International Journal of Research Publication and Reviews, Vol 4, no 9, pp 2904-2910 September 2023

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

A Perceptive Paper on Green Bonds as a Sustainability Financial Tool

[1]Dr Sushma Sreedaran, [2]Dr. M. Chaarumala

[1]Asst Professor, Amity Global Business School, Chennai – 86, sushmasreedaran@gmail.com, #9962859532.
[2]Asst. Prof., Sridevi Arts & Science College, Ponneri- 601204, chaarumala@gmail.com , #9940679234.

ABSTRACT:

Although the green bond market is expanding rapidly, a summary overview of this market literature is lacking. A systematic review of the literature is employed to address the gap through perspective analysis and provides a state-of-the-art overview of the current trends, status, and future development of green bonds. Sustainable development, sustainability, green bonds, sustainable finance, green finance, and sustainable investment are other major themes revealed in the study. The findings of the study suggest curating future research with a main focus on multiple types of green bonds, the impact of various green projects, attention from various market participants, and incorporating advanced technology for the development of the green bond market. In order to promote sustainability, policymakers, regulators, and academics will benefit from this study.

Key Words: Green Bonds, Sustainable Debt, Green Finance.

Introduction:

Like any other corporate or governmental bond, green bonds function in the same way these securities are being issued by borrowers to raise money for initiatives that will benefit the environment, like cleaning up the environment or restoring ecosystems. As the bonds mature, investors who buy them can anticipate a profit. Additionally, purchasing green bonds frequently has tax advantages. Studies on the current state, overall trajectory, and potential of the GB market are few and few between in the literature. According to Zhang et al. (2019), the main problems of concern are those related to green finance and its many components. To that purpose, additional research is required on GB as a component of the green finance sector (Bhatnagar & Sharma, 2022).

In addition, the study by Kumar et al. (2022) that suggested improving the correct understanding of

sustainable finance instruments served as the inspiration for this one. By examining the full range of articles on the Green Bond markets, the study seeks to close this gap. Additionally, because this is a highly relevant topic, this study uses an objective analysis from a variety of perspectives as well as a comprehensive examination of the literature preferred approach for reviewing various study aspects (Paul et al., 2021).

The project seeks to provide insights into the following broadly framed research questions: What is the most recent trend in green bond issuance? What are the main management strategies for green bonds at the moment? What is the Green Bond's future as a Sustainable Financial Tool?

The review's conclusions will serve as a guidance for stakeholders in a number of ways. First, prospective and current researchers can see the pattern that motivates them to express interest in this field. The potential researchers can recognize crucial elements in the literature that contribute to the creation of new knowledge. Additionally, these results encourage a variety of potential researchers to look into this topic further in order to establish it as a fresh, lucrative market for all parties involved. Debt instruments called "green bonds" are used to fund ecologically friendly projects. Incentives for investing in sustainable projects may be offered by green bonds that are not available with other, comparable forms of bonds. Investors looking for investments that support their environmental principles should make sure to check the sustainability claims made by bond issuers.

Green bonds Issuance in India

Top Green Bond Issuances in India as on 25 Jan 2023

Issuer	**Amount**	**Issued Date**	**Tenure**	**Sector Exposure**	**Credit Rating**
NTPC	Rs. 20bn	Aug-16	5 years	Energy	BBB (Fitch)
IREDA	Rs. 19.5bn	Sep-17	5 years	Energy	GB1 – green bond rating; Baa3 – issuer rating (Moody's)
Yes Bank	Rs. 10bn	Feb-15	10 years	Energy	AA+ (CARE and ICRA)

IREDA	Rs. 7bn	Mar-17	10 years	Energy	AA+ (ICRA)
CLP Wind Farms	Rs. 6bn	Sep-15	3, 4 and 5 years	Energy	AA (India Rating and Research)
PNB Housing Finance	Rs. 5bn	Apr-16	NA	Buildings	NA
Hero Future Energies	Rs. 3bn	Feb-16	3 and 6 years	Energy	NA; CBI Certified
ReNew Power	Rs. 5bn	Aug-16	NA	Energy	A+ (CARE)

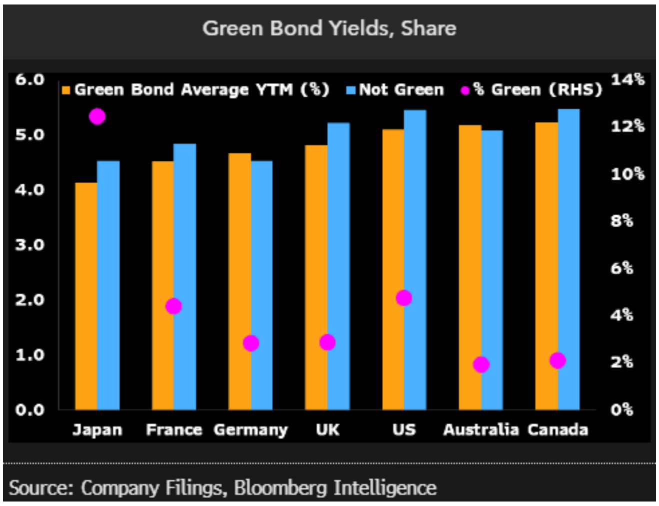
Literature Review

Over the past ten years, the Green Bond market has not only been prosperous but has also served as the "public face" of climate finance. In contrast to a conventional blond market, it provides specific financing funding for climate-friendly projects and assets to give investors financial profits while assisting the shift to a low-carbon economy. Additionally, green bonds offer risk- Adjusted financial returns comparable to those of standard or vanilla bonds are the primary draw for a variety of investors, including specialized green and socially conscious investors, as well as other market participants, including governments, regulators, public and private issuers, environmental non-governmental organizations, and even rating agencies[2]. Its popularity is demonstrated by the exponential growth rate, which exceeded $200 annually billion in 2019 alone [24] and is twice as much as what wealthy nations pledge annually through official development assistance (ODA). One of the most cutting-edge platforms for climate finance now addressing both financial opportunities and climate threats is the global market for green bonds. However, because the industry hasn't been standardized, numerous stakeholders continue to be concerned about green washing. India has made a commitment to cut its GDP's emissions intensity by 45 percent from 2005 levels by 2030 and to generate nearly half of all installed electric power capacity from non-fossil fuel sources by that year. The goal is to increase the ability of the most vulnerable populations and ecosystems to adapt, with an emphasis on agriculture, water, forestry, and the coastal and Himalayan ecosystems are all climate-sensitive industries.

Green Bond Market in India

The Green Bond Market in 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 those involving wind and solar energy. The market for green bonds has gradually grown to include a number of public sector organizations, state-owned corporate banks, state-owned financial institutions, corporations, and the banking industry. In its 2017 Brown to Green Report, Climate Transparency compared the issuance of green bonds across the G20 nations as a percentage of each nation's total debt market. India is ranked fifth among the G20 nations in their estimation this emphasis the scope's present and future dimensions.

Policies and Regulations to Accelerate the Green Bond Market



To develop up the green bond market in India, government support in the form of regulations and policies is essential. In accordance with promises set forth in the Paris Agreement, which establishes a clear policy direction towards the green market, the Government of India has over time increased policy visibility and regulatory clarity. Additionally, special legislative and regulatory actions have been taken to boost the market for green bonds to India. Following is a list of some of them: The domestic green bond guidelines were released by the Indian regulator SEBI.4 India became the second nation (after China) to offer national-level rules when the Securities and Exchange Board of India announced its official green bond standards for Indian issuers in January 2016. As per

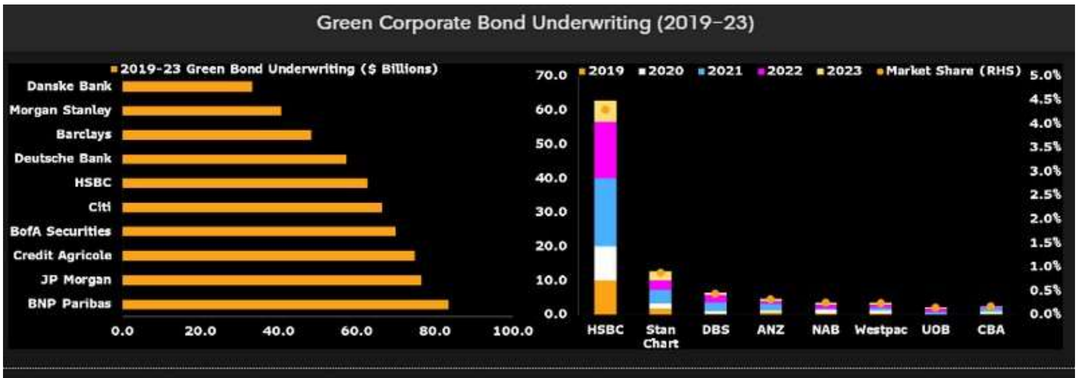
A debt security will be deemed "green" or "green debt securities," according to the regulations of the Securities and Exchange Board of India (SEBI), if the funds raised through the issuance of the debt securities are to be used for project(s) and/or asset(s) falling under any of the following general categories: 1. Renewable and sustainable energy, such as wind, solar, bioenergy, and other clean technology-based energy sources.2. Clean transportation, such as mass transit and public transportation.3. Sustainable water management practices, such as recycling water and/or providing clean water for drinking. There are various definition and index types that can be used: 4. Coping with climate change. 5. Energy efficiency, including green and energy-efficient construction, etc.6. Sustainable waste management techniques, such as recycling, waste-to-energy, and effective waste disposal, etc. Sustainability in land use includes One of the fact that no two bonds are same is one of the most perplexing aspects of bonds. For instance, the same firm can issue senior or subordinated bonds with varying priority for repayment in a bankruptcy process, give collateral to back some of its bonds, acquire credit enhancement or guarantee, or build up its capital structure differently for two bonds. Therefore, a rating agency's role is to carefully examine individual bonds, assess the likelihood that the issuer will be able to repay its investors, and rate the bonds in accordance with their unique rating scales to make the risk assessment profile of the bond publicly available. An appeal to take into account A-rated bonds for investments was made in the Union Budget 2018 to expand India's corporate bond market was an appeal to investors to take into account A-rated bonds. In his budget speech, India's honorable finance minister stated that "corporate bonds rated 'BBB' or equivalents are investment grade." But he acknowledged that most Indian regulators only allow bonds with an "AA" grade to be invested in. Consequently, a notification was given to the affected party. Corporate bond measures were adopted by the Reserve Bank of India (RBI). In August 2016, the Reserve Bank of India announced a series of initiatives that will support the growth of the corporate bond market in the nation. Some of the actions done include the ones listed below: The ceiling limit for partial credit enhancement was increased from 25% to 50% of issue size the previous cap of 20% b. Under the current framework for encouraging the issuance of long-term bonds by banks for funding infrastructure and affordable housing, it permitted banks to issue bonds with rupee denominated overseas. The RBI permitted brokers to engage in the corporate bond repo market in order to promote activity in that market.

The RBI and SEBI decided to permit foreign portfolio investments (FPIs) to trade corporate bonds directly without using brokers in order to facilitate this type of trading. Obstacles to the Growth of Green Bonds • Smaller projects with correspondingly smaller issue sizes • Considerable risk associated with innovative technology lack of project evaluation methods that take into account the national context • Responsible investors are working to advance the objectives of sustainable development. The Government of India (GoI) will benefit from the issuing of Sovereign Green Bonds by being able to attract the necessary funding from potential investors for use in public sector projects targeted at lowering the economy's carbon intensity. The yields to maturity on green bonds issued in a few developed markets between 2019 and 23 are up to 40 basis points cheaper than those for other corporate bonds in Japan and the UK, implying the emergence of a greenium.

The only markets where green bonds still trade at a discount are Germany and Australia, albeit supply in the latter market is constrained. In terms of green bond issuance, Japan is in the lead with 12% of all corporate bonds issued between 2019 and 23. Australia At only 2% each, the US and Canada lagged behind, with the US having the highest value at $124 billion.

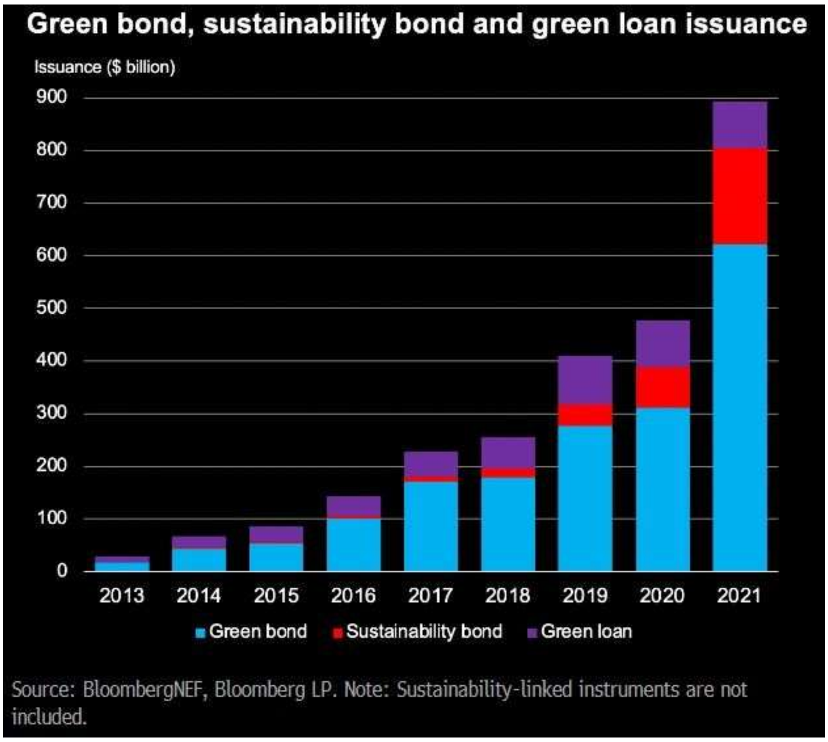
Finance Sector Contribution

Geranium Reduces Cost on Major Investment According to a McKinsey research, it will cost around $250 trillion, or almost 53% of world GDP, to achieve net-zero carbon emissions by 2050. Up to 2031, the spending would be front-loaded at a rate of more than 8% of GDP. Governments will probably shoulder the lion's share of the burden, but businesses will also need to make changes to cut scope 1 and scope 2 emissions. Given that a considerable percentage of the investment will take place in emerging nations, the present greenium of up to 40 bps would significantly lower the funding cost of this investment by around $1.1 trillion. Leading Green Bond Underwriters In 2019–23, the top three green corporate bond underwriters are BNP Paribas, Credit Agricole, and JP Morgan Out of a total issue of around $275 billion, deals worth about $70 billion were made. Only Denmark's Danske Bank represents a non-bulge bracket bank in the top 10, which is dominated by these institutions. Although BNP has frequently placed in the top two, JP Morgan's ascent is more recent. In 2023, volumes may surpass the peak of 2021 if the current run-rate holds. Asian banks trail developed market peers, with only HSBC, with a 4% market share, placing in the top 10. With a total market share of less than 1%, Australian lenders have participated insignificantly, as have Singaporean banks, with just 0.6%.



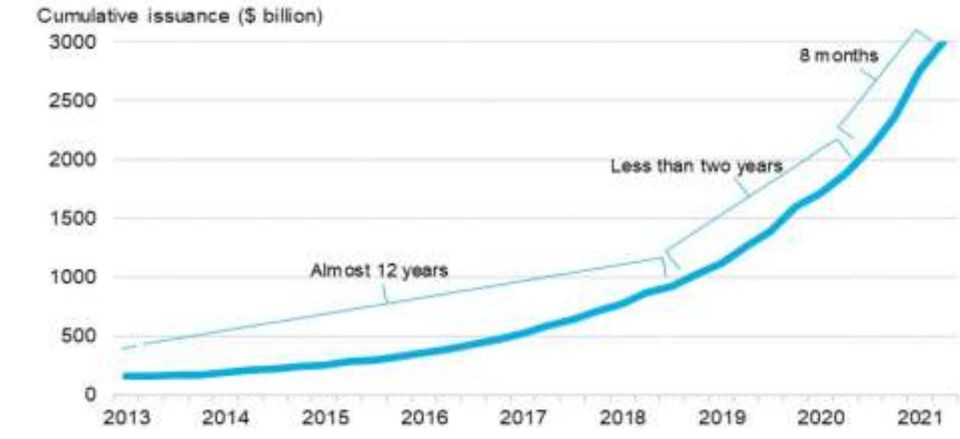
Source: Company Filings, Bloomberg Intelligence

In 2021, the green bond market gained momentum as issuances doubled to $621 billion. Since the label's introduction in 2007, more than $1.8 trillion in green bonds had been sold as of the end of the previous year. Ineligible environmental initiatives are financed or refinanced with the money from green bond sales. The largest market for green bonds is currently Europe, where $308 billion worth of bonds were issued there in 2021. With its share of overall issuances increasing from 14% in 2020 to 24% in 2021, Asia is still expanding the fastest. The most common kind of sustainable debt, which more broadly refers to borrowing linked to environmental or social goals like the development of renewable energy sources or debt payback linked to a goal for reducing emissions at your organization. Bond and loan issuances to finance environmental and climate change initiatives reached a record $894 billion in 2021.



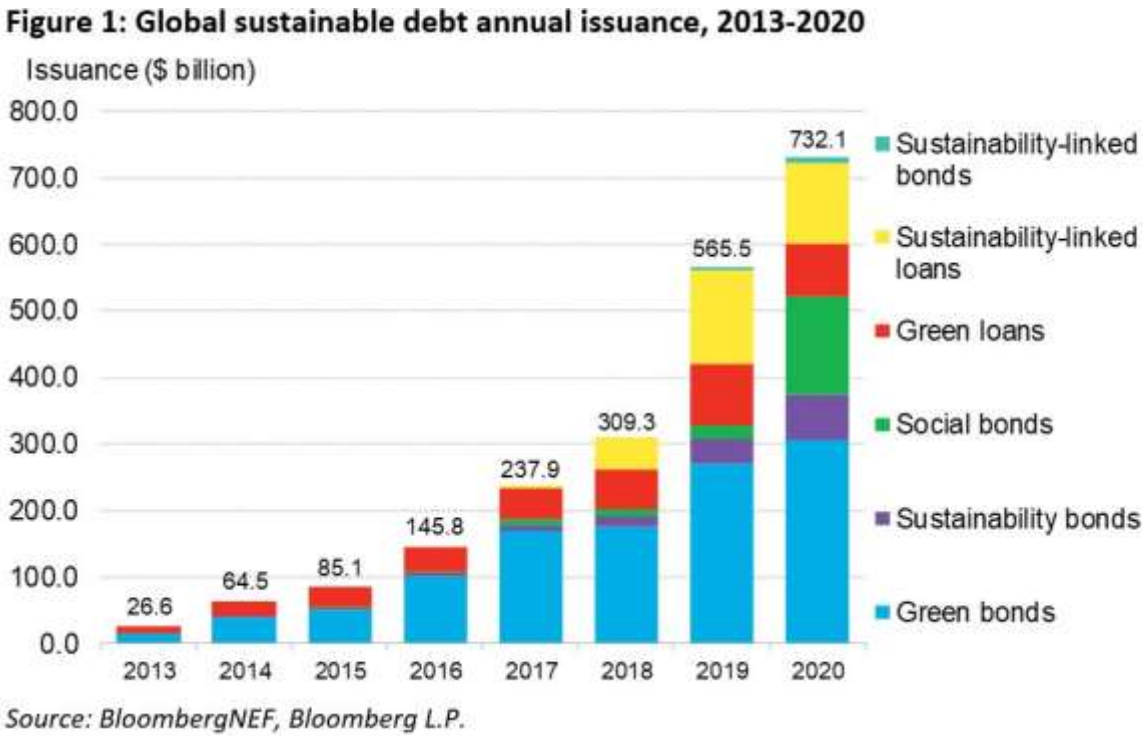
Similar to green bonds, green loans are issued to fund ecologically friendly operations. The amount of green loans issued in 2021 was slightly under $89 billion, and it was the only type of sustainable debt to show volume declines over the previous year, albeit only by a single percentage point. Comparing the private loan market to the publicly visible bond market, there may be less information there, which could contribute to this. Bonds for sustainability are issued jointly for social and environmental causes. In 2021, they amounted to $184 billion, a 149% increase over 2020. Development banks, which frequently embark on sustainable development initiatives in emerging markets, are big fans of sustainability bonds. Changing Debt Sustainability Trend The greatest and longest-running trend in sustainable finance is green bonds debt market. The market is heavily influenced by social and environmental issues, and debt that is related to sustainability goals, or so-called sustainability-linked debt, is rising concurrently with that for particular ESG initiatives.

Figure 1: Cumulative sustainable debt issuance by quarter, through June 7, 2021



Source: BloombergNEF, Bloomberg L.P.

Financial instruments with a sustainability focus are still under close examination due to problems like inconsistent labeling from issuers and norms and definitions that are both voluntary and required. Keep 'green washing' at bay is another issue, especially from companies with high emissions. Despite these worries, this market's expansion is attracting more borrowers, investors, and lenders than ever before. Global Issuance of Green Bonds According to new data from research firm BloombergNEF (BNEF), sustainable debt raised $732.1 billion in bonds and loans with environmental and social goals in 2020, setting a new record for the largest amount of issuance in a year. This is an increase of 29% from the total for 2019. The category of social bonds, which are issued to raise money for social objectives like employment and public health, was the driving force behind the development largest single social bond ever issued by organizations including the African Development Bank, European Union, and UNEDC. A notable increase was also seen in the sale of green bonds, which are issued to fund environmental initiatives, notably in the latter months of 2020. When compared to the previous year, offerings were lower through the month of August, but they spiked in September with a record $62 billion, and the trend continued into the fourth quarter. As a result, green bond issuance since 2007 has reached more than $1 trillion, breaking the previous annual record.

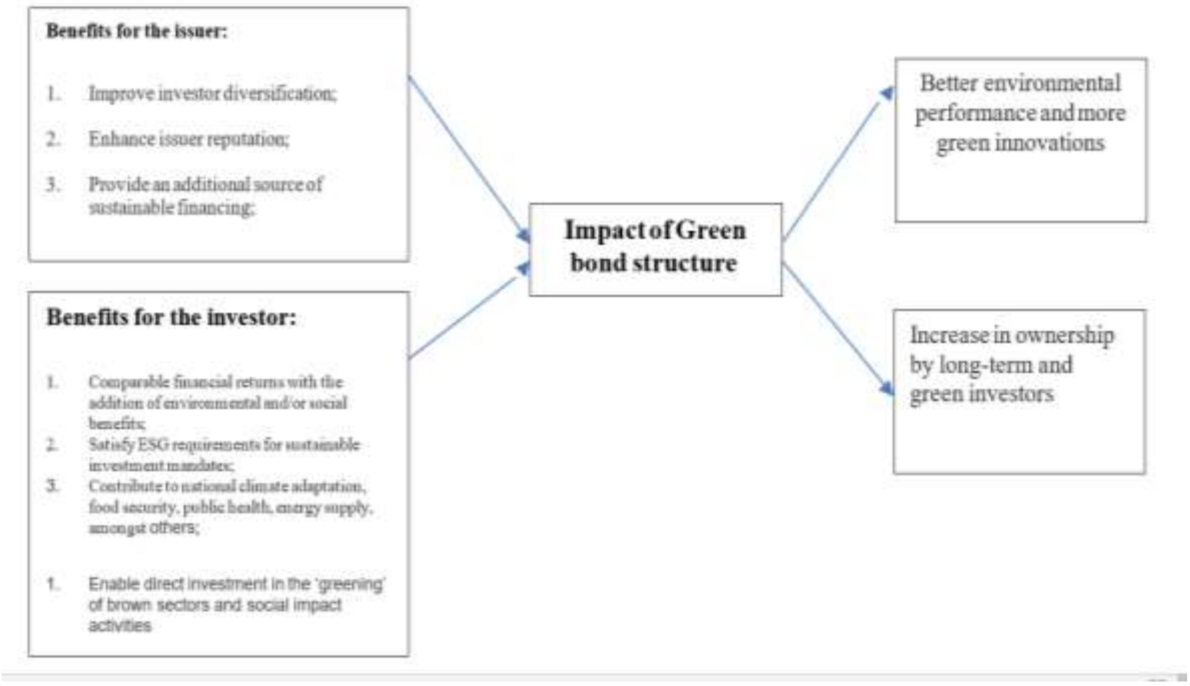


Benefits of Green Bonds to Stock Market

In comparison to a comparable taxable bond, green bonds may offer tax benefits including tax exemptions and tax credits, making them a more appealing investment. These tax benefits offer a financial incentive to address important social challenges like climate change and a shift towards renewable energy sources. Green bonds provide investors and capital lenders several rewards. Among the advantages of purchasing green bonds are: • Financial gains: The financial gains of green bonds are comparable to those of any other company or governmental bond. In the same way that they do with any other corporate or government bond, investors in green bonds might anticipate profits at maturity. • Tax and social advantages: Given that investors' wealth was used to purchase green

Bonds are utilized for environmentally friendly projects, i.e., for the benefit of Mother Earth and the environment. Investors who choose to support this admirable cause by purchasing green bonds can do so, on their own will. Investors in green bonds are also eligible for tax benefits from the government. The government wants to support this project and protect and enhance the environment and mother earth, which is why this is the case. • Eliminate climate change- related portfolio risks: to eliminate risks associated with climate change from their portfolio, investors can purchase green bonds. These dangers stem from shifting policies like carbon taxes, which might result in stranded assets.

They can invest in environmentally friendly projects like green building by purchasing green bonds and gradually carry a lesser credit risk.



Findings

The number of "corporate green bonds" issued to fund climate-friendly initiatives has skyrocketed during the last five years. While just $3 billion worth of these bonds were purchased by investors in 2013, $49 billion worth was purchased by them in 2017, increasing the total amount sold since 2013 to $113 billion at an average of $308 million each issuance. Several businesses, like Apple, Unilever, and Bank of America, have recently issued green bonds, and this trend is probably going to continue. Despite this increase, nothing is known about how these bonds will affect the market. Investor expectations are reflected in the issuers' stock price rising around the time of the announcement of the green bond offering. (On the date of the announcement, new information is released to the market, in contrast to the date of issue. To account for the likelihood that certain information may have been known by the public before the release, the analysis also takes into consideration the date of the announcement and the preceding trading day. The average cumulative abnormal return (CAR), or the stock return above the "normal" market return, was 0.67% for this two-day event frame. Therefore, the stock of the issuer of the green bond rises, on average, by around 1.67% if the stock market (let's say the S&P500 index) rises by 1% over these two days. The results are not influenced by unrelated trends around the time of the announcement, as shown by the fact that all other intervals before and after the two-day event window produce small CARs.

These findings essentially hold even after taking into account industry-specific performance and potentially confusing factors like the release of quarterly profits, regular bond issues, or equity issues. The results to vary, though, based on a number of factors. First, when green bonds are issued, those that have been approved by unbiased third parties like Vigeo Eiris, Ernst & Young, and CICERO experience a stock price boost that is roughly twice as great. In order to prove that the proceeds are going to projects that have a positive impact on the environment, about 69% of corporate green bonds have been certified by independent third parties. Since certification is expensive and demanding, certified green bonds probably indicate a more trustworthy commitment to the environment, which explains why the stock market reacted more favorably. Second, the growth in the stock price is greater for businesses engaged in industries where the environment has a significant financial impact on their operations. These businesses see a greater financial performance impact from green projects. Third, compared to seasoned issuers, first-time issuers get higher announcement returns. In comparison to more experienced issues, it might be argued that fresh green bond issues are more likely to enlighten the investor community about the firm's long-term environmental commitment. Investors are already aware of the company's dedication to sustainability the second and third times around, which is reflected in a more subdued stock market response.

Improvements in Financial Performance

When comparing a company's market value to its book value of assets, green bond offers are likewise linked to a 2.4% rise in long-term value. The average of all green bond issues was used to get the findings. Additionally, when compared to a control group of businesses that also issue bonds but do not issue green bonds, issuers of green bonds experienced an improvement in operating performance as shown by the return on assets (ROA). Two years following the green bond issue, ROA rises by 0.6 percentage points over the long term. Higher operating earnings only start to show since green project investments take time to pay off, and there is no influence in the immediate term. This relatively new development in impact investing shows enormous promise for combating climate change on a global scale, whether or not governments take action. Market responsiveness, improved financial and environmental performance, and the attraction of long-term and green investors all point in that direction.

Suggestions

a. Four types of green bonds identified by OECD10 have not yet found a foothold in India. Municipal bonds in particular can help finance transport infrastructure11 to be built by severely under-funded Urban Local Bodies in India. They have been highlighted as an important factor for cities in UN-Habitat's New Urban Agenda.

b. Green bonds can be opened up for retail participation. Establishment of an accurate and reliable rating and certification system to identify financial risks and environmental impact would empower investors to successfully differentiate between "green" and "brown" assets (Agrawal, 2019). This would allow the financial system to respond to the growing eco-awareness of high-income segments of the Indian population, while also reducing the cost of finance for green infrastructure.

Conclusion

Green bonds are in demand today and a reliable source of funding for initiatives that are essential for lessening our global carbon footprint. Although the speed of the global governments' collaborative initiative is currently rather modest, results are unavoidably on the horizon. To become carbon neutral, which is a very long way off, India in particular needs enormous amounts of investment in green bonds—roughly US$ 10 trillion. Green bonds, however, are a step in the right direction with advantages for both investors and the environment. The research of India demonstrates that despite their rapid expansion, green bond markets still have a limited impact on deep de-carbonization and climate resilience in developing countries.

There are a lot of quick, positive breakthroughs, but in order to address the problem of climate change, a deliberate, coordinated effort to mobilize sustainable finance, including but not limited to green bonds, is required. Investors' attention is being drawn to the rapid expansion of green bonds in the capital market, their growth, and the returns on their investments. People are becoming more mindful of the environment and sustainable practices, therefore this leads to a strategic investment that will become a lucrative business while also being regarded as an environmentally beneficial investment that ensures its productivity in a variety of activities including clean water, agriculture, and the treatment of biodegradable waste. A similar Progress in environmental improvement will require adequate funding to achieve its goals. The Task Force on Climate-Related Financial Disclosures (TCFD) mechanism shows how investors are becoming more aware of the hazards that climate change poses to their investment portfolios. In order to report on such threats, they are working. Green bonds give investors a suitable platform to engage in ethical behavior and have a significant impact on how firms approach the bond-issuing process. In the five years before to 2021, the growth rate for green bonds is 49%. By 2023, yearly green bond issuance might surpass the $1 trillion mark, according to climate bonds, whose analysis offers a preliminary estimate of the market for green bonds.

References

Abhilash et al., Cogent Economics & Finance (2022), 10: 2135834 https://doi.org/10.1080/23322039.2022.2135834 Page 2 of 27.

Ameli, N.; Drummond, P.; Bisaro, A.; Grubb, M.; Chenet, H. Climate finance and disclosure for institutional investors: Why transparency is not enough. Clim. Chang. 2020, 160, 565–589. [CrossRef].

Climate Bonds Initiative. Green Bond Market Summary: 2018ataGlance; Climate Bonds Initiative: London, UK, 2019.

Green Bonds – Working, SEBI Guidelines, Green Bonds Issued in India , Written by - Marisha Bhatt, January 25, 2023.

Weber, O.; Saravade, V. Green Bonds: Current Development and Their Future; CIGI Papers No 210; Centre for International Governance Innovation: Waterloo, ON, Canada, 2019.

Websites:

1. **www.lexology.com/library/detail.aspx?g=4021ab47-2ec4-4b76-a8b4- 4a9dd6dabada**
2. **https://hbr.org/2018/11/green-bonds-benefit-companies-investors-and-the-planet**