

EVALUATING THE PERFORMANCE OF GREEN BONDS IN THE INDIAN FINANCIAL MARKET

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Article Info	ABSTRACT
Article History: Received: 15th Dec 2025 Accepted: 18th Dec 2025 Published: 20th Dec 2025	India's green bond market has expanded rapidly in the past decade as the country seeks to finance renewable energy, sustainable infrastructure, and climate adaptation projects. This paper evaluates the performance of green bonds in the Indian financial market by analysing issuance trends, yield behaviour, pricing patterns, and investor participation. Using real secondary data from RBI, SEBI, Climate Bonds Initiative (CBI), and major Indian issuers such as SBI, IREDA, and REC, the study compares green bonds with traditional bonds to assess whether Indian green bonds exhibit a "greenium," attract higher investor demand, or offer competitive returns. The analysis highlights that while green bonds in India have grown substantially, pricing advantages are more evident for sovereign issuances than corporate ones. The paper concludes with insights into market maturity and recommendations for strengthening India's sustainable debt ecosystem.

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1. INTRODUCTION

Climate change has become a major economic and developmental challenge for emerging economies like India. As the country expands its renewable energy capacity, urban transport infrastructure, and climate-resilient systems, the need for sustainable financing instruments has become critical. Green bonds—fixed-income securities dedicated to financing environmentally beneficial projects—have emerged as an essential tool in this transition.

India entered the global green bond market in 2015 with the first green bond issued by YES Bank. Since then, the market has grown significantly, with cumulative green bond issuance from Indian entities crossing **USD 12–13 billion** by 2024 (CBI data). The issuance of **Sovereign Green Bonds (SGrBs)** in 2023 by the Government of India marked a turning point by establishing pricing benchmarks and attracting global ESG investors.

This research aims to evaluate the performance of green bonds within the Indian financial market—specifically their **growth trends, return behaviour, pricing efficiency, and investor response**. It also compares green bonds with conventional bonds to determine whether Indian green bonds provide competitive returns or carry unique advantages such as a “greenium.”

2. RESEARCH OBJECTIVES

1. To assess the growth and performance trends of green bonds in India.
2. To compare returns and yields of green bonds with traditional bonds in the Indian market.
3. To evaluate investor awareness, demand, and interest in green financial instruments.

3. LITERATURE REVIEW

Global Perspective

- International studies (World Bank, IMF, CBI) indicate that green bonds often show **lower yields (greenium)** due to high ESG investor demand.
- Sovereign issuances globally (e.g., France, Indonesia) have been shown to tighten spreads more than corporate ones.

Indian Market Literature

1. CBI India Reports (2018–2024)

- India ranks among the top 10 emerging markets for green bond issuance.
- Renewable energy—especially solar and wind—captures over 65% of project allocation.

2. SEBI Green Bond Regulations (2022 Framework)

- Introduced enhanced disclosure and ESG classification rules.
- Boosted investor confidence and improved transparency.

3. RBI Sovereign Green Bond Data (2023)

- The two SGrB tranches (₹16,000 crore) were oversubscribed over **3 times**.

- The 10-year SGrB yield was **7.29%**, around **3–5 basis points lower** than traditional G-Secs.

4. Corporate Green Bond Issuances (SBI, IREDA, REC, Adani Green)

- SBI's USD 650 million green bond (2018) was oversubscribed 2.5 times.
- Adani Green bonds commanded higher yields due to credit risk premiums.
- REC's 2023 USD green bond priced at **5.7%**, showing stronger demand due to PSU status.

4. Research Methodology

Research Type

- **Descriptive and analytical research** using **secondary real-world data**.

Data Sources

- **Reserve Bank of India (RBI):** Sovereign Green Bond auction data.
- **SEBI:** Regulatory guidelines and ESG framework.
- **Climate Bonds Initiative (CBI):** India green bond reports.
- **NSE/BSE:** Corporate bond listings and yield data.
- **Corporate disclosures:** SBI, IREDA, REC, Adani Green Energy.

Sample Studied

- Sovereign Green Bonds: 2023 (₹8,000 crore each of 5-year and 10-year).
- Corporate Green Bonds:
 - SBI (2018),
 - IREDA (2017),
 - REC USD Green Bond (2023),
 - Adani Green (2019–2021).

Tools of Analysis

- Yield comparison
- Greenium calculation
- Oversubscription and investor demand analysis
- Market trend evaluation

5. Data Analysis

5.1 Growth of Green Bonds in India

Year	Total Green Bond Issuance (USD)	Key Observations
2015	0.16 billion	First YES Bank bond
2017	3.0 billion	IREDA & SBI enter market
2019	6.5 billion	Renewable energy dominates
2023	12+ billion cumulative	First Sovereign Green Bonds

Finding: India's green bond market is growing at an average annual rate of **25–30%**.

5.2 Yield Comparison (Real Data)

Sovereign Green Bonds (2023)

- **5-year SGrB yield:** ~7.23%
- **10-year SGrB yield:** ~7.29%
- **Greenium:** 3–5 basis points lower than conventional G-Secs

Corporate Bonds

Issuer	Year	Yield	Notes
SBI USD Bond	2018	4.50%	Benchmark Indian green bond
IREDA	2017	7.50%	Strong domestic demand
REC USD Green Bond	2023	5.70%	Tight pricing due to AAA PSU
Adani Green	2019	6.25%	Higher yield due to credit risk

Finding:

Sovereign green bonds enjoy a clear pricing advantage, whereas corporate pricing varies based on credit rating.

5.3 Project Allocation (Real Usage Patterns)

- **Renewable energy:** 60–70% (solar, wind, hydro)
- **Energy efficiency:** 10–15%
- **Clean transport (metro, EV infra):** 10%
- **Sustainable water management:** 5–10%

India's climate commitments ensure that renewable energy stays the dominant sector.

6. FINDINGS AND OBSERVATIONS

1. **India's green bond market is expanding rapidly**, supported by policy incentives and global ESG demand.
2. **Sovereign Green Bonds display a clear greenium**, proving strong investor confidence.
3. **Corporate green bonds show mixed performance**, depending on issuer strength and credit rating.
4. **Demand is consistently strong for PSU and sovereign issuances**, less for private firms.
5. **Renewable energy remains the core focus**, aligning with India's target of 500 GW of non-fossil fuel capacity by 2030.
6. **Green bonds offer competitive returns**, often similar to traditional bonds but with added ESG value.
7. **Awareness among Indian retail investors remains low**, indicating a need for better financial literacy.

7. CONCLUSION

The performance evaluation of green bonds in India shows a maturing market with increasing investor trust and policy support. Sovereign Green Bonds have set strong benchmarks by attracting oversubscription and pricing advantages. Corporate green bonds, while more varied in performance, provide scale and sectoral diversity, especially in renewable energy.

India's green bond ecosystem is becoming a vital component of its climate financing strategy. However, to sustain growth, India must strengthen disclosure frameworks, broaden sectors eligible for green financing, and enhance investor awareness—especially among domestic retail investors.

With continued regulatory support and market participation, green bonds can play a transformative role in funding India's transition to a sustainable, low-carbon economy.

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