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ESG Bonds: Quo Vadis? Towards Sustainability or Greenwashing? A Study of Indian ESG Bonds

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ABSTRACT

As firms compete in practicing green marketing, green human resource management and green accounting so as to meet the Sustainable Development Goals, they issue ESG bonds in the form of green bonds, transition bonds, social bonds, sustainability bonds, climate bonds or sustainability-linked bonds focused on projects that would mitigate climate change. Green bonds must strictly adhere to the Green Bond Principles. Apart from corporates, the national government also releases Sovereign Green Bonds (SGrBs) to lead financial inclusion by taking government and public-private partnership projects in a greener way. Investors must remain alert to whether ESG funds are diverted to green financing or whether the promise is a form of greenwashing. ESG funds and SGrBs for eco-friendly projects and infrastructure remain lacklustre among investors, and there are no direct methods to measure the outcomes of green investing. This paper discusses green bonds, their yield to maturity, and the outcome of such bonds.

1. INTRODUCTION

ESG bonds are typically the debt instruments which are utilized for the projects that have environmental or climatic concern. Such bonds must focus on energy efficiency and saving, pollution prevention and control, and green practices. Green bonds differ from ESG bonds in that they are used for non-conventional energy projects such as solar energy and hydro energy, whereas ESG bonds are used in broader terms for environmental, social and governance aspects. In fact, this period can be rightly said to be the green bond boom. As corporates release debt bonds under the nomenclature of green bonds and ESG bonds, there exists a doubt whether the funds are utilized towards green financing or whether there exists greenwashing. This paper focuses on the status of such green bonds using secondary data which may throw insights to the investors.

1.1 Types of ESG Bonds

1. Green bonds: bonds which are invested for climate and environmental projects.
2. Social bonds: debt instruments for the improvement of better living and to alleviate a social problem. This includes promotion of basic amenities and infrastructure such as provision of drinking water, laying of roads, sanitation, basic health facilities, education, health care and housing.
3. Sustainability bonds: a combination of green bonds with social bonds.
4. Sustainability-linked bonds: these bonds are not directly linked to a defined use of proceeds. The outcomes are measured against the achievement of sustainable key performance indicators (KPIs) and benchmarked with Sustainability Performance Targets (SPTs) (Figure 1).

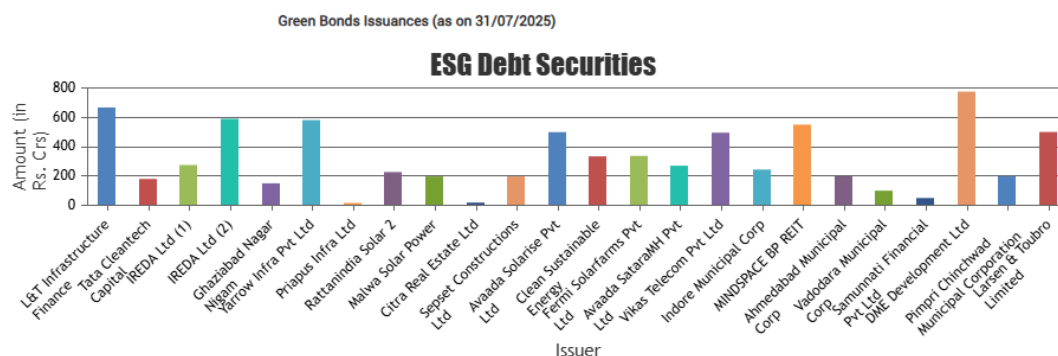


Figure 1. Different ESG bonds released by corporates in India. Source: SEBI green-bond statistics (www.sebi.gov.in/statistics/greenbonds.html).

1.2 Review of Literature

Greenium, the premium that investors are willing to pay for green bonds relative to comparable non-green bonds, has received increasing attention in the last several years [1]. Many countries have strict regulations on the issue of green bonds, particularly the developed countries, which aids to get rid of greenwashing. There exists a long-term connection between yields and responsible corporate management [2]. Fain analysed a mixed result regarding the connection between the financial performance and ESG score of a company [3]. Normally, investors and asset managers use ESG factors for risk management, and this throws light on the investment opportunities [4, 5]. On the other side, Flammer opined that the evidence on greenwashing is not clear [6]. Kumar studied the green bond markets in India and envisaged a holistic approach for the Indian bond market [7]. Gaps in the framework, high transaction cost, higher greenwashing, government involvement, unavailability of financial benefits and lack of green bond market awareness have suppressed the rapid expansion of the green bond market in India [8]. Complementary work has examined the evolution of the greenium in emerging markets and the rapid traction of ESG investing in India [9, 10].

Table 1. Greenwashing in Indian corporates: a statistical review.

Component	Findings	Source
False green claims in advertisements	79% of green claims by Indian firms are found to be exaggerating or misleading	ASCI Guidelines for Advertisements Making Environmental / Green Claims (2024)
Consumers' awareness on greenwashing	71% of Indian customers report on greenwashing	YouGov survey
Corporate behaviour (NIFTY 50 study)	54% (26 out of 48) large listed firms showed evidence of greenwashing	Sensharma, Sinha and Sharma [11]
Market exposure	USD 55.9 billion in cumulative sustainable debt issued by India by 2024	Climate Bonds Initiative (2024)

It is contradictory that according to ASCI, 79% of environmental claims were overstated. However, as per YouGov, 71% of consumers were aware of greenwashing. In combination, the findings from ASCI and YouGov point towards the development of a credibility gap in the sustainability ecosystem of India. Even though the observation by ASCI regarding 79% of environmental claims being overstated signifies growing apprehension about the genuineness of corporate sustainability communication, the YouGov survey reveals that 71% of consumers are growing aware about greenwashing practices. This means that consumers are not passive receivers of ESG disclosures but are getting more discerning in assessing environmental claims. Therefore, companies issuing ESG bonds will have to be prepared for the scrutiny of investors (Table 1).

1.3 Limitations of the Study

- Data limitations: the research is based on published reports and statistics as secondary data.
- Temporal sensitivity: the results based on market performance are highly fluctuating due to market volatility and macroeconomic policies.
- The expected returns versus the reality: the outcomes of green financing cannot be immediately or accurately measured. The environmental factors are dynamic due to global warming. The ESG outcomes may not be measured instantaneously.

- The effect of global warming or green financing cannot be measured exactly by YTM or credit rating agencies.
- The companies releasing ESG bonds must comply with the standards of Business Responsibility and Sustainability Reporting (BRSR).

2. MATERIALS AND METHODS

The performance of the ESG bonds can be ranked either by the credit rating or by the measurement of the yield-to-maturity (YTM). A secondary data of a representative set of 20 active green bonds was taken from the SEBI and the YTM and credit rating were observed. A chi-square test was conducted for the variables bond tenure in years and the YTM category. Sector-wise greenwashing mean was calculated and the results were discussed. Finally, the myths about greenwashing and the facts were discussed.

3. RESULTS AND DISCUSSION

Table 2. *Comparison of different corporate green bonds.*

Sl.	Company	Value (Rs cr)	Coupon	Tenure (yr)	YTM
1	Citra Real Estate Ltd. (INE969M07010)	19	6.49%	3	6.49
2	Avaada Solarise Energy Pvt. Ltd. (INE07H107012)	499	6.75%	3	6.75
3	Clean Sustainable Energy Pvt. Ltd. (INE00JT07017)	334	6.75%	3	6.75
4	Fermi Solarfarms Pvt. Ltd. (INE404X07015)	337	6.75%	2	6.75
5	Vikas Telecom Pvt. Ltd. (INE466P07010)	495	7.65%	3	7.65
6	Indore Municipal Corporation (INE00QS24035)	244	8.25%	3	8.10
7	Mindspace Business Parks REIT (INE0CCU07074)	550	8.02%	3	7.01
8	Ahmedabad Municipal Corporation (INE117E08029)	200	7.90%	5	8.05
9	Vadodara Municipal Corporation (INE0KDG08023)	100	7.90%	5	7.97
10	Samunnati Financial Intermediation (INE551U07340)	50	11.25%	1	12.00
11	DME Development Ltd. (INE0J7Q07256)	775	7.23%	10	12.00
12	Prayagraj Nagar Nigam (INE1QL524016)	50	8.07%	7	8.07
13	Pimpri Chinchwad Municipal Corporation (INE0P1K24036)	100	7.85%	4	7.85
14	Larsen & Toubro Ltd. (INE018A08BN0)	500	6.35%	3	6.68
15	KPI Green Energy Ltd. (INE542W07014)	670	8.50%	5	8.50
16	Surat Municipal Corporation (INE05NX24023)	200	8.00%	4	8.00
17	Muthoot Capital Services Ltd. (INE296G07317)	150	8.40%	6	8.40
18	Bank of Baroda (INE028A08380)	10000	7.10%	7	7.10
19	Greater Chennai Corporation (INE1SKA24060)	205.59	7.95%	6	7.95
20	Nashik Municipal Corporation	200	8.05%	10	8.05

Sl.	Company	Value (Rs cr)	Coupon	Tenure (yr)	YTM
	(INE579F24107)				

Source: sebi.gov.in. Market commentary in *Bank Quest* has likewise tracked Indian green-finance issuance (Table 2)[12].

Table 3. Chi-square test of bond tenure and YTM category.

Tenure	<=7%	7–8%	>8%	Total
<=5 years	5	5	4	14
6–10 years	0	2	4	6
>10 years	0	0	0	0

Chi-square (chi-square): 3.673; degrees of freedom (df): 2; p-value: 0.159. As the calculated p-value is more than 0.05 ($p = 0.159$), there is no statistically significant association between tenure of the bond and YTM category (Table 3). The null hypothesis is accepted. The result suggests that YTM has no significant relationship with the tenure of the bond. However, if there exists a bond which is more than a 10-year period, then the YTM may vary significantly (Table 4).

Table 4. Greenwashing scores of NIFTY 50 companies.

Company	Score	Company	Score
Tata Consultancy Services Ltd.	-0.58	Sun Pharmaceutical Industries	-0.33
Reliance Industries Ltd.	-1.42	IndusInd Bank	0.56
Hindustan Unilever	-1.45	Titan Company Ltd.	-0.89
Housing Development Finance Corporation Ltd.	-1.25	Bajaj Auto	1.29
Infosys Ltd.	-1.08	Bharat Petroleum Corporation Ltd.	1.18
ITC	0.32	Adani Ports	0.36
Kotak Mahindra Bank	-1.44	Tech Mahindra	1.04
ICICI Bank	-1.12	Britannia Industries	-0.05
State Bank of India	0.37	GAIL (India) Ltd.	2.28
Bajaj Finance Ltd.	0.94	JSW Steel	0.49
Larsen & Toubro Ltd.	0.75	Hero MotoCorp	0.40
Maruti Suzuki India	1.23	Vedanta Ltd.	0.82
Bharti Airtel	-0.20	Grasim Industries	0.81
Axis Bank	-0.34	Bharti Infratel	0.81
Oil & Natural Gas Corporation	1.13	Eicher Motors	0.02
Asian Paints Ltd.	-0.41	Tata Steel	-0.81
Wipro Ltd.	-0.34	Dr. Reddy's Laboratories Ltd.	-0.36
HCL Technologies Ltd.	-1.41	UPL Ltd.	-1.08
Coal India Ltd.	0.49	Hindalco Industries	-1.11
Indian Oil Corporation Ltd.	0.76	Cipla Ltd.	-1.23
NTPC Ltd.	0.99	Tata Motors	-1.74
Bajaj Finserv	0.73	Zee Entertainment Enterprises	0.46
UltraTech Cement	0.79	Shree Cement	0.56
Power Grid Corporation of India Ltd.	0.60	Nestlé India	-1.54

Source: Sensharma, Sinha and Sharma, *Australasian Accounting, Business and Finance Journal*, 16(5) [11].

Table 5. Sector-wise greenwashing index classification based on sector mean.

Sector	Sector mean	Above average	Under performer
Banking & Financial Services	-0.194	Housing Development Finance, IndusInd Bank, State Bank of India, Bajaj Finance, Bajaj Finserv	Kotak Mahindra Bank, ICICI Bank, Axis Bank
Information Technology	-0.474	Tech Mahindra, Wipro	TCS, Infosys, HCL Technologies
FMCG & Consumer	-0.722	ITC, Britannia Industries	Hindustan Unilever, Titan Company, Nestlé India
Automobile	0.240	Bajaj Auto, Hero MotoCorp, Maruti Suzuki	Eicher Motors, Tata Motors
Energy & Oil	0.690	GAIL, ONGC, Indian Oil, NTPC	Reliance Industries, Coal India, Power Grid
Metals & Cement	0.221	JSW Steel, Vedanta, Grasim, UltraTech Cement,	Tata Steel, Hindalco

Sector	Sector mean	Above average	Under performer
		Shree Cement	
Pharmaceuticals	-0.750	Sun Pharma, Dr. Reddy's	UPL, Cipla
Telecom	0.305	Bharti Infratel	Bharti Airtel

When comparing the sector-wise greenwashing performance based on the sector mean from Table 4, it has been found that the energy and oil sector holds the highest sector mean and the least by pharmaceuticals. The above-average and under performers are listed (Table 5).

The secondary data collected from the different sources and the statistical interpretations raise many argumentative questions which are discussed below.

Table 6. Argument and the evidence for the statement.

Argument	Justification of the argument
The presence of green financing does not imply the performance of sustainability	Inconsistencies among sectors concerning the level of greenwashing show that financial strategies for the environment do not translate into sustainability.
The quality of disclosure is more important than the amount of disclosure	There is no evidence that those companies with high sustainability reporting were among the worst greenwashing performers.
Investors' confidence relies on transparency and not marketing	The presence of over-average green washers means that investors need verification and measurable results instead of ESG marketing stories.
Strict enforcement of ESG disclosure would end greenwashing	While mandating disclosure leads to increased transparency, it cannot guarantee against selective disclosure without standardizing measurements and enforcing rules.
Sustainability reporting is pertinent for stakeholder trust	Stakeholders require quantifiable environmental results, verification from a third party, and continual accountability rather than just sustainability reporting.
From an investor's point of view, investments that are ESG-labelled have zero risks	Investments that are ESG-labelled will still be vulnerable to the risks of disclosure, greenwash, and implementation.

The above results evince that green financing is more of a factor of sustainability actions than proof of environmental responsibility by the organization in discussion (Table 6). Sectoral differences in the scores on the greenwash scale imply that funding by itself does not guarantee sustainability results. Good governance practices, proper ESG disclosures, and independent verification are critical for maintaining the credibility of sustainable finance programs. It is evident from these insights that it is imperative for investors and regulators to test the genuineness of sustainability claims. As some firms made a false propaganda on sustainable projects, it will mislead the stakeholders, causing greenwashing [13].

3.1 Policy Implications

The companies must remain in line with ethical practices and the right ESG projects must be done under the vigilance of SEBI. Coordination of all the corporates in alignment with India's 2070 Net Zero target is required as a part of the sustainable development goal. Curbing of greenwashing risks by SEBI as a watchdog is essential. As far as the country is concerned, there needs to be third-party inspection of performance. Investors must read the ESG reports of the company. Broader rules and regulations for sustainable investing must be framed. Auditing by Business Responsibility and Sustainability Reporting (BRSR) must be done. Corporates must go for transition bonds to ensure a paradigm shift from high-carbon models to sustainable models. Establishment of a standardized green taxonomy will streamline the green activities on a long-term basis. Proper benchmarking against conventional bonds will help in measuring the performance gaps, and measures must be taken to improve liquidity of the green bonds through the secondary market [14]. Oversight of labelled sustainable-finance claims also belongs to a wider problem of governing opaque institutional agents, where accountability has to be made explicit rather than assumed [15]. The same energy and oil issuers that dominate the sectoral greenwashing mean also face well-documented environmental externalities from thermal generation, which makes independent verification of proceeds especially important [16].

4. CONCLUSION

Despite the companies having a mindset of going for sustainable development goals, some of the challenges or impediments are observed in the success of the ESG funds. One thing is the lack of clarity on the ESG guidelines and the key performance indicators for the sustainability-linked bonds. Secondly, the

limited liquidity in the ESG debt market. The contradictory results of the much-hyped environmental claims by ASCI and rising consumer awareness (YouGov), and sectoral differences in greenwashing risk, suggest that the long-term success of ESG bonds depends on transparent disclosures, independent verification, and stronger regulatory oversight. Without these measures, growth in ESG bond issuance alone may not translate into genuine environmental sustainability. Although policy measures like third-party verification, enhanced disclosure, and sovereign benchmarking have been beneficial, more work is required to expand markets and level the playing field for pricing benefits. Enhancing transparency, creating benchmark supply, and creating liquidity mechanisms should be the top priorities for market players and governments. These actions would enable green bonds to effectively channel money for India's energy transition. Unless the ESG governance framework is implemented, green funding will be turned towards greenwashing.

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Ethics approval. Not applicable. The study uses published secondary data.

Data availability. Bond-level figures were taken from SEBI green-bond statistics. Greenwashing scores follow the NIFTY 50 study cited as [11].

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