provide priority in financing to businesses who have already adopted green practises or are making efforts to do so. Green banking necessitates that banks offer special loan conditions to businesses who have already made the switch to green practises or are making an effort to do so.

Bhardwaj and Malhotra (2013) in their study expressed that, despite the fact that the majority of people do not perceive that, the banking industry is particularly polluting, the size of present banking operations has led to a large increase in the carbon footprint in the sector. This is due to their heavy reliance on energy such as lighting, air conditioning, electronic equipment, massive paper waste, lack of green buildings, and other factors. Thus, it is recommended that financial institutions adopt technology, procedures, and products that will assist them in developing a sustainable business model and result in a large reduction in the carbon footprints left by the financial institutions.

Research Methodology

The nature of this investigation is qualitative. The research is based on an analysis of secondary sources of information. Two phases of research were conducted: The first step consisted of a comprehensive literature analysis on Green Banking and sustainable banking development. The second phase was the acquisition of information regarding Indian banks from secondary sources. Secondary sources comprise articles on green banking and other relevant content published on bank and other websites.

The scope of the study is narrowed down to six financial institutions which includes major public sector banks that is State Bank of India, Bank of Baroda, and Punjab National Bank, and major private sector banks that is Axis bank, Industrial Credit and Investment Corporation Bank of India (ICICI), and Housing Development Finance Corporation Bank (HDFC). Based on their annual net profits and market capitalization rates, these are the top three banks in both the public and private sectors(<https://www.moneycontrol.com/>). The annual reports of the chosen financial institutions, sustainability reports, official websites of the concerned banks, and other sources are sorted through in great detail for the purpose of gathering data of the green banking activities initiated by financial institutions.

Objectives of the Study

The research aims to accomplish the following purposes:

- To comprehend the idea of Green Banking;
- To analyse the various Green Banking Initiatives that have been implemented by a selected Public and Private sector banks in India.

5. International Initiatives in Green Banking

The National Environmental Policy Act (NEPA, 2014) was enacted in the United States of America in 1969. The purpose of this act is to maintain a sustainable balance between man and nature. The "Environmental Protection Agency" was established as an independent organisation in 1970 with the mission of protecting natural resources, human health, and the environment. From that that time, a number of additional organisations have been established with the goal of fostering sustainable growth. These organisations include the International Finance Corporation, the US Green Building Council, and others. The United

Nations Framework Convention on Climate Change was officially ratified in the early years of 1992. Its purpose is to restrict the amount by which the average temperature can rise around the world.

Under UNEP finance initiative more than 200 financial institutions from around the globe have signed a statement endorsing the program's goal of advancing sustainable development. It is significant to highlight that the Dutch-based ABN-AMRO bank has put into place particular Reputational Risk Management procedures in order to recognise, assess, and manage non-financial risks that are present in its business engagements. In 2002, an international alliance of non-governmental organisations established the "Bank Tract" network, with the intention of encouraging sustainable finance in the commercial sector. The Equators Principles, which have been adopted by financial institutions for the purpose of analysing, determining, and managing social and environmental risk in projects, are one of the numerous voluntary guidelines used globally for classifying, assessing, and managing ecological risk in project financing. (Equator Principles Association, 2014). The Sustainable Finance Awards were conceptualised by the Financial Times and the International Finance Corporation, a unit of the World Bank Group. The recipients of these awards are companies that have demonstrated excellence in the areas of social responsibility, environmental stewardship, and responsible corporate governance in their day-to-day business operations.

The Indian Green Banking Council, the Centre for Environmental Research and Education, and the Centre for Environmental Education are the key organisations in India advocating the long-term sustainability of the environment. A number of other programmes, such as the S&P BSE-GREENEX and the RBI's "Green Coin Rating system," are crucial to India's development of sustainable growth. Other prerequisites for green banking include adhering to the ISO 14000 standard, the World Bank E&S Norms, and other laws and regulations.

All international initiatives designed to incorporate environmental concerns into banks' everyday business operations are voluntary and aimed at creating a more thriving ecosystem as a whole. In a competitive marketplace, voluntary commitment has its own flaws. Unless the market for green money expands, lenders will always be incentivized to delay their social and prioritise their commercial interests in the short duration. Therefore, the need for green money is a prerequisite for voluntary green banking. A government law that holds banks liable for the crimes of their customers will assist in the promotion of green banking.

Guidelines of the RBI Concerning Green Banking

The Reserve Bank of India has proposed a rating criterion for environmental banking and other financial practises among India's green banks in its banking regulations. According to the Reserve Bank of India, the purpose of green banking is to reduce the negative effects that traditional banking practises, physical infrastructure, and information technology have on the surrounding environment in order to make them more ecologically friendly.

The Reserve Bank of India (RBI) contends that banks' main objective should be to consider environmental conservation rather than maximising profits. The Reserve Bank of India established the Institute for Development and Research in Banking Technology, which has pushed for the adoption of a uniform rating system for environmentally friendly institutions and banking practises among Indian banks.

Initiatives by Indian Banks to Promote Green Banking

1) Public Sector Banks

7.1.1 State Bank of India –

The State Bank of India's green banking initiatives are characterised by the following:

The State Bank of India (SBI) was the first financial institution in India to construct windmills for the purpose of producing their own captive supply of electricity. A variety of measures have been implemented by the State Bank of India to reduce the quantity of carbon emissions created by the bank. These efforts include the promotion of digital and online banking, the transition to electric vehicles, the installation of solar panels on buildings and ATMs etc.

- Employees are provided with enticing incentives in exchange for their help in promoting solar project finance. As of the 31st of March 2022, the State Bank of India (SBI) had invested over 32,000 crores in a variety of hydro, solar, wind, biomass, and waste-to-energy projects. During the course of the year, the Bank supported projects that added an additional capacity equal to nearly 6,900 MW.
- To encourage operations employees to increase Renewable Energy financing, the Bank runs periodic "Solar Financing Bonanza" campaigns.
- Since the 2018–19 fiscal year, the SBI bank has distributed Green Bonds with a total face value of \$800 million USD.
- Green bonds issued by SBI totalling \$650 million were listed for trading on the INX and the Luxemborg Stock Exchange.
- During the fiscal year 2020-21, the Bank was able to secure a green loan for the amount of €50 million.
- SBI has teamed with several international banks and funding organisations to boost its responsible investment efforts. The Bank uses these institutions' lines of credit to fund environmental and social projects. Existing lines of credit are:
 - *625 million US dollars from the World Bank*- This line of credit, signed in 2016, is intended to increase India's production of clean energy. Installing solar panels on rooftops enables users to meet their energy needs in an environmentally responsible manner.
 - *300 million dollars from the German Development Bank* - This line of credit lets the Bank finance RBI-priority initiatives. Since 2015, this line of credit has allowed SBI to lend to agriculture and allied activities, small companies, small-scale industries, and renewable energy, among others.
 - *USD 214.3 million from European Investment Bank*- SBI received this line of credit from the EIB in 2017 to minimise fossil fuel use. Since then, it has funded major Indian solar energy greenfield projects, promoting the National Solar Mission. The bank also offers "Green Channel Counter" services. Paperless banking began with it. "Green Banking" was promoted as an alternative to pay-in slips for deposit, withdrawal, and remittance.

7.1.2 Bank of Baroda

The Bank of Baroda's green banking initiatives are

- Bank of Baroda has deployed Windows server virtualization, desktop virtualization and improvements to data centre operational efficiency as part of its green initiatives.
- Promoting the use of plastic cards, point-of-sale terminals, mobile passbooks, e-transactions, internet banking, and mobile banking were developed as alternatives to traditional circulation stations in the banking industry as a means of reducing the amount of paper that is required for various processes.

- Other projects include upgrading applications, implementing Automatic Storage Management and Real Application Clusters enhancing bandwidth, providing a backup link, and utilising cutting-edge MPLS technology (Multi-Protocol Label Switching).
- Improvements such as backup integration and database and desktop virtualization were deployed as part of green banking programmes.
- The Ministry of New and Renewable Energy (MNRE) has received a commitment from the Bank that it will provide financing in the amount of Rs. 12,500 crores. Bank has funded 2500 MW of renewable energy projects over a five-year period (2017-2022), including solar, wind, and other renewable energy projects.
- The Bank grants environmentally friendly green projects, such as wind mills and solar power projects, preferential treatment in order to acquire carbon credits.
- In accordance with the National Building Code of 2005, Bank of Baroda loans money to real estate and supports rainwater harvesting, solar energy installation, and LED lighting in place of CFL lighting.
- A Lending Automation Processing System (LAPS) system has been installed by the bank for the evaluation of Retail and SME loans, which will result in a reduction in the amount of paper used.
- The bank built their first environmentally friendly building in Varanasi, and then they moved on to Jaipur for their subsequent construction project. Both of these buildings were constructed in accordance with the criteria of the Indian Green Building Council (IGBC). The installation of the Solar Power Generation System is responsible for the provision of all of the illumination (SPGS).

7.1.3 Punjab National Bank (PNB)

Green Banking Initiatives adopted by Punjab National Bank's includes:

- The bank has begun using energy-efficient technology and has performed an assessment of its office's electricity usage. In contrast, the bank places a significant emphasis on infrastructure development.
- Bank has introduced various Green practises such as digitization, re-use of e-waste, and other similar initiatives in order to conserve resources (electricity, water, paper, etc.).
- The bank encourages digital banking through the use of e-services, including UPI payment (BHIM PNB), use of net banking, Mobile banking, Green Pin, and other similar services.
- The bank has introduced a number of financing schemes in order to promote the Green Economy. Some of these schemes include the PNB Solar Energy Scheme, the Scheme for Financing E-Rickshaws the Scheme for Financing Setting Up of Bio-Gas Units, the Solar Power Project Financing, the Scheme for Financing Green Houses, soil Conservation, Schemes for Installation of solar etc.

II) Private Sector Banks

4 ICICI Bank

Green Banking Initiatives adopted by ICICI Bank's includes:

- With a proper risk-return analysis, ICICI Bank has been supporting the establishment of capacity in environmentally friendly areas such as renewable energy, waste processing, the usage of electric vehicles, and green building construction. The Bank's Corporate Social Responsibility (CSR) efforts also have an emphasis on fostering environmental sustainability.
- ICICI Bank offices have won numerous awards for energy management, including the National Awards for Excellence in Energy Management 2021, the IGBC Green Champion Award 2021, and the UP Energy Awards 2021.

- ICICI Bank's activities for encouraging sustainable designs centre on the creation of green workplaces that are in alignment with the criteria established by the Indian Green Building Council (IGBC). As many as 114 locations, with a combined floor space of 808,000 square feet, have been awarded IGBC accreditation as of the end of the fiscal year 2022.
- Internet banking, mobile banking, tab banking, and interactive voice response banking provide consumers with the ease of banking whenever and wherever they choose. The bank has been able to offer many different services under the same roof. Because of this, the clients' carbon footprints are reduced because they no longer need to travel to their branches to pick up paper statements or visit their branches.
- Sending electronic statements to more than 6.5 million bank accounts and 300 thousand credit card clients allowed the bank to save more than 60 tonnes of paper during the most recent quarter. Additionally, the bank has reduced its overall paper consumption by nearly 200 thousand annual reports.
- As part of the Go Green project of the bank, around 294 of its rural low cost branches have been outfitted with solar panels. As a consequence of this, the bank has been able to create 1440 units of solar energy per branch yearly, which has contributed to a significant reduction in the cost of the energy that the bank consumes.
- It provided funding for a wide variety of environmentally friendly projects all around the country in an effort to restore ecological equilibrium. In addition, the bank provides incentives for its staff members to participate in environmentally friendly activities, which might range from green offerings and green engagement to green communication.

7.1.5 HDFC Bank

Green Banking Initiatives adopted by HDFC Bank's includes the following:

- This was the very first institution in the world to install lithium-ion batteries that are rechargeable batteries in their automated teller machines to ensure an uninterrupted supply of power. In addition to that, they implemented server and desktop virtualization in order to lower the amount of power that was consumed.
- Internet banking, mobile banking, tab banking, and interactive voice response banking provide consumers with the ease of banking whenever and wherever they choose.
- In order to encourage retail consumers to subscribe to paperless transactions, banks prefer electronic media over printed material.
- To lower its environmental imprint, the bank is always implementing new concepts. The bank has installed Energy Management Kits at its branches, which involve the usage of air conditioners that are evaluated by stars for their energy efficiency and their overall performance, the deactivation of branch signage after 11 p.m., etc.
- In addition to partnering with vendors to recycle paper and plastic, the bank employed reusable cups and plates to reduce its waste.
- The emphasis is also on increasing staff knowledge by promoting eco-friendly behaviours, installing motion sensors to turn off lights in unoccupied rooms, etc.

7.1.6 Axis Bank

Green Banking Initiatives adopted by Axis Bank's includes:

- Green Channel Counters, the introduction of a multitude of card-based transactions, encouragement for electronic statement, the installation of solar ATMs, financing for environmentally friendly projects, tree planting, and awareness campaigns about environmental issues are some of the common activities that banks engage in as part of their green practises.

The bank's "green event" campaign resulted in the saving of around 2.1 million square feet of paper in total.

- The financial institution has made an investment in solar energy with the goals of generating sustainable energy and reducing their overall carbon footprint. The following are some of the most important energy management strategies that have been implemented:
- The solar energy systems that Axis bank has installed collectively have a capacity of 3 megawatts (MW). This results in a decrease in emissions of 3,294 metric tonnes of carbon dioxide equivalent and an annualised anticipated output of low carbon energy of 4,136 megawatt hours over the course of the year.
- A smart energy control system that can be operated remotely has now been deployed in more than 500 of our locations. The usage of energy in the office may be centrally monitored and tracked in real time thanks to this solution. As a result, it has the advantage of enhancing energy efficiency in a preventative manner.
- The heating, ventilation, and air conditioning (HVAC) system in Axis House as well as the air handling unit (AHU) in NPC II have both undergone optimization and retrofitting, respectively. This has the potential to save an annualised total of 649 Mwh of energy, which will result in a decrease in the amount of carbon dioxide emissions.
- The Indian Green Construction Council (IGBC) has granted Mumbai's Axis House the Platinum accreditation for "Energy and Operational Efficiency" as part of its green building initiatives. This was done using the Green Existing Building Rating System.
- Bank has made a number of modifications to their infrastructure assets in order to increase their energy efficiency. These modifications include the following:
 - ✚ IGBC certification of both the exteriors and interiors of buildings and branches
 - ✚ The bank completed installation of the energy management system in all 600 locations. The number of energy management system branches is going to be increased to 1,500.

Suggestions

Some of the suggestions for the successful implementation of green banking activities identified from the above analysis includes the following:

1. Increasing the general public's knowledge of green banking through the company's website.
2. The bank ought to establish a specialised green banking department to guarantee the effective implementation of environmentally friendly initiatives.
3. Subscription service for customers that offers environmentally friendly and biodegradable benefits.

4. By increasing funding for projects that are good for the environment and by participating in social responsibility initiatives sponsored by the bank.
5. In order to incorporate concerns regarding sustainability, certain regulations that adapt the existing management processes are required.
6. Create and disseminate information on a website regarding the reduction of the carbon footprint through the use of mass transportation.
7. Inform via the personal intranet as well as the main website of the bank.

Conclusion

Industries and businesses are vulnerable to being the focus of strict state laws, severe legal actions, or consumer boycotts in a market economy that is changing quickly and where the globalisation of markets has resulted in a heightened level of competition. The capacity of banks and other financial organisations to recoup the revenue on their investments would be hampered as a result of this. In order to compel organisations to make the necessary investments in environmental management, the adoption of essential technologies, and management systems, financial institutions should take the initiative to incorporate ecological and environmental issues into their lending policies.

Both the public banking sector and the private banking sector in India are working hard to implement a wide range of environmentally friendly banking practises. The bank's efforts to promote green banking have gradually shifted away from e-banking and toward more effective environment management which includes waste recycling, water treatment facilities, rainwater collection, the use of solar-powered equipment, and the construction of green structures etc. These activities are all part of the bank's ongoing effort to reduce its environmental impact. As a result, banks in both the public and private sectors are abiding by their social obligations by putting in place a range of "Go Green" initiatives in an effort to shift their accounting methods from being primarily based on "monetary economics" to being based on "ecological economics. Therefore, the banking sector in India should quickly switch to a green banking model as a business strategy in order to assure long-term survival.

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