India's Green Finance Taxonomy: A Comparative Assessment with Global Standards

---

[1]Miss Richa Singh
Assistant Professor
Kashi Institute of Technology
[1]richasingh22may@gmail.com
https://doi.org/10.64882/ijrt.v14.iS1.984

Abstract

The importance of green finance has significantly increased, due to growing urgency of climate change and sustainable development. Green finance act as an important mechanism to mobilize capital toward environmentally sustainable activities. A comprehensive taxonomy is essential to identifies and categorizes appropriate green economic activities, thereby enhancing transparency and reducing the possibility of green washing. As a means to define environmentally sustainable economic activity and direct financial flows toward climate-resilient development, green finance taxonomies are crucial. Green finance taxonomies act as an outline for institutions and, investors providing common definitions for sustainable assets, with pillars typically involving the company's significant environmental contribution, avoidance of considerable harm, and social safeguards. Several nations throughout the globe have developed structured green finance taxonomies, such as China's Green Bond Endorsed Project Catalogue and the European Union (EU) Green Taxonomy, which offers comprehensive technical screening criteria and disclosure requirements. The green finance ecosystem is evolving significantly in India, with strong support from regulatory measures, such as the issuance of sovereign green bonds, and improved sustainability reporting requirements for businesses and financial institutions. However, the absence of comprehensive and unified global green finance taxonomy raises issues such as uniformity, consistency, comparability, and global coherence.

This research paper aims to analyse India's new green finance taxonomy and determine its alignment with leading global green finance taxonomy standards. The study utilizes a descriptive and comparative methodology that is entirely based on secondary data drawn from reports, policy documents, and regulatory frameworks published by international organizations such as World Bank, OECD, and European Commission as well as Indian institutions such as the Reserve Bank of India and the Securities and Exchange Board of India. Criteria for technical screening, standards disclosure requirements, sectors covered in taxonomy and the application of the "Do No Significant Harm" principle are the key aspects of comparison in this research paper.

The finding of this study discloses that India's green finance framework partially aligns with international standards, particularly in areas like clean transportation and renewable energy; however, it is still primarily principle-based and lacks specific technical thresholds and

uniform disclosure requirements. Furthermore, this research paper concludes that grater alignment with international green finance taxonomies would boost investor confidence, increase market transparency, and strengthen India's entry into global sustainable finance markets. To support the development of robust and internationally aligned green finance taxonomy for India, policy recommendations are proposed in this paper.

Keywords: Green finance, green taxonomy, sustainable finance, India, global standards

Introduction

Degradation of the environment, depletion of resources, and climate change has emerged as crucial concerns for governments, businesses, and financial institutions across the globe economy in the twenty-first century. Numerous factors such as increasing global temperatures, extreme weather conditions, loss of biodiversity, and rising pressure on natural resources, have compelled governments, businesses, and financial institutions to reconsider their traditional growth-oriented economic models. The concept of sustainable development has emerged as a critical goal of government policy and corporate strategy worldwide. Green finance has recently gained significant importance as a mechanism to align financial flows with environmental and climate objectives.

The term green finance refers to financial instruments, investments, and regulations that promote environmentally friendly commercial activities. Green finance includes investments in renewable energy, energy efficiency, clean transportation, sustainable infrastructure, pollution control, and sustainable development (Shrivastava, S., & Kumar, 2020). Green finance plays a critical role in alleviate adverse climate change, boost adaptation efforts, and promote long-term economic stability by redirecting funds towards green activities. Global initiative such as Science Based Target Initiative (SBTI), the Paris Agreement and the United Nations Sustainable Development Goals (SDGs) have further accelerated the demand for sustainable finance by emphasizing the need for substantial private-sector investment to achieve climate and development targets.

Unfortunately, the rapid development of green and sustainable financial markets has also brought with it new difficulties, particularly the risk of "greenwashing." When financial products or economic activities are labelled as environmentally sustainable without providing genuine or measurable environmental benefits is known as "greenwashing." Greenwashing has several adverse impacts such as weakened investor trust, distorted capital allocation, and compromised market credibility. To address the challenges of greenwashing, policymakers and regulators across the globe have emphasized the need for uniform, standardized, reliable, clear, and transparent frameworks that define what qualifies as a "green" or environmentally sustainable activity.

In recent times, green finance taxonomies have emerged as a foundational pillar of sustainable finance systems. Green finance taxonomy is a regulatory framework that identifies, classifies and categorizes economic activities based on their environmental sustainability. These taxonomies provide a common ground for regulators, investors, financial institutions, and corporations, thereby improving uniformity, consistency, comparability, and transparency in sustainable finance markets. The majority of green taxonomies are based on fundamental

principles such as making a substantial contribution to environmental objectives, avoiding significant harm to other environmental goals, and complying with minimum social safeguards.

To guide sustainable investment decisions, several countries and regions globally have developed structured green finance taxonomies One of the most extensive green taxonomy frameworks is the European Union's (EU) Green Taxonomy, which provides mandatory disclosure requirements in addition to specific technical screening criteria across several sectors. In the same way, China's Green Bond Endorsed Project Catalogue has played a crucial role in scaling green finance domestically. The China's Green Bond Endorsed Project Catalogue has been amended to better match with international standards. These taxonomies have boosted investor confidence and made cross-border capital flows easier as well as reduced the risk of greenwashing.

In recent years, the green finance ecosystem in India has grown significantly. The nation's growing commitment to climate action and sustainable development is reflected in regulatory actions by organizations like the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI), the introduction of sovereign green bonds, and enhanced sustainability reporting requirements for listed companies. The significance of large-scale green capital mobilization is further highlighted by India's aggressive plans for infrastructure development and renewable energy.

Despite these advancements, India still lacks a thorough and cohesive taxonomy for green finance. The current framework is still mostly based on principles because there aren't many technical screening criteria that are specific to each sector and disclosure requirements aren't always clear. This absence as mentioned above raises the concerns about consistency, comparability, reliability, and uniformity with international green finance standards. Investors may find it difficult to evaluate the environmental impact of investments in the absence of a standardized taxonomy, which could restrict the amount of foreign capital that enters India's sustainable finance markets.

Considering this, the purpose of this study is to examine India's developing green finance taxonomy and assess how well India's emerging green finance taxonomy aligns to leading worldwide green taxonomy frameworks. This paper attempts to highlights the main advantages, limitations, and opportunities for development of India's strategy by comparing it with globally acclaimed frameworks such as EU Green Taxonomy and China's Green Bond Endorsed Project Catalogue.

Literature Review

The global shift to sustainable development and the increasing urgency of climate change development have significantly expanded academic and policy-oriented research on green finance. Time and again scholars have emphasized that effectiveness of green finance depends mostly on the presence of clear and standardized classification frameworks, while recognizing green finance as a crucial mechanism for mobilizing capital toward environmentally sustainable activities (Agarwal, C., & Rai,2025). In this context, green finance taxonomies have emerged as essential tools for defining what constitutes environmentally sustainable economic activity and for ensuring credibility in sustainable finance markets.

According to several research studies, the absence of standardized taxonomies raises the possibility of greenwashing and weakens investor confidence. Boffo and Patalano (2020), states that financial markets encounter inconsistent labelling of green assets, without a common classification system, leading to misallocation of capital. Additionally, Ziolo et al. (2021), emphasize that reliable taxonomies enhance transparency and comparability, which boosts the efficiency of sustainable investment decisions. According to Sachs et al. (2019), large-scale private investment is backed by trustworthy sustainability frameworks, of which taxonomies are a fundamental component and is necessary to achieve climate targets (Khushbu, & Agarwal, C. (2025).).

As an internationally recognized standard, the European Union's (EU) Green Taxonomy has been extensively examined in the literature. According to studies by Schoenmaker and Schramade (2019), the adoption of the "Do No Significant Harm" (DNSH) principle and the technical screening criteria of the EU framework greatly decrease environmental trade-offs and increase market trust. This perspective is reinforced by Alessi, Ossola, and Panzica (2021), by demonstrating that taxonomy-based regulation enhances investor trust and reduces ambiguity in sustainable finance products.

Research on China's Green Bond Endorsed Project Catalogue also highlights the importance of taxonomies in leveraging green finance. Ng (2018) states that China's structured classification system permitted rapid growth in green investments. While Chen et al. (2020) observe that recent adjustments aimed at complying with international norms reflect the growing need for global coherence in green finance standards,

The existing research, in the Indian context largely focuses on ESG disclosures and green bonds, with little attention paid to taxonomy development. Research conducted by Narain and Vaze (2021) and RBI (2022) acknowledge regulatory progress in taxonomy but highlight the absence of a comprehensive green finance taxonomy. This gap in the literature reinforces the need for a standardized, transparent, and globally aligned green taxonomy for India.

Objectives of the Research:

With the back ground of this literature survey on contextual factors, the present research work was carried out with the following objectives:

1. To analyse the structure and overall scope of India's green finance taxonomy.
2. To examine the key international green finance taxonomies and standards.
3. To evaluate how closely India's green finance system aligns with global frameworks.
4. To determine gaps and challenges in India's green taxonomy in context with international norms.
5. To provide policy recommendations for enhancing effectiveness and global alignment.

Research Methodology

This study employs a descriptive and comparative research design**,** based solely on secondary data. This study aims to examine the structure and effectiveness of green finance taxonomies. The descriptive research design is used to analyse existing regulatory frameworks rather than generate primary empirical data. This research paper focuses on evaluating the

existing regulatory green finance frameworks of India and assesses its alignment with established international green taxonomy standards.

Secondary data have been collected from numerous reliable, publically accessible sources. These sources include formal policy documents, regulatory guidelines, government notifications, and sustainability-related publications from leading Indian institutions such as the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), and the Ministry of Finance**.** International frameworks and reports, such as the European Union's (EU) Green Taxonomy, China's Green Bond Endorsed Project Catalogue, and analytical publications by international organizations like the World Bank and the Organization for Economic Co-operation and Development (OECD), have also been examined.

This study focuses on analysing and evaluating India's green finance framework against key international standards across several key dimensions. This comparative analysis included several parameters of comparisons such as sector covered in the taxonomy, clear technical screening criteria, uniform disclosure and reporting requirements, and the inclusion of social safeguards. Comparative tables are used to facilitate the systematic comparisons and to highlight similarities and differences across frameworks.

Comparative Analysis of Green Finance Taxonomies

To divert the flow of capital towards green investments, green finance taxonomies play a crucial role by defining environmentally sustainable economic activities. The European Union (EU) Green Taxonomy and China's Green Bond Endorsed Project Catalogue are assessed to evaluate the effectiveness of India's green finance framework. The comparison focuses on significant factors such as sector covered, technical screening standards, social security measures, and global alignment, and requirements for disclosure. A comparative overview of these green finance frameworks is presented below in Table 1.

Table 1: Comparative Overview of Green Finance Taxonomies

Dimension	**EU Green Taxonomy**	**China's Green Bond Endorsed Project Catalogue**	**India's Green Finance Framework**
Nature of Framework	Rule-based and legally binding	Sector-based classification	Principle-based and evolving in nature
Sector Coverage	Broad coverage including energy, transport, construction, manufacturing, etc.	Broad but selective sector coverage	Limited and fragmented sector coverage
Technical Screening Criteria	Detailed quantitative Criteria	Moderate technical benchmarks	Largely qualitative guidance
Disclosure Requirements	Mandatory and standardized disclosures	Regulatory disclosure norms	Non-uniform and evolving disclosures

Do No Significant Harm (DNSH) Principle	Explicitly mandated	Partially addressed	Not formally articulated
Level of Global Alignment	High alignment with international standards	Alignment improving over time	Partial alignment

Amongst the three, the EU Green Taxonomy is the most comprehensive and structured framework. The EU Green Taxonomy allows objective assessment of environmental sustainability by clearly defining quantitative technical screening criteria, and detailed sectoral classifications. While the explicit adaptation of the Do No Significant Harm (DNSH) principle guarantees that economic actions supporting one environmental goal do not negatively impact others, mandatory disclosure rules improve transparency and comparability across financial markets. Due to these characteristics, the EU taxonomy is considered as a globally recognized standard for sustainable finance legislation and demonstrates a high degree of global alignment.

A sector-based approach has been implemented by the China's Green Bond Endorsed Project Catalogue, which aimed at accelerating green investment within the national economy. This Catalogue provides broad but focused coverage, particularly in following areas: renewable energy, pollution control, and sustainable infrastructure. The technical screening criteria of China's Green Bond Endorsed Project Catalogue are more developed than principle-based systems, while less detailed than those of the EU framework. In contrast to being standardized disclosure requirements are primarily regulatory. Recent revision in the catalogue has excluded fossil fuel-related activities to enhance international compatibility and progressively increasing global alignment.

In contrast to above mentioned global taxonomies, India's green finance framework is still evolving and is primarily principle based. There is no centralized national green taxonomy that systematically categorizes green economic activity, and sector coverage area is still fragmented. The majority of technical screening criteria are qualitative, which restricts cross-project comparability and objective assessment. In recent times, the Sustainability disclosure requirements in India have been strengthened through various initiatives such as SEBI's Business Responsibility and Sustainability Reporting (BRSR), however, it still remains non-uniform. Additionally, the framework's social and environmental protections are weakened by the lack of an officially stated DNSH concept.

The specific gaps and improvement areas in India's green finance taxonomy are summarized in Table 2, which highlights structural limitations that constrain transparency, investor confidence, and global integration.

Table 2: Key Gaps and Improvement Areas in India's Green Finance Taxonomy

Parameter	**Current Status in India**	**Required Improvement**

Sector Classification	No unified national green taxonomy	Develop comprehensive sector-wise classification
Technical Screening Criteria	Based on qualitative principles	Introduce clear quantitative thresholds
Disclosure Norms	Fragmented sustainability reporting	Implement standardized mandatory disclosures
Social Safeguards	Implicit references	Explicit adoption of DNSH and social safeguards
Global Compatibility	Partial alignment with global frameworks	Harmonization with EU and international standards

Overall, the comparative analysis supported by Tables 1 and 2 discloses that while India has made significant progress in promoting green finance, its framework remains less developed than that of the EU and China taxonomy. India's integration into the global economy would be strengthened, transparency would be greatly increased, and the risks of greenwashing would be decreased if a uniform, technically sound, and globally aligned green finance taxonomy were developed.

Findings and Discussion

This comparative analysis discloses that India's green finance framework shows partial alignment with international standards, particularly in sectors such as renewable energy, clean transportation, and climate-resilient infrastructure. India' growing institutional commitment to sustainable finance has been demonstrated by regulatory initiatives of SEBI and RBI. However, the findings also highlight a significant gap that limits the effectiveness of India's approach.

One of the significant drawbacks in Indian taxonomy is the absence of detailed technical screening criteria, which makes it difficult to determine whether an activity is "green." Unlike the EU framework, India does not set quantitative benchmarks for environmental performance Furthermore, disclosure requirements are still fragmented, reducing transparency and increasing the risk of greenwashing. Environmental credibility is further undermined by the absence of a clearly stated Do No Significant Harm (DNSH) principle. Without a standardized taxonomy, India risks inconsistent classification of green assets, undermining investor confidence and limiting cross-border capital flows.

Conclusion

The findings demonstrate that while India has made gradual and encouraging progress in developing its green finance framework, the absence of comprehensive and unified green finance taxonomy still remains a critical challenge in the future. In comparison to the global benchmarks such as the EU and China, India's framework remains mostly principle-based and lacks technical precision, unified disclosures, and social safeguards. This study further emphasized that India is on its critical journey to design a taxonomy that better aligns with the global standards, which will later enhance transparency, credibility, and investor confidence.

Policy Recommendations

The following policies are recommended based on the finding of study:

1. To develop a uniform national green finance taxonomy with clear sector classification.

2. To introduce quantitative criteria's for technical screening aligned with global benchmarks.
3. To introduce the "Do No Significant Harm" principle in the taxonomy, to prevent environmental dilemmas.
4. To develop a standardize sustainability disclosure requirements across different financial institutions.
5. To enhance coordination among its regulatory bodies such as RBI, SEBI, and the Ministry of Finance.
6. To ensure gradual alignment with international frameworks to attract global investors while addressing domestic priorities.

References:

1. Agarwal, C., & Rai, P. (2025, October 15). Environmental wisdom and sustainable practices. In *Bridging ideas: A multidisciplinary approach to knowledge and innovation* (pp. 76–85). Eagle Leap Printers and Publishers Pvt. Ltd.
2. Alessi, L., Ossola, E., and Panzica, R., (2021). "What Greenium Matters in the European Green Bond Market," *Journal of Financial Stability*, Vol. 54, pp. 100868–100878.
3. Boffo, R., and Patalano, R., (2020). *ESG Investing: Practices, Progress and Challenges*, OECD Publishing, Paris, pp. 1–45.
4. Chen, Y., Li, J., and Wang, Z., (2020). "China's Green Bond Market and Its Alignment with International Standards," *Energy Policy*, Vol. 145, pp. 111–125.
5. European Commission, (2022). *Commission Delegated Regulation (EU) 2022/1214 Supplementing Regulation (EU) 2020/852*, Official Journal of the European Union, Brussels, pp. 1–67.
6. European Commission, (2023). *EU Taxonomy: Final Report on Climate Change Mitigation and Adaptation*, European Union, Brussels, pp. 1–120.
7. Khushbu, & Agarwal, C. (2025). Green banking in the digital age: Transforming finance to sustainable finance. In *Industry 5.0: Sustainable business practices for a bright future* (pp. 225–247). Nova Science Publishers.
8. Narain, U., and Vaze, P., (2021). "Greening India's Financial System: Opportunities and Challenges," *Economic and Political Weekly*, Vol. 56, No. 38, pp. 45–52.
9. Ng, A. W., (2018). "From Sustainability Accounting to a Green Finance System: Institutional Legitimacy and Market Formation," *Journal of Cleaner Production*, Vol. 200, pp. 993–1004.
10. People's Bank of China, National Development and Reform Commission, and China Securities Regulatory Commission, (2021). *Green Bond Endorsed Project Catalogue (2021 Edition)*, Beijing, pp. 1–75.
11. pp. 122–126). Eagle Leap Printers and Publishers Pvt. Ltd.
12. Rai, P., Jaiswal, R., Singh, P., & Singh, A. K. (2024). Trends and Prospects for Artificial Intelligence in Business and Economics Research. *International Journal of Innovations in Science, Engineering And Management*, 341-344

13. Reserve Bank of India, (2022). *Report on Trend and Progress of Banking in India*, RBI Publications, Mumbai, pp. 112–140.
14. Sachs, J. D., Schmidt-Traub, G., Kroll, C., Lafortune, G., and Fuller, G., (2019). *Sustainable Development Report 2019*, Cambridge University Press, Cambridge, pp. 1–60.
15. Schoenmaker, D., and Schramade, W., (2019). *Principles of Sustainable Finance*, Oxford University Press, Oxford, pp. 85–110.
16. Securities and Exchange Board of India, (2021). *Business Responsibility and Sustainability Reporting (BRSR)*, SEBI Circular No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562, Mumbai, pp. 1–24.
17. Shrivastava, S., & Kumar, P. (2020). Comparison of Artificial Intelligence-Based Solutions Applied to Economic Load Dispatch Problem. In *Applications of Artificial Intelligence in Electrical Engineering* (pp. 210-229). IGI Global Scientific Publishing
18. Ziolo, M., Filipiak, B. Z., Bak, I., and Cheba, K., (2021). "How to Design More Sustainable Financial Systems: The Roles of Taxonomy and Transparency," *Sustainability*, Vol. 13, No. 4, pp. 1–18.