2 Sustainable Bonds in India: Issuer's Categories and Market Evolution

Ms. Maivis Bano[1*] & CA Yask Sain[2]
[1]Student, VIII Sem., Department of Commerce, Acharya Narendra Dev College, University of Delhi.
[2]Assistant Professor, Department of Commerce, Acharya Narendra Dev College, University of Delhi.

*Corresponding Author: banomaivis@gmail.com
DOI:

Abstract

The focus on environmental sustainability is rapidly growing in worldwide economies, which is mainly done by sustainable finance, consisting of sustainable bonds. Viksit Bharat 2047 aims to transform India into a developed nation relying on clean energy sources and low-carbon emission activities with a goal of achieving 500 GW of non-fossil fuel energy by 2030, which makes sustainable finance a critical instrument. SEBI introduced Green Debt Securities in 2017, which was further expanded in 2025 to ESG Debt Securities consisting of sustainable bonds, sustainability-linked bonds and social bonds. Governments and investors are using such bonds to mobilize capital in environmentally and socially beneficial projects, such as sovereign green bonds. Still, there is a lack of analysis of the ESG Debt Securities market in India. This study consists of a thorough analysis of the ESG Debt Securities listed by SEBI from 2017 to 2025, including 26 issuers with a total amount of issuance of rupees 11,023 crores. The study mainly focuses on analysing the growth of ESG Debt Securities and distribution of issuers in four categories (renewable energy corporation, municipalities, financial institutions and infrastructure corporations) and examining contribution by each segment as per the coupon rates (6.00-6.99%, 7.00-7.99%, 8.00-8.99% and 9.00% & above) and number of bonds. The findings show the overall growth of the sustainable bonds market in India despite facing many challenges over the period of 2017-25 and notable contribution by issuers. This study analyzes the development of India's sustainable bond market and gives valuable insights to regulators and policymakers.

Keywords: ESG Debt Securities, Green Bonds, SEBI, Sustainability, India.

Introduction

Globally, the financial landscape of various nations is shifting from conventional projects and schemes to sustainable ones. In India, the journey began in 2015 when the first green bonds were issued by Yes Bank (SEBI, 2015). Further, the regulatory authorities (RBI and SEBI) have issued several guidelines and regulations regarding sustainable finance, introducing ESG (Environmental, Social and Governance) debt securities as one of the key instruments of such finance, including all types of environment-related bonds, making the progression more evident in India. This is divided into two segments: “Green Debt Securities” (green bonds, blue bonds, yellow bonds and transition bonds) and “Other ESG Debt Securities”, including social bonds, sustainability bonds and sustainability-linked bonds. Furthermore, sovereign green bonds were issued by the Government of India, which is facilitated by the RBI.

Even with such a robust framework, the issuance of sustainable bonds remains heavily focused on green bonds, where other types of bonds, such as blue bonds and yellow bonds, are neglected. However, the green bonds market is still facing some major challenges, including lack of awareness and accessibility of sustainable bonds. Additionally, “Green-washing” also persists in the green bond scenario of India. Here, the investments done in ESG Debt Securities change, depending on the issuer’s behaviour. This research examines the current state of the sustainable bonds market by utilizing the data provided by SEBI on ESG debt securities issuance so as to observe trends in growth, profile of issuers and market concentration by types of ESG Debt Securities.

Literature Review

In 2007-08, green bonds were first issued to fund climate-related initiatives by the World Bank and the European Development Bank (Abhilash et. al., 2023). ICMA (International Capital Market Association) designed Green Bond Principles to regulate its market, which consists of four pillars that are Use of Proceeds, Management of Proceeds, Project Selection and evaluation and reporting (Green Bond Principles, 2021). A phenomenon named “Greenium” was introduced in various studies in which approx 2000 green bonds were compared with conventional bonds, showing the green bond yield was less than conventional ones by 15-20 basis points, highlighting existence of green bonds in both secondary and primary markets (Kapraun et. al., 2021). While Asian markets show a higher average “Greenium” of nearly 21.4 basis points, higher than global Greenium basis points, which were around 12.4 (Liu & Hu, 2025). Further studies highlighted that the green bonds with third-party reviews, transparency and credibility in pricing have more noticeable Greenium (Fatica et. al., 2021). However, the greenium has a positive relationship with awareness among investors and a negative relationship with coupon tax rates (Agliardi & Agliardi, 2019).

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The growth of sustainable bonds in India is driven by market forces and creates a nurturing ecosystem for such bonds (Datta, 2024). Additionally, the private sector is majorly participating in green bonds, holding 84% of market share in India's green bonds market (Datta, 2024). Since 2017, this market has substantially increased with a total of 22 bonds listed in SEBI under ESG Debt Securities, highlighting growing interest of investors in sustainable finance (Singh & Tamata, 2025).

Furthermore, SEBI issued green bond guidelines, and RBI aligns financial framework with global climate goals by introducing clean energy financing, both acting as regulatory bodies of green finance in India (Himanshi, 2025). Additionally, SEBI also introduced blue bonds (for ocean sustainability and marine sector), yellow bonds (for solar energy financing), transition bonds (for transferring to renewable energy and net-zero carbon emissions) and also revised the definition and scope of green debt securities framework (Ramkrishnan et. al., 2023).

Currently, the green bonds market in India is still at an early stage, but has growth potential, which is based on the role of regulatory bodies and government in increasing the transparency, investor awareness and accessibility of green bonds (Bandekar & Shah, 2024). Moreover, Sovereign green bonds are also being issued by the government of India and are facilitated by RBI from 2022, highlighting that the government is also promoting sustainable bonds (A, 2025).

However, the Indian sustainable bonds market still faces some major challenges that include high cost, lack of involvement by the government and green-washing risks (Bhurjee & Paliwal, 2022). There is lack of standardisation, regulatory framework and labelling of bonds as "green", which are some hindrances for market expansion by green bonds (Abhilash et. al., 2023). Moreover, greenwashing risks are raised due to lack of transparency and inadequate disclosure frameworks, making them unauthentic and hard to know their impact on overall sustainable development, which majorly decreases the credibility of green bonds (Abhilash et. al., 2023; Shah & Soni, 2025). While SEBI has introduced third-party verification, impact reporting and accountability of green bonds, challenges such as high issuance costs, need for standardization and green washing still exist, affecting the trust of investors in green bonds (Ramkrishnan et. al., 2023; Suchitra et. al., 2025).

The current studies give a broad overview of green bonds, and most of them are theoretical and include large issuers. A relatively lesser number of studies provide the segmentation of issuers of ESG Debt Securities and analyses of contribution by each category. The analysis of ESG Debt Securities from 2017-25 provided by SEBI in each year is also not available. This research aims to analyze the 26 issuers provided by SEBI ESG debt securities issuance, issuers' diversity (municipalities, financial institutions, renewable energy corporations and infrastructure companies) and relationship between coupon rate and amount of issue.

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Research Methodology

The study is based on secondary data collected from the database given in SEBI ESG Debt Securities, which is for green bond issuance as of 28th Feb, 2026[1]. It shows the certain bonds officially listed by SEBI from 29th June, 2017, making a census of 26 issuers mentioned in "green bonds issuance" under "ESG Debt Securities". The study adopts descriptive analysis.

It utilizes ISIN (International Securities Identification Number) as the unit of measurement of the number of bonds issued, as multiple bond tranches are issued by many issuers in SEBI ESG data, having different maturity and specific ISIN numbers for each one. Hence, each ISIN number is used to calculate the total number of bonds issued in the market, as it is considered a different "issuer's response" or entry in the market.

The issuers are also categorized on the basis of their core operations in four main categories, which are renewable energy companies, municipalities, financial institutions and infrastructure corporations. The data is analysed by using trend analysis to show the growth in ESG Debt securities. The data is further shown in the form of charts and diagrams.

Results and Discussions

In this section, 26 issuers provided by SEBI under "ESG Debt securities" data are considered to analyse the growth of the green bonds market in India from 2017-25[1].

Hence, Table 1 is added to know the trend of total amount of issuance in each year:

Table 1: Year-wise distribution of ESG Debt Securities

Table 1: Yearly Issuance of ESG Debt Securities			
Year	**No. of bonds issued***	**Total amount of issue (in Rupees cr.)**	**Proportionate Change per year**
2017	1	667	-
2018	1	180	73.01% (Decrease)
2019	2	865	380.55% (Increase)
2020	0	0	100% (Decrease)
2021	13	1,387	-
2022	5	1,935	39.51% (Increase)
2023	5	794	58.96% (Decrease)
2024	4	1,125	41.68% (Increase)
2025	7	4,070	261.96% (Increase)
* **The ISIN number of the respective bonds is mentioned in annexure in *Table A1: ISIN Details of ESG Debt Securities listed in each*.**			

Note. From *ESG Debt Securities*, by SEBI, 2025. Retrieved from https://www.sebi.gov.in/statistics/greenbonds.html

[1] SEBI ESG Debt Securities: https://www.sebi.gov.in/statistics/greenbonds.html

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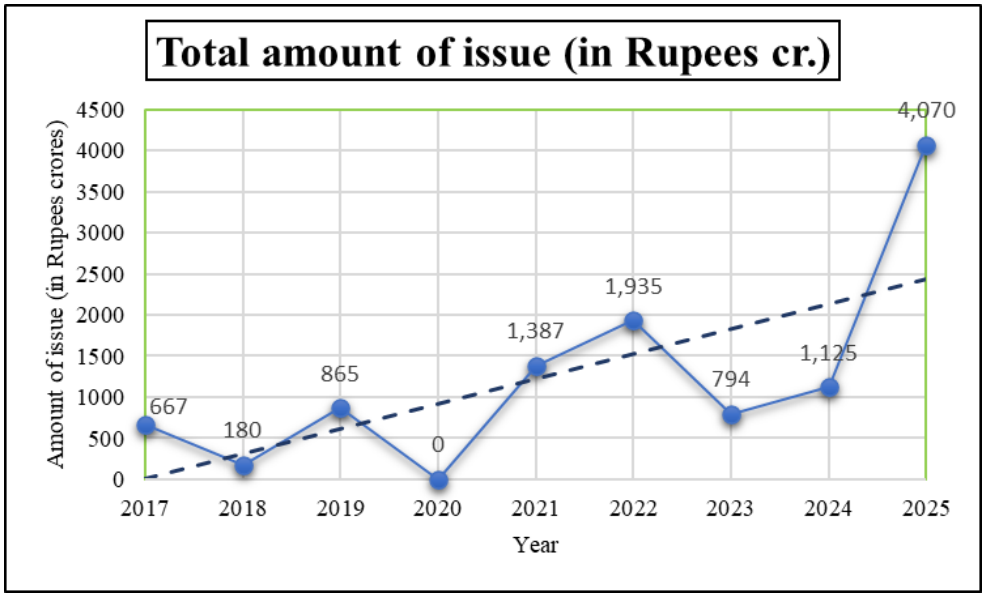

Figure 1: Growth trend of ESG Debt Securities

- As it is highlighted in Figure 1, there is an increase in the amount raised from 2018 to 2019 by 380.55% due to the issuance of green bonds by IREDA twice in 2019. Further, from the year 2019 to 2020, green bond issuance decreased by a 100% due to COVID-19 pandemic; no green bonds were issued under SEBI's ESG Debt Securities.
- A sudden boom was noticed in the year 2021, as it was a breakthrough year, as it led to the entry of three more categories of issuers, which are municipal corporations, renewable energy companies and infrastructure companies. Then the number of issues increased more in the year 2022 as there were four issuers from renewable energy corporations out of total five issuers entering the market, and they issued the amount of green bonds at a low coupon rate.
- It was observed that issuance amount decreased again in 2023 due to increase in coupon rate (8.01-8.25), because of which only two issuers issued green bonds in the market as they have to pay more to the investors.
- In 2024 issuance amount again increased because out of four total issuers, two new issuers, only from municipalities entered into the market (Ahmedabad Municipal Corporation and Vadodara Municipal Corporation) localizing the green bonds in the Indian market.
- The total issuance of 2025 was the highest from all previous years as sustainability-linked bonds were issued in the market by three issuers (Brookfield India Real Estate Trust, Mindspace business parks REIT and

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Larsen & Toubro Limited), that too with a big amount of rupees 3,050 crores. This year, green bonds were issued with the amount of rupees 1,020 crores only. This shows that the initial year of sustainability-linked bonds is much better than the initial year of green bonds, which depicts that sustainability-linked bonds also have high potential for growth.

- Hence, in Figure 1, the trend line moves upward, highlighting the growth of ESG Debt Securities from 2017 to 2025, even after facing various ups and downs with a temporary shutdown in 2020, showing the resiliency of this market.

Table 2 shows categories of the issuer provided by SEBI in ESG Debt Securities Data. It consists of the coupon rate provided by each issuer and the amount issued by that particular issuer from 2017 to 2025. It has the data of 25 issuers, excluding one issuer named Brookfield India Real Estate Trust, from the category of infrastructure companies that provided sustainability-linked bonds on variable rate in 2025. These 25 issuers were classified in four main categories (Financial institutions, Renewable energy companies, Municipalities, and Infrastructure corporations on the basis of their operations. This is to provide an analysis of which sectors are playing key roles in operating the sustainable bond market in India.

Table 2: Categorization of Issuers

Category	Financial Institutions			Municipalities			Infrastructure Corporations			Renewable Energy Companies			Total no. of Bons	Total Amt. Of issuance (cr.)
Coupon Rate	Name	No. of bonds	Amt. (cr.)	Name	No. of bonds	Amt. (cr.)	Name	No. of bonds	Amt. (cr.)	Name	No. of bonds	Amt. (cr.)		
6.00-6.99	-	-	-	-	-	-	1. Yarrow Infrastructure Private Limited	1	581	1.Rattanindia Solar 2 Private	1	227	-	-
	-	-	-	-	-	-	2. Priapus Infrastructure Limited	1	16	2. Malwa Solar Power Generation Private Limited	1	197	-	-
	-	-	-	-	-	-	3. Citra Real Estate Limited	1	19	3. Avaada Solarise Energy Private Limited	1	499	-	-
	-	-	-	-	-	-	4. Sepset Construction Limited	1	197	4. Clean Sustainable Energy Private Limited	1	334	-	-
	-	-	-	-	-	-	5. Larsen & Toubro Limited	1	500	5. Fermi Solarfarms Private Limited	1	337	-	-

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	-	-	-	-	-	-	-	-	-	6. Avaada Satara MH Private Limited	1	270	-	-
	Total (A)	-	-	Total (E)	-	-	Total (I)	5	1313	Total (M)	6	1864	11	3177
7.00-7.99	1. L&T Infrastructure Finance Company Ltd.	1	667	1. Ahmedabad Municipal Corporation	1	200	1. Vikas Telecom Private Limited	1	495	-	-	-	-	-
	-	-	-	2. Vadodara Municipal Corporation	1	100	2. DME Development Limited	1	775	-	-	-	-	-
	-	-	-	3. Pimpri Chinchwad Municipal	2	200	3. Mindspace Business Parts REIT	1	550	-	-	-	-	-
	Total (B)	1	667	Total (F)	4	500	Total (J)	3	1820	Total (N)	-	-	8	2987
8.00-8.99	1. Tata Cleantech Capital Limited	1	180	1. Ghaziabad Nagar Nigam	7	150	1. Mindspace Business Parks Reit	1	550	1. KPI Green Energy Limited	1	670	-	-
	2. Indian Renewable Energy Development Agency Limited	1	275	2. Indore Municipal Corporation	4	244	-	-	-	-	-	-	-	-
	3. Indian Renewable Energy Development Agency Limited	1	590	3. Prayagraj Nagar Nigam	4	50	-	-	-	-	-	-	-	-
	4. Muthoot Capital Services Limited	1	150	4. Surat Municipal Corporation	2	200	-	-		-	-	-	-	-
	Total (C)	4	1195	Total (G)	11	644	Total (K)	1	550	Total (O)	1	670	17	2809
9.00 & Above	1. Samunnati Financial Intermediation & Services Private Limited	1	50	-	-	-	-	-	-	-	-	-	-	-
	Total (D)	1	50	Total (H)	-	-	Total (L)	-	-	Total (P)	-	-	1	50
Total Amount	Total (A+B+C+D)	6	1912	Total (E+F+G+H)	15	1144	Total (I+J+K+L)	9	3683	Total (M+N+O+P)	7	2534	**37***	**9023***
***9023** = **Grand Total** of (A+B+C+D+E+F+G+H+I+J+K+L+M+N+O+P) ***37 = Grand Total** of (A+B+C+D+E+F+G+H+I+J+K+L+M+N+O+P)														

Note. From *ESG Debt Securities*, by SEBI, 2025. Retrieved from https://www.sebi.gov.in/statistics/greenbonds.html

- It can be observed that at a lower coupon rate (6.00-6.99), there is no issuance by financial institutions and municipalities. The issuers under infrastructure corporation are higher in low coupon rates and with the increase in coupon rate, issuers under infrastructure corporation decrease. The total amount of issuance in sustainable bonds is decreasing with the increase in coupon rate.

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- Financial institutions are mainly issuing at the coupon rate of (8.00-8.99), highlighting that investors are only confident to invest in green bonds issued by financial institutions when they get higher return and for higher return, they are ready to take the risks, leading to increase in number of issuers of financial institutions in higher coupon rates, only their investors are available. The financial institutions can also be observed issuing green bonds with the highest coupon rate of (9 & above).
- The presence of municipalities is in the medium coupon rates (7.00-7.99 and 8.00-8.99) because their unsecured credit status avoids the entry in low coupon rates (6.00-6.99). The renewable energy companies are issued mainly at low coupon rates as they are for a long-term period, and investors are more confident to invest in them. When the coupon rate increases, they exit the market because high coupon rate decreases their profit margin and increases their borrowing costs (Trivedi, 2021).

Conclusion & Recommendations

- This study highlights **stable growth** in the ESG Debt Securities market with increase in diversity of issuers in the market and transformation of green bonds from a niche to mainstream investment in India. Also, in 2025, there is an occurrence of sustainability-linked bonds. However, there are other types of ESG Debt Securities, which are yellow bonds, blue bonds, social bonds and other types. This shows that adoption of new eco-friendly bonds is very slow, even after they were introduced by SEBI in the ESG Debt Securities framework. Hence, **regulatory push and incentives** must be introduced for bonds with labels other than “green”.
- It is shown in this study that there are no financial institutions issuing green bonds in coupon rate (6.00-6.99), which highlights that there is very **little confidence of investors** in green bonds in this coupon rate issued by financial institutions specifically. The existing literature also highlights that **lending business** of financial institutions is mainly **based on private information,** due to which the investors hesitate to buy green bonds (Fatica et. al., 2021).
- When the green bonds are issued frequently, the cost of capital of firms decreases and increases their recognition, but those who do not issue frequently, as they face less involvement of investors in green bonds, such issuers are unable to enjoy issuance at low coupon rate (Aleksandar et. al., 2024). Hence, financial institutions should also **issue green bonds more frequently** so that they can have the advantage of low coupon rates.
- The number of bonds issued by infrastructure corporations **decreases with the increase in the coupon rates** because this leads to increase in the interest rate payment by them, and since they are **long-term projects,** their

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cost of borrowing increases. The increase in the debt burden on renewable energy projects due to high coupon rates forces them to **participate in issuance under low coupon rates,** which is highlighted in other studies (Chauhan, 2025). Hence, government support is needed to provide them with more funds at a lower coupon rate, as they are related to further sustainable development projects in India. Regulatory bodies must **develop a low-coupon-rate framework** of green bonds specifically for them so that capital can be mobilised in long-term sustainable projects.

- In order to tackle the problems such as green washing, putting more levels, such as third-party verification, in impact reporting is not enough, but making a standard measure and framework to report impact. Under the third-party verification, **third-party auditing** should be **made compulsory** for all issuers. This will **increase the transparency** and boost investors' confidence.

Limitations & Future Scope

- The study is limited to the ESG Debt Securities listed publicly on the SEBI portal. So, the number of issuers considered here is only 26. It does not consider the unlisted private placements of green bonds or other types of bonds.
- Future studies can track yield spreads of green bonds for verifying and identifying the yield rates where they get a "greenium", i.e. green premium, where further comparison between ESG Debt securities and conventional bonds can be carried out.
- The sovereign green bonds issued by the Government of India can be compared with other labels of ESG Debt Securities in India and can also be compared with such government-issued bonds by developed nations. This will provide the insights related to certain improvements that can be made in SGrBs.

References

A, C. R. (2025). Trajectory of green bonds in India. *INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH IN ENGINEERING AND MANAGEMENT*, *09*(03), 1–9. https://doi.org/10.55041/ijsrem42913

Abhilash, Shenoy, S. S., Shetty, D. K., Lobo, L. S., & N, S. K. (2023b). Green Bond as an Innovative financial instrument in the Indian Financial Market: Insights from Systematic Literature Review Approach. *SAGE Open*, *13*(2). https://doi.org/10.1177/21582440231178783

ISBN: 978-93-49468-06-1

Agliardi, E., & Agliardi, R. (2019). Financing environmentally-sustainable projects with green bonds. *Environment and Development Economics*, *24*(6), 608–623. https://doi.org/10.1017/s1355770x19000020

Bandekar, B. P. B., & Shah, P. D. (2024, March 12). Evaluation of Issue and investment in Green Bond in India. Retrieved from https://www.thinkindiaquarterly.org/index.php/ijss/article/view/20467

Bhurjee, K., & Paliwal, A. (2022). Determinants of Green Bond Performance Evidence from India. *International Journal of Environmental Sustainability and Green Technologies*, *13*(1), 1–18. https://doi.org/10.4018/ijesgt.304821

Chauhan, M. (2025). Financing sustainability: The role of green bonds in India's Low-Carbon transition. *Universal Research Reports*, *12*(2), 114–129. https://doi.org/10.36676/urr.v12.i2.1524

Datta, S. (2024). An empirical assessment of India's position in global sustainable bond market. *Journal of Applied Economic Sciences (JAES)*, *19*(16), 369. https://doi.org/10.57017/jaes.v19.4(86).02

Green Bond Principles. (2021). *Green bond principles*. Retrieved from https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-140621.pdf

Himanshi. (2025). Green finance for a sustainable Indian economy. *JOURNAL GLOBAL VALUES*, *XVI*(SI), 49–56. https://doi.org/10.31995/jgv.2025.v16isi.009

Kapraun, J., Latino, C., Scheins, C., & Schlag, C. (2021, May). *(IN)-Credibly green: Which bonds trade at a green bond premium?* Proceedings of Paris December 2019 Finance Meeting EUROFIDAI - ESSEC. https://doi.org/10.2139/ssrn.3347337

Liu, L., & Hu, Y. (2025). Green Bond Pricing: A Comprehensive Review of the Empirical literature. (Journal of Risk and Financial Management), *Journal of Risk and Financial Management* (Vol. 18, p. 689). Retrieved from https://doi.org/10.3390/jrfm18120689

Ramakrishnan, P., Chaudhary, N., & Meena, P. (2023). SEBI and the Reform on Sustainable Finance (Part 2 of 3). *The Management Accountant Journal*, 60–62. https://doi.org/10.33516/maj.v58i5.60-62p

Securities and Exchange Board of India. (n.d.). *Concept Paper for issuance of Green Bonds*. Retrieved from https://www.sebi.gov.in/sebi_data/attachdocs/1449143298693.pdf

ISBN: 978-93-49468-06-1

Shah, I., & Soni, D. (2025). GREEN BONDS: a GENUINE PATH TO SUSTAINABILITY OR CLEVER MARKETING STRATEGY? *International Journal of Management, Economics and Commerce.*, *2*(2), 181–186. https://doi.org/10.62737/b377g825

Singh, R. S. C., & Tamta, N. (2025). Greenium and Alpha in India's debt Markets: Measuring returns and climate impact. *Economic Sciences.*, *21*(02(S) August), 239–251. https://doi.org/10.69889/8z4ahg93

Suchitra, V., Megha, V., & Deepashree, A. (2025). A Study on Financial Sustainability through Green Bond. *Scientia. Technology, Science and Society.*, *2*(3), 68–73. https://doi.org/10.59324/stss.2025.2(3).07

Trivedi, S. (2021, August 19). IEEFA: Green bonds are driving cost-effective finance to clean energy in India | IEEFA. Retrieved from https://ieefa.org/resources/ieefa-green-bonds-are-driving-cost-effective-finance-clean-energy-india

Annexure

Table A1: ISIN Details of ESG Debt Securities listed in each year

Year	Name of Bonds Issued	ISIN Number*
2017	1	INE691I07DZ9
2018	1	INE857Q07216
2019	2	INE202E07260, INE202E07278
2020	0	
2021	13	INE0GVF24014, INE0GVF24022, INE0GVF24030, INE0GVF24048, INE0GVF24055, INE0GVF24063, INE0GVF24071, INE001W07011, INE964M07011, INE935V07012, INE999X07014, INE969M07010, INE961M07017
2022	5	INE1961M07012, INE00JT07017, INE404X07015, INE0CSU07013, INE466P07010
2023	5	INE466P07010, INE00QS24019, INE0QS24043, INE00QS24027, INE00QS24035, INE0CCU07074
2024	4	INE117E08029, INE0KDG08023, INE551U07340, INE0J7Q07256
2025	7	INE0P1K24036, INE0P1K24028, INE018A08BN0, INE0CCU07157, INE542W07014, INE296G07317, INE0FDU07018

*__ISIN Number__ is International Securities Identification Number which is a 12-digit alphanumeric code assigned to each bond issued for identification.

Note. From *ESG Debt Securities*, by Securities and Exchange Board of India (SEBI), 2025. Retrieved from https://www.sebi.gov.in/statistics/greenbonds.html.

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