

GREEN LOANS BY BANKS: OPPORTUNITIES AND CHALLENGES

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Abstract:

In India, Green loans, are one of the type of financing that supports environmentally friendly projects. And nowadays it's gained attention among people in recent years. Green loans, also known as sustainable or environmentally friendly loans, are financial products offered by banks that support projects aimed at improving environmental sustainability. They are providing green loans to individuals, businesses, and governments. This research paper explores the concept of green loans, their benefits, and the challenges faced by banks and borrowers in the green loan market. The paper also discusses some of the initiatives taken by India and other countries and potential solutions to address these challenges, such as developing standardized frameworks, providing incentives, and enhancing risk management practices.

Keywords: green loans, sustainable finance, environmental protection, banking, challenges.

1. Introduction:

Green finance is a loan or investment that promotes environmentally-positive activities, such as the purchase of ecologically-friendly goods and services or the construction of green infrastructure. As the hazards connected to ecologically destructive products and services rise, green finance is becoming a mainstream phenomenon. Green finance refers to the financial arrangements that are specific to the utilization for projects that are environmentally sustainable or projects that adopt the aspects of global climate change. It's to extend the level of financial flows from banking, micro-credit, insurance and investment, the public, private and not-for-profit sectors to sustainable development priorities. Green finance provides active agents with the financial tools that they need to generate more activities with positive and long run externalities

Green Finance projects include, but are not limited to, the promotion of renewable energies, energy efficiency, water sanitation, and environmental audits. The reduction of transportation and industrial pollution, climate change, deforestation, carbon footprint. It seeks to achieve a balance between economic returns and environmental benefits by allocating more capital to sustainable measures. The following financial arrangements have been introduced to carry out the vision of green financing: energy production from renewable sources (solar, hydro, wind), cleaner transportation, energy-efficient building, waste management, and so on.

2. Statement of problem:

Green loans are designed to provide funding for projects that contribute to environmental sustainability, including renewable energy, energy efficiency, waste management, and

other green initiatives. However, despite their potential, green loans have not been widely adopted across many sectors, particularly among small and medium-sized enterprises (SMEs), individual borrowers, and even large corporations in some regions. This study is mainly focused these following problems:

- 1) Whether there are any schemes provided by the government relating to green loans?
- 2) Whether the schemes are accessible by all citizens?
- 3) What are the barriers faced by individuals and businesses in accessing green loans from banks?
- 4) Whether green loans are available to people with low credit score?
- 5) Whether the banks offer enough information to help people to understand green loans?

3. Review of literature:

- 1) **Mishra and Singh (2020)** argue that while India has made progress in developing a regulatory framework for green finance, significant gaps remain. These include inconsistent policy implementation across states and sectors, insufficient incentives for private investors, and a lack of standardized definitions and guidelines for green financial products. Furthermore, there is limited coordination between various regulatory bodies, which creates confusion and slows down the development of green finance markets.
- 2) **Bhardwaj and Malik (2022)** assert that Indian banks and financial institutions have been sluggish in embracing green finance methods due to insufficient awareness of environmental concerns and sustainable funding prospects. The authors observe that numerous institutions now lack the technical proficiency to evaluate the environmental ramifications of their investments or to include Environmental, Social, and Governance (ESG) factors into their lending and investment practices.
- 3) **Bhardwaj and Malik (2022)** highlight the growing issuing of green bonds by Indian corporations and public sector organizations, which have facilitated capital acquisition for clean energy and sustainable infrastructure initiatives. The Reserve Bank of India (RBI) has urged financial institutions to incorporate sustainability factors into their lending portfolios, indicating a transition towards more environmentally responsible financing practices (RBI, 2021).
- 4) **D. L. Hess (2020)** discusses the role of green loans in environmental finance in the article titled "The Role of Green Loans in Financing Sustainable Projects". This paper highlights how green loans are designed to fund environmentally beneficial projects such as renewable energy and energy efficiency initiatives.
- 5) **Kolk, A., & van Tulder, R. (2002)** in their article "The Effectiveness of Voluntary Corporate Social Responsibility Initiatives: The Case of Green Loans" explore the link between voluntary CSR strategies and green loan adoption by businesses, showing the economic and environmental motivations behind their use.
- 6) **Koch, H., & Liu, J. (2018)** discuss the barriers and limitations to green loan market expansion in "Barriers to the Growth of Green Loans: Regulatory and Market Challenges". This paper focuses on the difficulty of agreeing on what qualifies as "green" and the resulting regulatory complexities.
- 7) **Mackenzie, L. (2022)** explores the issue of greenwashing in the context of green finance in "The Green Loan Dilemma: Risks of Greenwashing in the Sustainable Finance Industry". The paper examines how companies might misrepresent the sustainability of their projects to benefit from favorable green loan terms.

- 8) **Hargrave, M., Baldwin, R., & Zhang, Y. (2020)** investigate the adoption of green loans in emerging markets in their article “Green Loans in Emerging Economies: Opportunities and Barriers”. This research provides insights into the challenges and opportunities faced by businesses in developing countries when accessing green loans for sustainable projects.

4. **Objective of the study.**

- 1) To identify the loans given for developing eco-friendly environment.
- 2) To evaluate the challenges faced by the people towards green loan given by banks.
- 3) To examine the policies, regulation and initiative taken by the government.
- 4) To give suggestion to the investors, policy makers, financial institution to adopt this technology to promote sustainable environment.

5. **Research Methodology:**

This research is based on doctrinal research methodology involves analysing and interpreting the text which are already in existence. The data collected for this research is mostly on secondary sources and the sources are journals, newspapers, articles, case analysis, etc. This includes both quantitative and qualitative research process.

6. **Significance of the study:**

The followings are some of the importance about this study;

- 1) By this study, it helps to understand financial innovation and its role in addressing environmental challenges.
- 2) By promoting green finance this research contribute to sustainable economic growth and development.
- 3) This research promotes responsible bank practices, encouraging financial institutions to consider the environmental impact.

- 4) It enables the government to create supportive regulations and incentives towards green loans.
- 5) By examining the green loans it promotes transparency and accountability in environmental finance.
- 6) By addressing the existing knowledge gap on green loans, it provides insights into the effectiveness and impact of green financing.

7. **Limitation of the study.**

- 1) There is no universal definition or framework for what qualifies as a “green loan”. Different financial institutions or countries may apply different criteria, making it challenging to compare green loans across different regions or industries.
- 2) Green loans can sometimes involve higher costs in terms of due diligence, verification, and monitoring to ensure the projects are genuinely sustainable. These additional expenses can deter both lenders and borrowers from engaging in green finance.
- 3) The market for green loans is still relatively small compared to traditional loans, which can limit the scale and impact of these financial products in driving large-scale environmental change.
- 4) Green loans often fund projects with long-term environmental impacts, but it can be difficult to track and monitor these outcomes over extended periods. This lack of continuous assessment can weaken the evidence supporting the success of green loans.
- 5) Green loans are often restricted to projects that meet specific environmental criteria, which can limit their application. Some potentially beneficial projects may not qualify if they don't meet the stringent green requirements, thus narrowing the impact.

8. Body of the study:

8.1 Green Finance Products and Services:

The scope of green finance products and services extends too many sectors and products. Three broadly classified areas are

- 1) Infrastructure finance
- 2) Financial markets
- 3) Financial assistance to industry and firms.

1) Infrastructure Finance:

It generally includes project based financing promoting renewable energy projects or energy efficient projects. It provides assistance to multi-family housing owners with construction and mortgage loans that include funding for retrofits and upgrades to improve energy efficiency. The energy efficiency improvement rate varies from country to country, e.g. In New York it is 20%. Many organizations in collaboration with government housing agencies are providing subsidies and offering incentives to support them.

2) Financial Market:

Financial market is also one of the important sources of green financing which promotes institutional investors to invest in environmental friendly projects or related to climate change. The prime focus which draws the attention of Institutional investors is sustainability and long term prospect involved in green finance projects. Institutional investors invest in companies which believe in corporate social responsibility and have the potential for stable, long-term and sustainable growth. Government support for environmental social governance schemes provides credibility to programs, such as the Carbon Disclosure Project and eco-label initiatives, and encourages firms to become more environmentally responsible and thereby benefit from green financing schemes.

3) Financial Assistance for Industry/Firms:

Some green industries need government financial assistance to mature or to become more competitive against well-established "brown" industries. Governments can give financial assistance to encourage businesses to

invest in emerging green industries. They can also develop regulatory policy frameworks to help ease the access to financing from private investors or financial markets.

In India, the banking sector is playing a prominent role in extending credit facility to institutions investing funds in green care projects. Exclusively, banks in India like SIDBI and IDBI are performing a crucial role to make people aware and care about environment. SIDBI has come with both financial as well non-financial measures like lending credit at a concessional rate to MSMEs, organizing various training awareness programs and campaign to make people aware and invest in various eco friendly schemes.

SIDBI in linkage with Japan International cooperation agency extends financial assistance to MSME units to undertake energy saving investments in plant & machinery/ production process to reduce energy consumption, enhance energy efficiency, reduce carbon-dioxide emissions and improve profitability in the long run.. SIDBI has also taken various initiatives to promote energy efficiency and clean production methods like setting up of dedicated Energy Efficiency Cell, launching awareness campaigns in MSME clusters, identifying energy efficient equipments/ technologies for each sector, Etc

8.2 Green Financing Schemes by Indian Banks

A) Union Bank

Union Bank of India, a public sector giant, stands tall with over 100 years of banking legacy. With a sprawling network of branches and ATMs, it serves millions across urban and rural India. Union Bank of India plays a significant role in India's green financing landscape.

Name of the scheme: Union green home loan, Union green vehicle loan.

B) Punjab National Bank

Established in 1894, Punjab National Bank (PNB) is a leading public sector bank in India, boasting the third-largest business volume among its

peers. With over 180 million customers, 12,248 branches, and 13,000+ ATMs spread across the nation, PNB plays a vital role in serving diverse financial needs. Additionally, PNB actively participates in government schemes and initiatives, solidifying its position as a key player in India's financial landscape.

Name of the scheme: PNB Palash green deposit, Roof top solar power system, PNB green car loan.

C) Central Bank of India

Central Bank of India (CBI) is an Indian public sector bank based in Mumbai. It is one of the oldest and largest commercial banks in India, founded in 1911.

Name of the scheme: Cent Go green vehicle scheme, PM Surya Ghar Muft Bijli Yojana.

D) SBI (State Bank of India)

The State Bank of India (SBI) is the premier public sector bank in India, headquartered in Mumbai. It is the largest financial services organization in India, with over 22,000 branches and 567 million customers.

SBI established a comprehensive Green Financing Framework in 2019, outlining its eligibility criteria for financing green projects. SBI has set an ambitious target of achieving a 25% green loan portfolio by 2025. SBI's green loan portfolio has witnessed a remarkable rise from 5.7% in 2019 to 14.3% in 2023, demonstrating a strong commitment towards clean energy projects.

Name of the scheme: PM Surya Ghar- loan solar roof top, green car loan, SBI green rupee term deposit (SGRTD).

E) Canara Bank:

Canara Bank established in the year 1906, known as the 'Cradle of Indian Banking', is one of the largest Public Sector Banks in India having a presence for more than 117 years with a vast banking touch points ranging beyond 30,000.

Canara Bank, in its journey towards sustainability, is adapting to sustainable

practices. Bank has identified ESG as an emerging area of opportunity and to explore the same, has come out with ESG policy – the Sustainability Framework.

Name of the scheme: Canara green deposit, Housing cum solar loan, Canara green wheels.

F) Bank of Baroda:

Bank of Baroda is an Indian Multinational public sector bank headquartered in Vadodara, Gujarat. It is the second largest public sector bank in India after State Bank of India, with 153 million customers, a total business of US\$218 billion, and a global presence of 100 overseas offices.

Name of the scheme: Baroda solar loan, Electric vehicle loan, SME Green finance.

8.3 Initiatives by Government of India:

India has started its emphasis on green finance as soon as 2007 with several financial and fiscal and incentives. The initiative was started by RBI as "Corporate Social Responsibility". Sustainable Development and Nonfinancial for banks Role of Banks" and mentions the importance of global warming and climate change in the context of sustainable development.

The introduction of sustainability disclosure requirements has been a major strategic initiative since 2012. Since 2012, the Securities and Exchange Board of India (SEBI) has made it essential for the top 100 listed businesses on the BSE and NSE based on market capitalization to produce annual corporate responsibility reports, which it has updated from time to time. SEBI established rules for green bond issuance in May 2017, including the disclosure requirements. In addition, the Companies Act of 2013 made mandatory reporting of progress on Corporate Social Responsibilities (CSR) by the Ministry of Corporate Affairs. The Committee on Corporate Governance proposed in its October 2017 Report that the board of directors meet at least once a year to review strategy, budgeting, board evaluation, risk management, ESG, and succession planning.

In 2019, India has announced its most ambitious target to reach 450 GW of renewable energy generation capacity by 2030. In most states, the Government of India (GoI) provides a subsidy of 30% of the cost of installing rooftop solar panels to the institutional, residential, and social sectors

The two phases of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme was launched by Government of India in the year 2015 and 2016 to improve credit flow, lower the up-front purchase price of all vehicles, and develop infrastructure (such as charging stations) to encourage green vehicle production and sales (Jain, 2020). To offset the High initial cost of such vehicles, the State Bank of India has created a 'green car loans' scheme for electric vehicles that offers a 20 basis point cheaper interest rate and a longer repayment window than regular car loans (Jain, 2020). In the field of renewable energy, the government has also implemented a Production Linked Incentive (PLI) Scheme for the manufacture efficiency modules.

8.4 Initiatives by Reserve Bank of India (Rbi)

Green finance activities have also been promoted and supported by the Reserve Bank of India through aggressive policy measures. In 2015, it expanded its Priority Sector Lending (PSL) programme to include the small renewable energy sector.

Firms in the renewable energy sector are eligible for loans of up to 30 crore (up from 15 crore since September 4, 2020), while families are eligible for loans of up to 10 lakh for renewable energy investment. India said in September 2019 that by 2030, it aims to generate 450 GW of renewable energy.

The Reserve Bank of India has mentioned the findings of the G20 Green Finance Study Group (GFSG14) in its Annual Report (2015-16) on the need to develop local green bond markets, facilitate cross border green bond investments, share knowledge on environmental risks, and improve overall green finance activities. The

annual report also discusses the broader concerns surrounding green financing that need to be addressed in the future. These include the definition of green activities, intellectual property rights in development and technology transfer from developed countries, and bank assessments of environmental risk.

In May 2016, the Indian Renewable Energy Development Agency (IREDA), a government-backed organization dedicated to boosting renewable energy investments, revealed ambitions to become India's first green bank. The India Infrastructure Finance Corporation Limited (IIFCL) has also launched a special 'credit enhancement plan' to fund feasible infrastructure projects with bond tenors of more than five years.

8.5 Schemes:

Take a look at a few schemes and programmes launched by the Indian government to encourage the growth in Green Finance and Investment in India:

1. Make in India Scheme

The Make in India initiative that exclusively includes the renewable energy sector for the production of batteries, electric vehicles, charging points, and Green Hydrogen has attracted the majority of investors.

2. Priority Sector Lending (PSL) Guidelines:

Priority Sector Lending (PSL) is an initiative regulated by the Reserve Bank of India (RBI) that mandates banks to allocate a portion of their lending to specific sectors of the economy. These sectors are crucial for inclusive economic growth but often lack adequate credit. Examples include agriculture, MSMEs (Micro, Small, and Medium Enterprises), education, housing, and microfinance. Under the PSL framework, banks are mandated to allocate a portion of their lending to sectors like renewable energy, which includes wind, solar, and hydroelectric power projects. This encourages banks to finance green projects.

3. *Green Energy Corridor (GEC)*

Phase two of GEC covers 10750 circuit kilometres (ckm) of intra-state transmission lines and 27500 MVA substations, spreading across 7 states of Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu, and Uttar Pradesh. MNRE funded the 33% project cost, i.e., INR 3970 crores and recently, Sterlite Power invested INR 2,024 crores in it as well.

4. *National Green Hydrogen Mission*

The Green Hydrogen Mission was launched in 2022 to make India the leading producer and supplier of green hydrogen globally. Over INR 19,000 crores have been allocated for this mission. The primary goals of this mission include developing a production capacity of 5 MMT per annum of green hydrogen that will create over 6 lakh jobs and reduce 50 MMT of greenhouse gas emissions annually. Analysts suggest this could attract an investment of INR 8 trillion by the end of this decade.

5. *The Green Credit Programme (GCP)*

The Green Credit Programme (GCP) is a market-based program that encourages voluntary environmental actions in India. The program aims to reduce waste, improve the environment, and promote sustainable living. It is designed to foster a sustainable lifestyle and environmental conservation as part of the 'LiFE' initiative announced by the Prime Minister in United Nations Climate Change Conference of the Parties (COP26).

8.6 *Low credit score:*

Green loans, which are typically offered to finance environmentally friendly projects (like energy-efficient home improvements or renewable energy installations), can be available to individuals with low credit scores, but it largely depends on the lender and the specific loan program.

If the green loan is secured (e.g., secured against the value of the home), lenders may be more willing to approve people with lower credit scores since there is less risk for the lender. For unsecured green loans, however, the credit

score may be more of a determining factor. Borrowers with low credit scores may face higher interest rates, even if they qualify for a green loan, as they represent a higher risk to the lender.

Overall, while it may be more challenging for people with low credit scores to secure green loans, it's still possible depending on the lender, the type of loan, and the borrower's financial situation.

9. *Challenges:*

1) *Cost of issuing bond:*

Cost of issuing green bonds is consistently higher when compared to other bonds. It was one of the major challenge for the banks to provide green loans. Green bonds are bonds issued by any sovereign organization, inter-governmental groups or alliances, or corporations with the intention of using the bond profits to fund ecologically sustainable projects. Since 2015, India has been issuing green bonds. The outstanding amount of green bonds in India as of February 12, 2020 was US\$16.3 billion. Since January 1, 2018, India has issued green bonds worth approximately \$8 billion, accounting for about 0.7 percent of all bonds issued in the Indian financial market. Despite the fact that green bond issuance in India has accounted for a very modest percentage of total bond issuance since 2018, India has maintained a favourable position in comparison to numerous advanced and emerging economies.

2) *Underdeveloped Market for Green Financial Instruments:*

The market for green financial products, such as green bonds, is still in its nascent stages in India. The limited availability and liquidity of these instruments deter potential investors.

3) *High Initial Costs of Green Projects:*

Many green projects, particularly in renewable energy and sustainable infrastructure, require substantial upfront investment. The high initial costs can be a significant barrier for private sector participation, especially when compared

to traditional projects that may offer quicker returns.

4) Perceived Financial Risks:

Investors often perceive green projects as riskier than conventional projects, primarily due to uncertainties related to regulatory changes, market demand, and technological advancements. This perception further limits the flow of capital toward environmentally sustainable initiatives.

5) Inconsistent Policy Framework:

The absence of a cohesive and unified policy framework for green finance leads to fragmentation in implementation. While initiatives like the green bond framework and the National Clean Energy Fund exist, they often lack integration across sectors and states, causing confusion among stakeholders.

6) Lack of Standardization:

A globally agreed definition of “green” finance is lacking, leading to varied interpretations among financial institutions and investors. The absence of uniformity hinders project evaluation and results in disparate levels of risk perception.

7) Limited Regulatory Support:

Regulatory bodies like the Reserve Bank of India (RBI) have yet to fully integrate sustainability guidelines into their financial regulations. This limits the ability of banks to prioritize green investments and assess environmental risks effectively.

8) Low Awareness Among Stakeholders:

There is a general lack of awareness about green finance principles and practices among stakeholders, including financial institutions, investors, and project developers. This lack of knowledge can result in hesitance to engage in green finance initiatives.

10. Suggestion:

There are some ideas to regulate the green finance in India;

1.The Indian government has implemented multiple programs to advance green financing, such as the National Action Plan

on Climate Change (NAPCC) and other state-level legislation. Enhancing and refining these frameworks might improve clarity and diminish regulatory ambiguities for investors and financial institutions.

2.Offering financial incentives, such tax reductions, subsidies, and grants for environmentally friendly initiatives, can encourage investments in renewable energy and sustainable infrastructure. Tax exemptions on interest accrued from green bonds can entice additional investors.

3.The government can promote public-private partnerships to utilize private sector expertise and funding for environmentally sustainable initiatives. Partnerships in areas like renewable energy, waste management, and sustainable agriculture can improve project feasibility and effectiveness.

4.Financial institutions can innovate by creating customized green financial products, including green bonds, sustainability-linked loans, and green investment funds. These tools facilitate the allocation of finance to environmentally sustainable initiatives, addressing the increasing demand from socially responsible investors.

5.Corporations are increasingly recognizing the importance of sustainability as part of their CSR initiatives. By aligning their business models with green finance principles, companies can invest in sustainable projects and technologies, thus contributing to the overall growth of green finance.

11. Conclusion:

Green finance is fast emerging as a priority for public policy. In this study we review the developments of green finance in India and our findings indicate that there have been some improvements in public awareness and financing options in India in recent years. Existing literature suggests that a reduction in the asymmetric information regarding Green Projects through better information management systems and increased

coordination among stakeholders could pave the way towards sustainable long term economic growth. Green finance is definitely an important mean that can facilitate such a shift towards sustainable economic growth.

Considering the alarming increase in pollution level in India, it becomes imperative to tap the untapped potential of green Finance to finance green projects or investments. There is a need for blended finance which can reduce the overall cost of capital of private capital investors. The government of India should frame a clear green investment strategy focusing on long term, economy wide view. The regulatory policy should be transparent and more conducive so that it can create trust and confidence amongst investors. India should focus not only on domestic investors but also on foreign investors.

This study underscores the significant obstacles and potential linked to the implementation of green financing in India, a country contending with the dual necessity of economic growth and environmental sustainability. Although green finance holds significant potential to attract money for sustainable initiatives, certain obstacles impede its efficient execution, such as regulatory inconsistencies, insufficient institutional capacity, and inadequate market infrastructure. The findings indicate substantial prospects for the expansion of green finance via improved government initiatives, innovative financial mechanisms, and heightened private sector involvement. A coordinated effort from all stakeholders is crucial to address these difficulties and seize the opportunities. Policymakers must provide a unified regulatory framework and offer financial incentives, while financial institutions should formulate standardized green products and include ESG factors into their decision-making processes. Investors are essential by selecting sustainable investments and actively engaging with firms to foster environmental accountability. By overcoming current obstacles and utilizing existing opportunities, India can facilitate a more sustainable future, exemplifying the

compatibility of economic growth and environmental responsibility.

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