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Green Bonds as a Tool for Financing Sustainability: A Comparative Study of India and Global Markets

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***Abstract* – Green bonds are becoming an important way to raise money for projects that protect the environment and support clean energy. The aim of this study is to understand how green bonds help in financing sustainable projects and to compare India's progress with major global markets like the US, Europe, and China. To achieve this, secondary data has been used from SEBI, RBI, government reports, and international financial sources. The findings show that global markets are more advanced, with strong rules, high investor trust, and large investment flows into green projects. India is growing quickly in this area, especially in renewable energy, but still needs clearer policies, stronger monitoring systems, better incentives, and more investor awareness to match global standards. The study suggests that if India focuses on transparency, offers financial benefits, and strengthens certification standards, it can attract more investors and speed up the growth of sustainable projects. This will help India support environmental protection and achieve long-term climate goals more effectively.**

***Keywords* – Green bonds, sustainable finance, India vs global markets, renewable energy investment, climate funding, ESG.**

I. INTRODUCTION

Sustainable development has become a global priority as countries work toward reducing carbon emissions, protecting natural resources, and supporting long-term economic growth. To achieve these goals, large-scale financial support is required, especially for clean energy, pollution control, climateresilient infrastructure, and other environmentally responsible projects. Green bonds have emerged as one of the most effective financial tools to mobilize funds for such initiatives (Chakraborty & Das, 2019). These bonds allow governments, corporations, and financial institutions to raise money specifically for projects that offer environmental benefits. Over the years, they have gained strong acceptance among investors who want to support sustainability while also earning financial returns.

The global green bond market has grown rapidly with the support of strong policies, transparent reporting standards, and increasing investor interest. Studies such as Flammer (2021) and Cortellini et al. (2021) highlight that developed economies like the United States, European Union, and China have established well-structured frameworks that encourage green financing and ensure accountability in the use of funds. Their experience shows that clear guidelines, long-term environmental commitments, and investor confidence are key drivers of a successful green bond ecosystem. Research by Taghizadeh-Hesary and Yoshino (2019) further suggests that emerging economies can benefit more from green bonds if they strengthen verification mechanisms, offer incentives, and build awareness among market participants.

India has recently recognized the potential of green bonds as part of its efforts to transition toward a low-carbon and sustainable economy. With strong growth in renewable energy projects, particularly solar and wind power, the country has begun to attract attention in the green finance space. Initiatives by regulators like SEBI and the Reserve Bank of India, along with India's commitments under the Paris Agreement, have helped create a foundation for green bond issuance (Chakraborty & Das, 2019). However, compared to global markets, India is still in the developing phase. As noted by Abhilash et al. (2023) and Gupta (2023), India faces challenges such as limited awareness, need for clearer project certification standards, and absence of strong tax incentives that can encourage wider investor participation.

Given the increasing importance of sustainable finance and the growing interest in green bonds, it becomes essential to study India's progress in comparison with leading global markets. A comparative understanding can highlight strengths, identify gaps, and suggest improvements that can support India in scaling up its green bond market. This research therefore focuses on examining how green bonds are being used to finance sustainability globally and in India, and how India can enhance its practices to accelerate environmental and economic development in the coming years.

Problem Statement:
Although green bonds have become a powerful tool for financing sustainable development worldwide, their growth and effectiveness vary widely across countries. India's green bond market is still developing and faces challenges such as limited investor awareness, weak certification standards, and lack of strong policy incentives. Compared to global markets with mature frameworks, India struggles to attract large-scale sustainable investment. Therefore, understanding the factors that influence these differences is essential to

strengthen India's green bond ecosystem and support its sustainability goals.

Objectives of the Study:

1. To examine the role of green bonds in financing environmentally sustainable projects.
2. To compare the development and growth patterns of India's green bond market with major global markets such as the US, EU, and China.
3. To analyse sector-wise allocation, issuer diversity, and regulatory frameworks across India and global markets.
4. To study investor participation and factors influencing confidence in green bond markets.
5. To identify key challenges, gaps, and opportunities for strengthening India's green bond ecosystem.

II. LITERATURE REVIEW

Sengupta et al. (2025) examined regulatory frameworks for green bonds in China, the US, the EU, and India. They aim to identify best practices for emerging markets. Through a comparative literature and regulatory analysis, they evaluate how different jurisdictions set disclosure norms, incentives, and monitoring mechanisms. Their findings suggest that India can strengthen its green bond market by adopting clear disclosure requirements, robust monitoring systems, and targeted policy incentives.

This would help align it more closely with global sustainability standards and attract greater investor confidence (Chakraborty & Das, 2022). Kumar et al. (2024) explored trends in green finance and environmental sustainability using bibliometric and content analysis of published research. They look at co- citation networks, keyword occurrences, and thematic clusters to assess research progress and emerging areas. Their study highlights that green finance promotes sustainability through technological innovation, public-private partnerships, and digital finance solutions. They also identify gaps in policy analysis, impact measurement, and the involvement of emerging economies, providing guidance for future research agendas. Negi and Jaiswal (2024) investigate sustainable bonds, including green, social, and sustainability- linked bonds, as tools for environmental and social development.

They conduct qualitative thematic analysis of literature to examine trends, market dynamics, and barriers to adoption. Their study finds that sustainable bonds are gaining global attention. However, challenges such as greenwashing, inconsistent reporting standards, and unclear definitions persist. Stronger regulatory frameworks and improved transparency are needed to enhance their credibility and effectiveness. Kulkarni et al. analyzed the Indian green bond market, focusing on growth trends, regulatory challenges, and investment opportunities (Chakraborty & Das, 2022).

They use market data, issuer profiles, and policy analysis to explore structural and operational factors affecting market development. Their findings indicate that while India's green bond market is growing, low investor awareness, regulatory uncertainty, and limited international integration hinder its potential. They suggest that strategic policy support and targeted awareness campaigns could unlock further growth, especially in infrastructure and renewable energy sectors. Kumar et al. (2025) examined the role of green bonds in mobilizing low-carbon financing to support sustainable development. They perform empirical analysis of issuance trends, investment flows, and sector allocations to assess how effective green bonds are in financing environmentally beneficial projects.

Their study concludes that green bonds successfully channel capital into lowcarbon initiatives. These bonds bridge gaps between financial markets and climate goals while promoting sustainable development in line with global environmental objectives (Chakraborty & Das, 2023). Cortellini & Panetta (2021) conducted a systematic literature review of green bonds to understand research progress and identify gaps. They analyze academic publications covering market development, risk management, regulation, and performance assessment. Their findings indicate that while green bonds have received more research attention, areas such as long-term performance, risk assessment, standardization, and evaluation of environmental impacts remain underexplored. This suggests the need for more empirical and interdisciplinary studies.

Abhilash et al. (2023) reviewed the Indian green bond market using a systematic literature approach. They focus on market evolution, regulatory frameworks, and barriers to adoption. They synthesize insights from academic and industry sources to assess market maturity and challenges. Their study identifies weak regulatory enforcement, limited investor awareness, and risks of mislabeling as key obstacles. They recommend targeted policy reforms, stakeholder engagement, and clear standards to enhance the adoption and credibility of green bonds in India. Abhilash and Shetty (2022) offer a technology-assisted systematic review of global green bond markets. They analyze trends, research clusters, and market challenges. Using bibliometric techniques and text-mining tools, they map the evolution of research and highlight key thematic areas.

Their findings show that while global green bond markets are growing, there is a need for better transparency, digital reporting practices, and assessment of social and environmental impacts. They emphasize the importance of standardized evaluation methods and policy support. Yadav et al. (2023) examined how green bonds interact with European financial markets in OECD economies. Using time-series econometric analysis, they study connections between green bonds, equities, and conventional bonds to assess systemic linkages. Their

study finds strong, timevarying connectedness. This indicates that green bonds are affected by broader market movements and play a significant role in financial stability, which has implications for investors, regulators, and policymakers in portfolio and risk management (Chakraborty et al., 2025).

Sood and Gupta (2025) compared the green bond markets of India and China. They evaluate their roles as pioneers in climate financing. Through comparative analysis of market structure, policy frameworks, and issuance trends, they find that China shows greater regulatory sophistication, market scale, and investor confidence. In contrast, India has potential for growth if it enhances infrastructure, investor participation, and policy clarity. The study underscores the importance of learning from global best practices to strengthen India's green bond market and support climate finance goals.

From these studies, it is clear that green bonds play a strong role in promoting sustainable investment, especially when supported by transparent regulations, proper certification, and investor confidence. Global markets have achieved faster growth due to stronger policy support and clearer reporting standards, while India is still developing its market framework and investor awareness. The existing research highlights the need for better monitoring, consistent disclosure norms, and incentives to encourage wider participation in India. Therefore, this study aims to fill the gap by comparing India's progress with leading global markets and identifying strategies to strengthen India's green bond ecosystem.

III. RESEARCH METHODOLOGY

Research Design:
This study uses a descriptive research design. This approach is suitable for understanding the current situation, trends, and patterns related to the topic by utilizing existing information. The design lets the researcher observe and interpret data without changing any variables. Since the study is based on secondary sources, a descriptive design helps organize, present, and compare the collected information systematically. It also allows for meaningful interpretation of developments over different years and regions.

Data Collection Method:
The research is conducted through secondary data collection. Information is gathered from published and credible sources instead of through direct fieldwork. A desk-based approach is followed that involves systematically reviewing official reports, policy documents, industry publications, academic research, and reliable online databases. This method provides access to extensive, authentic, and time-series data essential for analyzing trends. It is also cost-effective and works well for topics with well-documented evidence.

Data Sources:
Data come mainly from well-known domestic and international institutions to ensure accuracy and consistency. Key sources include:
Reliable and credible data for the study will be collected from various trusted sources. Regulatory bodies such as SEBI, RBI, and the Ministry of Finance provide essential guidelines, regulatory updates, and policy frameworks related to financial markets and climate finance initiatives. Government publications, including the Union Budget documents and official climate finance updates, offer valuable insights into national priorities and budget allocations. International organizations like the World Bank, IMF, IEA, OECD, and UNEP contribute global perspectives, research reports, and comparative environmental finance data. Additionally, industry bodies such as the Climate Bonds Initiative (CBI) and the International Capital Market Association (ICMA) supply market-based insights and standards related to green finance instruments. Academic journals published by Springer, Elsevier,

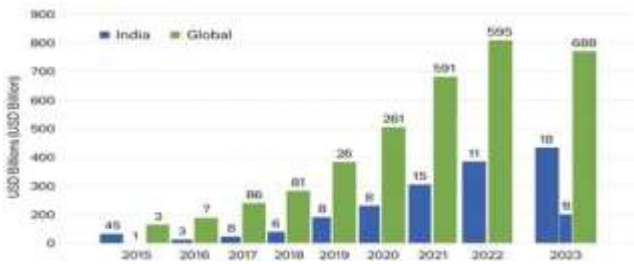
Taylor & Francis, SAGE, and Emerald ensure access to high-quality peer-reviewed literature. Alongside these, reputable financial databases and business news platforms help in gathering the latest market trends, expert opinions, and real-time financial information.
These sources provide valuable insights into issuance volumes, sector allocation, regulatory policies, investor trends, and global standards needed for comparative analysis.

Data Analysis Technique:
The collected data is analyzed through trend analysis, comparative analysis, and qualitative interpretation. Trend analysis identifies growth patterns, sector changes, and year-to-year movements. Comparative analysis evaluates India's performance against global markets and regulatory frameworks. Additionally, qualitative analysis interprets policy measures, regulatory changes, and industry developments to draw meaningful conclusions. Together, these methods ensure that the findings are well-supported and logically derived.

Data Analysis and Interpretation:
This provides a detailed analysis of the growth patterns, sectoral distribution, regulatory frameworks, and comparative maturity of the green bond market in India and major global markets. Since the study relies entirely on secondary data, the findings are derived by synthesizing historic issuance volumes, regulatory reports, global financial trends, and indexed growth indicators.

Overall Growth Trend Analysis (2015–2023)
A comparative indexed trend was developed to understand how India and global markets have expanded relative to their 2015 positions. Indexing helps compare growth patterns even though global markets are much larger in absolute size.

Chart no. 1. Indexed Growth Trend – India vs Global Market (2015–2023) (2015 = Base Index 100)



Source: Climate Bonds Initiative (CBI)

The comparative chart of India and the global green bond market from 2015 to 2023 clearly shows a widening difference in scale and growth momentum between the two markets. Global green bond issuance has expanded rapidly over the years, especially after 2019, reflecting stronger international climate commitments, the introduction of structured frameworks such as the EU Green Taxonomy, and greater participation from sovereign, corporate, and financial issuers worldwide. This steady rise highlights how global markets have entered a more mature phase, supported by consistent regulatory guidance and strong investor demand for sustainable investments.

In contrast, India's green bond market shows a positive but comparatively moderate growth pattern. The increase in India's issuance is largely driven by government-led renewable energy targets and the active participation of major public sector undertakings, supported by SEBI's green bond regulations. However, the overall pace remains slower due to limited issuer diversity, lower investor awareness, and the absence of largescale incentives. Overall, the comparison illustrates that although India is moving in the right direction, its market is still developing and has significant potential for expansion if supported by stronger policies, wider issuer participation, and improved market awareness.

Issuer Landscape and Market Composition
Comparative Issuer Base

Market	Dominant issuers	Market characteristics
Global	Sovereigns, supranational institutions, corporates, municipalities	Very diverse, stable
India	Corporates, financial institutions, PSUs	Narrow and concentrated

Source: Climate Bonds Initiative (CBI). Global State of the Market Reports (2015–2023), Climate Bonds Initiative & MUFG. India Sustainable Debt State of the Market 2024.

Global green finance markets demonstrate strong diversification, with multiple layers of issuers such as sovereign green bonds from countries like the EU member states, the UK, France, and China, as well as active participation from municipal bodies and a wide range of corporate issuers. In contrast, India's green bond market is primarily dominated by large corporations and public sector enterprises, resulting in lower participation from municipal authorities. Furthermore, India has had limited sovereign issuance, with its first sovereign green bond being introduced only in 2023. This relatively narrow issuer base limits the overall depth and liquidity of India's green bond market, indicating the need for broader market participation to strengthen growth and investor confidence.
Sectoral Allocation

➢**Sector-wise Allocation Comparison:**

Sector	Global Market	India Market
Renewable energy	High	Very High
Green Buildings	High	Moderate
Clean transport	Increasing	Moderate
Water & Waste	Moderate	Low
Climate Adoption	Moderate	Very Low
Biodiversity	Emerging	Minimal

Source: Climate Bonds Initiative (CBI), Global State of the Market Reports (2015–2023); Climate Bonds Initiative & MUFG, India Sustainable Debt State of the Market 2024.

The global green finance market exhibits a high level of diversification across multiple environmental sectors, including renewable energy, green buildings, transport, and climate adaptation. Green buildings and adaptation projects receive significant funding due to strong regulatory support from EU and US environmental policies, and because investors view these sectors as low-risk and aligned with long-term sustainability outcomes. In contrast, the Indian green finance landscape is heavily concentrated in renewable energy, with more than 70% of proceeds directed towards solar and wind projects.

This project-based approach is primarily driven by national initiatives such as the National Solar Mission and schemes like UDAY, which focus on renewable power refinancing. However, sectors such as biodiversity conservation, waste management, and climate adaptation receive comparatively minimal financial attention, indicating a long-term policy and awareness gap. Therefore, while global markets demonstrate thematic maturity, India's limited sectoral diversification reflects its developing stage in green finance transition.

Regulatory and Policy Structure:
Comparative Regulatory Framework:

Regulation	Global Market	India

Parameter		
Taxonomy Availability	Strong (EU Taxonomy, Catalogue)	Under development
Reporting Standards	Mandatory impact reporting	SEBI requires reporting but compliance varies
Incentives	Tax credits, climate funds	Limited incentives
External Verification	Mandatory in many regions	Not mandatory

Source: European Union: EU Taxonomy Regulation; China: Green Bond Endorsed Project

Catalogue; ICMA Green Bond Principles; SEBI (2023) Green Debt Securities Framework; RBI Sovereign Green Bond Framework (2023); Climate Bonds Initiative - Global & India Sustainable Debt Reports.

The global green finance market benefits from robust regulatory structures, particularly in regions like the EU and China, where strict third-party verification systems are mandated to ensure transparency and institutional trust. Sovereign green bond issuances are governed by internationally aligned frameworks, which provide clear definitions and strong investor protections—making these markets more attractive to global investors. In comparison, India's regulatory ecosystem, though guided by SEBI's Green Bond Guidelines, still faces notable gaps. The absence of a national green taxonomy, the optional nature of external verification, and limited fiscal incentives such as tax exemptions result in slower growth in investor confidence. Due to compliance costs and the lack of strong regulatory push, some issuers hesitate to opt for green labeling. Overall, global regulatory mechanisms significantly enhance market credibility and capital inflows, while India must strengthen enforcement, standardization, and incentives to reach similar credibility and investor participation levels.

IV. INVESTOR BASE AND MARKET DEMAND

Global Markets: Dominated by ESG funds, large pension funds, insurance companies, Investors actively seek green assets to meet climate disclosure requirements.

India: India's green finance market currently has a relatively narrow investor base, primarily dominated by banks, a few mutual funds, and limited participation from foreign institutional investors. Retail and individual investors contribute very little, largely due to low awareness about green financial instruments, absence of tax incentives, and limited availability of easily accessible green investment products. This restricted investor diversity reduces market liquidity and slows the overall growth momentum of green finance in India, highlighting the need for broader outreach and policy-driven retail mobilization.
Global markets have stronger demand-pull forces, whereas India mostly has supply-push (issuer driven) market growth.

The overall analysis indicates that India's green bond market, though growing steadily, still lags behind the structural maturity and diversification seen in global markets. As highlighted by Negi, Jaiswal & Rekunenko (2025), markets with stronger verification systems and credible reporting frameworks experience higher investor confidence-an advantage clearly visible in Europe, the US, and China but less developed in India. Similarly, Cortellini et al. (2021) emphasize the need for standardized measurement and long-term impact reporting, which global markets have widely implemented but India is still building.

Findings from Abhilash et al. (2023) further align with this study, noting India's concentration in renewable energy and gaps in certification and investor awareness. The indexed trend in this research confirms these observations: global green finance is driven by institutional maturity, diversified sectors, and strong regulatory mandates, whereas India's progress remains more policy-driven and dependent on public-sector issuers. Overall, the synthesis of data and literature suggests that with enhanced transparency, a national green taxonomy, stronger verification standards, and broader sectoral expansion as recommended across multiple studies-India has significant potential to accelerate growth and gradually align with leading global green bond markets.

Findings:
The findings of this comparative study provide a clear understanding of how the green bond market has evolved in global economies compared to India, and how differences in regulatory strength, sector allocation, issuer diversity, and investor participation affect market maturity. Through trend analysis, sector comparison, regulatory review, and issuer landscape assessment, several important insights emerge.

Growth and Market Expansion Trends (2015–2023)
The trend analysis indicates that the global green bond market has grown much faster than India's market. Global markets expanded from an index of 100 in 2015 to 420 in 2023, while India grew from 100 to 300 during the same period. This contrast shows that while India is making steady progress, its growth remains moderate.

Global markets saw a significant increase, especially after 2019, due to Strong ESG integration among global institutional investors, The introduction of the EU Green Taxonomy, Large sovereign issuances in Europe and China, Greater recognition of sustainability-linked finance
India's growth, although positive, is mainly driven by government-led renewable initiatives, such as the target of

500 GW of renewable energy capacity by 2030, involvement of public sector units like NTPC and REC, and SEBI's support for green bond issuances. However, the comparative analysis shows that global markets have reached a mature expansion stage, while India is still developing. The main factors limiting India's growth include lower issuer diversity, limited investor awareness, lack of wide fiscal incentives, developing regulatory frameworks. This indicates that global markets benefit from structural maturity and established systems, while India is still building its foundational mechanisms.

Issuer Landscape and Market Depth:
The issuer analysis reveals a significant difference in diversity and market depth. In global markets, green bonds come from a variety of entities: Sovereigns (e.g., France, UK, EU), Supranational institutions (e.g., World Bank, European Investment Bank), Corporations, Municipal governments, this diversity enhances liquidity, stability, and wider investor participation.

In India, issuances are mainly from: Corporations, Financial institutions, public sector units (PSUs). Municipal issuances are very limited, and sovereign issuances are new-India issued its first sovereign green bond only in 2023. The Indian market reflects a narrower issuer base, which restricts market depth and limits investor diversification. This aligns with findings from Abhilash et al. (2023), who point out India's limited issuer participation and the need for a more varied issuer ecosystem.

Sectoral Allocation: Over dependence on Renewable Energy:

The sectoral allocation analysis confirms that global markets have shifted toward more diverse financing, while India remains heavily focused on renewable energy projects.
Global markets show substantial investments in: Renewable energy, green buildings, clean transportation, climate adaptation and resilience, water and waste management, biodiversity protection. This wide distribution reflects regulatory maturity and investor acceptance of various environmental sectors.

In India, green bond allocations largely focus on: Solar projects, Wind projects, Transmission infrastructure linked to renewable energy. Over 70% of green bond proceeds in India support renewable energy, while sectors like biodiversity, adaptation, water systems, and waste management receive minimal funding. This pattern shows India's emphasis on large-scale renewable energy goals and the strong role of public-sector energy initiatives. However, it also highlights a gap: limited policy prioritization for emerging environmental sectors.

The analysis confirms that India's green bond market is still evolving and has not yet diversified compared to global markets, where environmental financing is more balanced and in line with broader sustainability goals.
Regulatory and Policy Framework Comparison:

The regulatory comparison shows a major difference between India and global markets. Global regulatory systems-mainly in the EU, US, and China have created, Clear taxonomies, Mandatory impact reporting. required external verification in many areas. Clear incentives, including tax benefits, grants, and climate funds, these mechanisms build investor confidence, improve market transparency, and ensure accountability in fund usage.

In contrast, India's regulatory environment is still developing, there is no national green taxonomy yet, SEBI mandates certain reporting standards, but compliance varies, external verification and certification are encouraged but not required, fiscal incentives, such as tax credits or exemptions, are limited. This regulatory gap leads to lower investor trust, weaker monitoring of fund use, and uncertainty about project classifications. Findings from Negi, Jaiswal & Rekunenko (2025) support this conclusion, stating that markets with stronger verification systems attract more investor confidence and achieve better green financing results.

Overall, stronger, clearer, and mandatory regulations in global markets have led to greater maturity, while India needs to improve its verification, develop a taxonomy, and enforce compliance.

Investor Base and Demand Dynamics:
Investor behavior highlights market maturity differences. Global markets have participation from: ESG-focused institutional investors, pension funds, insurance companies, sovereign wealth funds, large asset managers with sustainability goals, these investors are impacted by mandatory sustainability reporting rules and global climate commitments.

In India, the investor base is much narrower: Banks, select mutual funds, Limited foreign investor involvement, Minimal retail participation, this is because of: lack of incentives, limited awareness, and few accessible green financial products. Unlike Europe and the US, India lacks strong regulatory pressure to encourage institutional investors to invest in green assets.

Thus, global markets experience growth driven by demand, while India sees growth driven by supply. This aligns with international studies that point out that emerging markets often face challenges on the investor side that limit market expansion.

Synthesis of Literature and Empirical Trends:
The literature review aligns closely with the empirical findings. Negi & Jaiswal (2024) show that stronger verification systems improve market reactions, as seen in global trends. Cortellini et al. (2021) identify the need for

standardized impact assessment, which global markets fulfill, but India still lacks. Abhilash et al. (2023) highlight India's sectoral focus and limited awareness, reflecting the study's findings. Comparative studies (2022) note China's rapid growth due to clear definitions and strong state support, contrasting with India's moderate market-led pace.

V. CONCLUSION

This comparative study shows that green bonds have become a critical tool for financing sustainable development around the world. They direct funds toward projects that benefit the environment and help countries fulfil their climate commitments. While green bond activity has grown in both global markets and India, the level of development, regulatory strength, and investor confidence varies widely.

Global green bond markets have a highly developed and well-regulated system. Regions like the European Union, the US, and China have set up strong policies that clearly define qualifying green activities, require third-party verification, and enforce strict reporting standards. These steps ensure transparency in how funds are used and build investor trust. Incentives, ESG mandates, and climate-focused investment strategies have encouraged participation from large institutional investors, sovereign wealth funds, and pension funds. The notable increase in the global indexed trend-from 100 in 2015 to 420 in 2023, which shows the depth, variety, and maturity of these markets.

India's green bond market, while progressing, is still in its early stages. Its growth from 100 to 300 on the index shows positive momentum but indicates a slower pace compared to global markets. Most of India's issuances come from public sector companies and are focused mainly on renewable energy, particularly solar and wind power. The lack of diversification into areas such as green buildings, climate adaptation, biodiversity, and waste management limits the broader potential of the Indian green finance landscape.

Regulatory frameworks highlight one of the biggest differences. India has introduced guidelines through SEBI and recently issued sovereign green bonds, but it still lacks a national green taxonomy, uniform verification standards, and strong financial incentives. In contrast, global markets benefit from mandatory verification, consistent compliance systems, and internationally aligned green frameworks that bolster market credibility. Research consistently shows that clear regulations, rigorous certification, and transparent impact reporting build investor trust and attract more capital.

Investor participation also differs greatly. Global markets experience strong institutional demand driven by sustainability mandates. India's investor base is narrow, with limited foreign investment and extremely low retail participation. This results in a largely supply- driven market with lower liquidity and depth. Despite these challenges, India has significant potential for future growth. Its ambitious renewable energy targets, increasing regulatory focus on sustainability, and growing awareness of climate risks create favourable conditions for market expansion. To speed up progress, India should establish a national green taxonomy, strengthen verification requirements, improve reporting practices, diversify eligible sectors, and offer incentives like tax benefits. Encouraging participation from municipalities, corporations, and retail-focused green products can further enhance market depth.

Overall, while global markets showcase structural maturity and diverse growth, India presents a developing but promising green bond market. With strategic reforms and better transparency, India can rapidly expand green financing and more closely align with global standards, supporting both its climate goals and global sustainability efforts.

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