Research Paper E-ISSN NO : 2455-295X | VOLUME : 9 | ISSUE : 3 | SPECIAL ISSUE MARCH-2023

GREEN BONDS IN INDIA: PROGRESS AND CHALLENGES

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ABSTRACT:

Sustainability is an emerging trend and a crucial corporate goal that fuels green business innovation in the current environment. The businesses focus on implementing a green corporate strategy to address environmental challenges. Green bonds are a new and emerging sector of finance that fits nicely under the category of green finance. Green finance is an innovative, cutting-edge financial strategy that financial institutions have embraced that combines environmental conservation and prosperity. Bonds that have been issued by governments, corporations, and other organizations to use the bond proceeds for environmentally friendly initiatives are known as "green bonds." The study examined the progress achieved by the Indian green bond market from the financial year 2017 to 2021 and explored the challenges hampering the growth of the green bond market in India. The study design used is descriptive, and the data is collected through secondary sources: journals, websites, reports, and other published sources. The study concludes that there is no continuous growth in the Indian Green bond market; there are fluctuations. Energy-related projects receive the majority of the proceeds from green bonds. Government-backed entities are not showing much interest in this area. There are many other challenges for the Indian green bond market, like high issue costs, lack of infrastructure, small market size, lack of investor and issuer awareness, and green-washing practices. Therefore, the government and all statutory bodies must encourage efforts to address these issues.

KEYWORDS:

GREEN BONDS, GREEN BOND MARKET, SUSTAINABILITY, ENERGY PROJECTS, GREEN FINANCE, GREEN BOND PRINCIPLES.

1. INTRODUCTION

Among the biggest problems facing humanity today are climate change and environmental degradation. A significant step in combating climate change was taken with the adoption of the Paris Agreement on Climate Change by 196 nations (Bansal et al., 2022). As per this Agreement, India has agreed to increase investment in low-carbon industries and reduce greenhouse gas emissions by 33% to 35% by 2030 from 2005. According to Bansal et al., (2022),"Low-carbon, green economic growth is essential for India to meet its financial and emissions targets. Green economic growth is required to simultaneously increase human welfare and prevent the harmful effects of climate change and environmental degradation." However, a significant barrier is the start-up expenditures of green projects.

The fixed-income financial instruments known as "green bonds" are associated with advocating and implementing climate change and environmental solutions. With the help of this instrument, the green bond issuer can raise money to fund environmentally friendly projects, and the investors can earn a fixed income in the form of interest. The principal is reimbursed when the bond reaches maturity. Green bonds provide income to pay for the green work upfront, like company bonds. They are a subset of corporate bonds. Green bonds have been an increasingly vital tool to raise climate finance since their inaugural issuance in 2007 by two multilateral development banks—the World Bank and European Investment Bank—with total issuances estimated to be over $180 billion globally by the end of 2016. (Mathur, Sharma, Wali, & Priyanka, 2020)

India entered the green bond market in 2015 when the YES Bank released the nation's first green bond to fund sustainable energy projects, notably thoseinvolving wind and solar energy (Agarwal et al., 2018). The market for green bonds has gradually grown to include several public sector organizations, state-owned corporate banks, state-owned financial institutions, corporations, and the banking industry. Regarding the overall amount of green bonds issued in 2021, India has risen to the sixth-largest position in the Asia-Pacific region. India's issuance of green bonds increased by 523% from the previous year to $6.8 billion during the years (Sihag, 2022). Indian organizations have issued green bonds worth more than $18 billion, according to Climate Bonds Initiative, a global organization aiming to mobilize funds for climate action. Bonds with a green premium offer a yield discount of 10–20 basis points, making them appealing. A voluntary capital market project called "green bonds" aims to direct funding to combat the future issue of climate change.

Green bonds have much-unrealized potential in industries

other than renewable energy. Public interventions are required to make the more unusual investment areas, such as water, agriculture, forestry and marine conservation, waste, and land, appealing and financially viable for private investments. The financial industry is playing a crucial role in advancing novel models globally and driving the green bond market, including the public sector and development banks (Mathur, Sharma, Wali, &Priyanka, 2020).

The present study focuses on the overall achievement made by the Indian green bond market from 2017 to 2021 in different types of entities. The Indian green bond market is dealing with a slew of issues. This paper also focuses on the issues.

1.1 TYPES OF GREEN BONDS IN INDIA

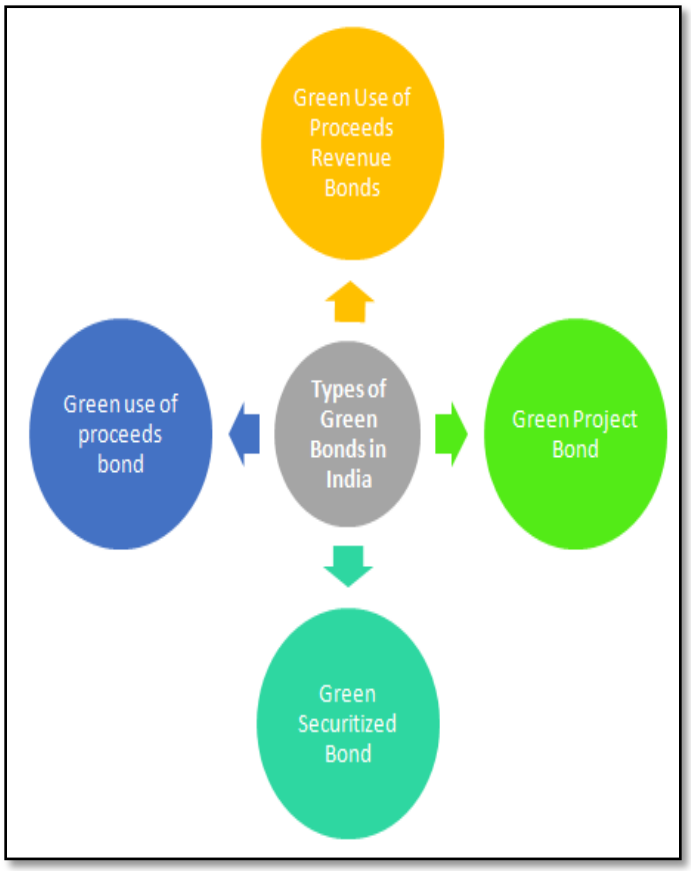

FIGURE I: TYPES OF GREEN BONDS IN INDIA

Source: (Climate bond Initiative, 2022)

The types of green bonds are as follows (Climate bond Initiative, 2022):

a. **Green use of proceeds bond**- According to the Climate Bond Initiative 2022 report, "It is a typical recourse debt obligation, with the proceeds going to the account to be put to use on the project. The issuer must tell the investor the appropriate use of any pending investor proceeds if there are any".

b. **Green Use of Proceeds Revenue Bonds**- The proceeds from this non-recourse debt obligation bond may be used for associated or independent green projects. Once more, the project account will be credited with the earnings. The issuer must also disclose how it plans to use any remaining funds from the designated sum.

c. **Green Project Bond** – Regardless of related debt obligations, the earnings will be used for many green initiatives, putting the investment at risk.

d. **Green Securitized Bond**- In this type of bond, one or more projects serve as collateral, while the income earned from these projects is used to repay the debt.

1.2 GREEN BONDS PRINCIPLES

The Green Bond Principles (GBP) promote integrity in the growth of the Green Bond market by outlining the process of issuing a Green Bond and recommending transparency and disclosure (ICMA, 2022).

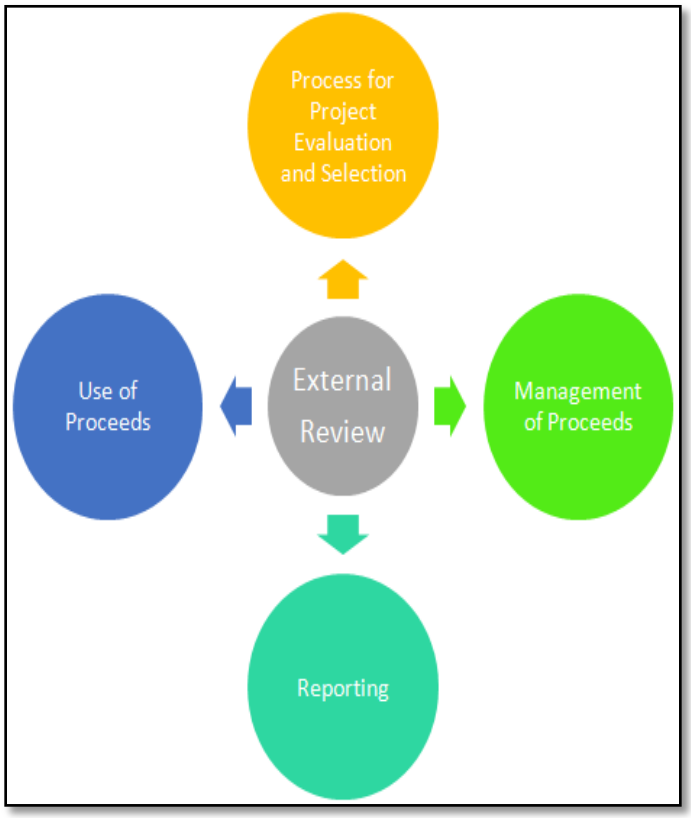

FIGURE II: GREEN BONDS PRINCIPLES

Source: (International Capital Market Association, 2022)

The green bond principles are as follows (International Capital Market Association, 2022):

a. Use of Proceeds: This details the projects to be funded with the yield from the green bond fund and indicates how those funds will be used.

b. Process of project evaluation and selection: This involves evaluating the project from the standpoint of its influence on society and environmentally friendly goals.

c. Management of Proceeds: In this step, the project's funds are sent to the reserve set aside for that project so that the money used can be tracked. If the funds are not

entirely utilized, they should be placed on a temporary usage of unutilized funds.

d. Reporting: At last, reporting is the procedure where the issuer must provide all pertinent information about the project, including the status of the project, usage of unused money, allocation of cash, and information that investors may need. Therefore, complete information disclosure should be made available through yearly reports.

e. External Review: External Review is a fifth element incorporated into the abovementioned four elements. The auditor, independent of the organization, conducts a thorough evaluation as part of the external review process. The project's working and supporting documentation are fully verified by the external auditor, who also issues a certificate to the issuer.

2. LITERATURE REVIEW

Bansal et al. (2022) examined the factors that act as hurdles in the Indian green bond market growth. Apart from that, he provided some suggestions for removing such hurdles. He used the best-worst method (BMW) to classify the hurdles and the plans that were based on the preferences given by different managers. According to the findings, the most significant obstacles facing the Indian green bond market are a lack of legislative backing and a defined risk assessment system, followed by a lack of interest in investors in green bonds and market expertise. Standardization stood out among the tactics as the best for promoting green bonds in developing nations.

In their paper, Kumar et al. (2022) examine the potential and difficulties associated with the various green finance efforts adopted by Indian financial organizations. The paper also emphasizes India's advancements and prospects for green financing.

Prakash et al. (2021) studied the financing gap for "green" projects in India connected to SDG goals relating to the environment examined in the article. It advances the case for using green bonds to close the gap. After demonstrating how green bonds might be used to raise funds for India's SDG targets connected to the earth, we examine the present political climate and offer suggestions for effective implementation.

Verma et al. (2020) discussed the state of Green Bonds in India. The study also emphasized the potential of green bonds in the future. At last, it included suggestions applicable to the Indian perspective, like encouragement by the government for the private sector, tax benefits to the investors, and credit rating of green bonds.

Zala et al. (2020) concentrated on how announcements made from 2015 to 2019 may affect green bonds issued by both Indian public and non-public firms.

Based on certification, the study divided the green bonds into categories. The results revealed that the event window had positive abnormal yields for 80 percent on average of the collection of green-certified bonds. The study showed that the financial market responded favourably towards announcements of certified green bonds and negatively to those of a select few non-certified issuers.

Rachello(2019) examined the qualities, purpose, and reach of green bonds and offered a market analysis, paying particular attention to the market's stage of development in a few selected developing market economies.

In their study, Jha B. et al. (2019) focused on investigating the numerous green finance actions made by Indian banks and organizations from the public and private sectors. The paper outlines the many issues that India has when it comes to green funding and suggests solutions.

Mihálovits et al. (2018) explained the success of green bonds in India and their contrast with traditional bonds. The study showed that many variables, including price, risk, underwriters, and influence green bonds' success. It also discusses how certifications, stock exchanges, and standards can improve the issuance process. The study concludes that India has enormous opportunities for expansion in this slowly developing sector.

Agarwal et al. (2018) aimed to comprehend India's expanding "green" bond market. It detailed specific prospects for supporting the growth and diversification of Indian green bonds based on outstanding global achievements and industry standards. It also provided a summary of the changes in this category, which are driven by regulations and the market.

Panda (2017), with the aid of recent statistics, seeks to describe the origins of Green Bonds, their origination, and their current trajectory. A particular type of investor is drawn to green bonds, which benefit issuers and the economy. 2008 saw the World Bank offer this novel financial product in response to investor demand. This instrument is currently becoming more and more well-known all over the world. Numerous institutions are producing this instrument after the World Bank.

3. RESEARCH OBJECTIVES

The aim of an objective in research helps describe the goal of the area under consideration. India's first time, green bonds were issued in 2015 by the Yes Bank with INR 1000cr (Verma et al., 2018), so one of the objectives is to assess the growth of Indian green bonds from 2017 to 2021. The final objective is to demonstrate the challenges in the Indian green bond market. Consequently, this study's two main goals are as follows:

- To access the growth of Indian green bonds from 2017 to 2021.
- To examine the challenges in the Indian green bond market.

4. RESEARCH METHODOLOGY

Due to the shortage of time and money, all the data is collected through secondary sources like websites, journals, and various other published sources.The study is entirely descriptive.

5. DISCUSSION

VALUE OF GREEN BONDS IN INDIA FROM THE FINANCIAL YEAR 2017 TO 2021 BY ISSUER TYPE

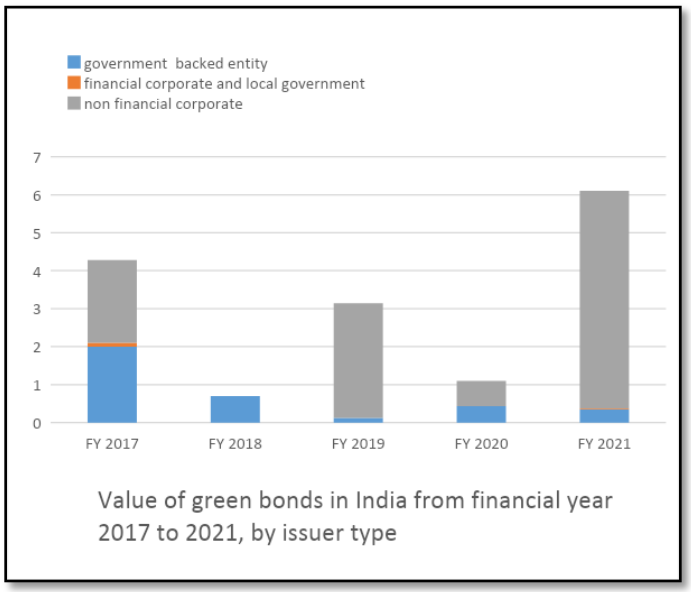

FIGURE III: VALUE OF GREEN BONDS IN INDIA FROM THE FINANCIAL YEAR 2017 TO 2021 BY ISSUER TYPE

Source: www.statista.com (as on August 30, 2022)

Figure III shows that there has been tremendous growth in the issuance of green bonds in India from the financial year 2017 to the financial year 2021.There was a decline in the issue of green bonds in the 2018 financial year by all the issuers. In the fiscal year 2017, the amount was 2 US billion dollars, but it stood at 0.7 US billion in 2018. The corporate financial sector saw a considerable decline in the issue of green bonds in 2018.

In the financial year 2019, there was a considerable increase in the amount issued by the non-financial corporate sector. There was no growth on the part of government-backed entities, financial corporations, or local governments.

In the financial year 2020, again, there was a decline in the issue from the non-financial corporate sector. It stood at 0.67 billion US dollars, down from 3.02 billion dollars that year, and there was growth in the amount issued by government-backed entities. It was 0.12 billion dollars in FY 2019, but it became 0.43 billion in FY 2020. The value of green bonds in the financial, corporate, and local government sectors was zero.

In the financial year 2021, there was an immense growth in the issue of non-financial corporate sector green bonds from 0.67 US billion to 5.73 US billion. However, there was a decline in government-backed entities from 0.43 US billion to 0.35 US billion. In the financial, corporate, and local government sectors, there was an increment of only 0.02 US billion dollars.

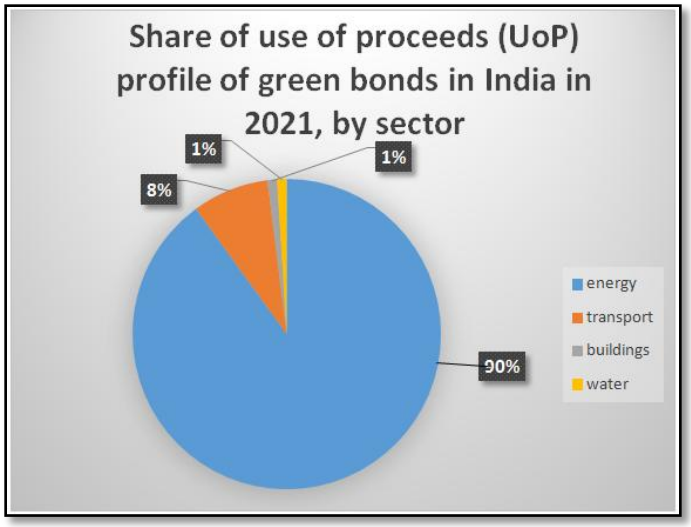

FIGURE IV: SHARE OF USE OF PROCEEDS (UOP) PROFILE OF GREEN BONDS IN INDIA IN 2021 BY SECTOR

Source: www.statista.com (as on August 30, 2022)

The figure mentions that 90% of proceeds from green bonds are used for the energy sector, 8% for the transport sector, 1% for the water sector, and 1 % for buildings. From the above figure, it is clear that the proceeds from green bonds are mainly used for energy projects, but there is a need to promote the use of proceeds for other sectors like energy, transport, building, and water.

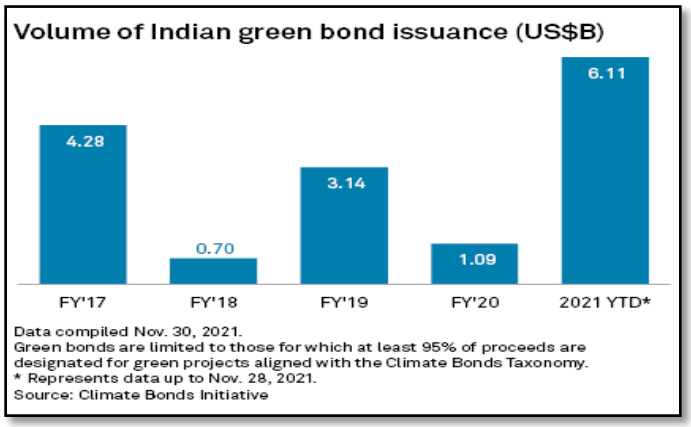

FIGURE V: VOLUME OF INDIAN GREEN BOND ISSUANCE IN US$B

Source: www.climatebonds.net (as of 2022)

From the above figure, it is clear that the volume of green bond issuance in India hasdecreased from 4.28 US billion dollars to 0.70 US billion dollars in the financial year 2018.However, in the financial year 2019, there was a good increase in the issuance of green bondsfrom 0.70 US billion dollars to 3.14 US billion dollars. Again in the financial year 2020, thereis a decline from 3.14 US billion dollars to 1.09 US billion dollars. And in the year 2021there was a significant increase in the issue from 1.09 US billion to 6.11 US billion dollars. Sowe can say that there are substantial fluctuations in green bond issuance from the year 2017 to2021.

6. CHALLENGES

a. Issuing costs: In India, the cost of green bond issuance has consistently stayed moreexpensive than other bonds. Compared to corporate and governmentbonds with comparable maturities, the average coupon rate for green bondsappears to be higher. Similar patterns are seen in green bonds issued in Indian Rupees.It is to be stated that the bulk of green bonds in India are issued by corporations orpublic sector organizations in excellent financial standing.

b. Market Infrastructure Development: There are still many untappedprospects because the domestic market is so enormous, and green instrumentshave only recently begun to penetrate it. Some studies in this contexthighlighted the importance of (a) more robust investment and environmentalpolicy synchronization and (b) suitable legislation to overcome the existingtensions. Consequently, various legislative plans, such as enlarging the corporate bond market, normalizing the terminology that defines green financing, and ensuring continuity in corporate reporting, can undoubtedly assist in tackling a few shortcomings in the green bond market.

c. Market size small: Small bond sizes result in liquidity problems because of themarket's small size. Lack of standards and judicial regulations increase therisk to one's reputation and the difficulty of keeping one's environmental integrity.

d. Regulatory mechanisms: The demand for green bonds is being impacted by the unreliable and inadequate regulatory framework, which also affects investments in the renewable energy sector.

e. Lack of knowledge: Another obstacle that exists in the Indian green bond marketis a lack of knowledge among investors about new types of green bonds andissuers also lack the ability the issuance of green bonds and the usage of itsproceeds.

f. Preference only to the energy sector: Looking at figure IV, we can observe that the yield from green bonds mainly contributes to the energy sector only. Other sectors must also be taken care of, such as transportation,water preservation, and waste management.

g. Green Wash Activities: Green Washing practices are one of the most significant issues with green bonds. It involves providing positive information about anorganization's environmental and social initiatives while suppressing themisinformation to create a good impression.

CONCLUSION

At last, we can conclude that that green future has not been given much attention earlier. As a result, financial players have a great chance to intensify their efforts to pursuesustainable objectives. Additionally, for those developing green projects, greenbonds are a vital source of long-term, practical cost of funding.There has been considerablegrowth in green bond issuance since its inception in India. In some years, good development is traced, but in some years, there is a decline in its issuance. There is a need for the government sector to step forward because there is not much interest from the government sector in this area. The majority of the money is allocated to energy-related initiatives. Thus organizations involved in waste management, biodiversity protection, and water management must be supported. There are specific difficulties, including expensive issues, poor infrastructure, and a small market. Additionally, the market is dealing with issues including lack of knowledge among investors and issuers, and green-washing efforts. The government and all statutory agencies must provide significant support to address these issues.

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