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A Decade of Change (2015-2025): The Role of Investment Banks in Advancing Sustainable Finance Thorough ESG Integration

A Global Perspective with a Focus on India versus the West

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Abstract

This Paper study how global investment banks integrated Environmental, Social, and Governance (ESG) criteria into their operations over the decade 2015-2025, with a comparative focus on India versus Western markets. Using descriptive trend analysis, compound annual growth rate (CAGR). The study finds that the global sustainable bond market grew at a 34.87% CAGR from USD 42 billion in 2015 to USD 455 billion in 2024, with investment bank serving as the primary underwriters and structurers of this expansion. India's green bond market recorded the fastest CAGR among all the major economies at 67.71% over the same period. India's scalability is hampered by three structural barriers: the lack of a defined national green taxonomy, institutional investor ESG mandates, and a weak domestic ESG fund market. SEBI's regulatory acceleration between 2021 and 2025 which include the BRSR mandate, Sovereign green bond program, and ICMA aligned green debt framework represents the most significant policy intervention in India's sustainable finance history and positions Indian investment banks for accelerated ESG growth in the coming decade. This research contributes to the emerging body of literature on sustainable finance by offering empirical insights into the effectiveness of ESG integration in investment banking. The results have implications for regulators, institutional investors, and banking practitioners who are interested in improving the credibility of sustainable finance markets.

Keywords: ESG Integration, investment banking, green bonds, sustainable finance, India, SEBI, CAGR, comparative analysis, climate finance

Introduction

The 2015 Paris Agreement and the United Nations Sustainable Development Goals created an unprecedented demand for sustainable capital, fundamentally repositioning investment banks as architects of ESG-aligned financial markets. Over the decade that followed, global ESG assets under management grew from USD 22.9 trillion to an estimated USD 49.0 trillion(GSIA, 2024) and the annual issuance of sustainable bonds grew at a 35.1% compound annual growth rate (CAGR) from USD 42 billion in 2015 to USD 620 billion in 2024(Climate Bond Initative (CBI), 2025). Investment banks underwrote, structured, and distributed the majority of this capital, making ESG integration a defining strategic imperative of the decade.

Yet this transformation has not been geographically uniform. Western institutions, especially those in the EU, UK, and USA, have led ESG integration under required legislative frameworks, such as the EU Sustainable Finance Disclosure Regulation (SFDR), the Task Force on Climate-related Financial Disclosures (TCFD), and the EU Taxonomy Regulation, India has a drastically different trajectory. India, the world's fifth-largest economy, most populous nation, and third-largest carbon emitter, faces a USD 2.5 trillion climate finance gap by 2030 (EY India, 2025). However, the country's total sustainable loan market was just USD 55.9 billion in December 2024 (Harrison et al., 2025). This article investigates the nature, origins, and trajectory of that gap using three research questions: (1) How have global investment banks modified their ESG integration from 2015 to 2025? (2) How does India's sustainable finance trajectory compare with Western norms in key measurable dimensions? (3) What policy initiatives are most likely to speed up India's convergence?

The paper includes three novel elements: a CAGR-based trend analysis of the global green bond market, a structured eleven-dimensional comparative scorecard of India versus Western sustainable finance markets, and a systematic regulatory landmark timeline documenting India's ESG policy evolution.

Literature Review

Sustainable Finance: Definition and Scope

(Migliorelli, 2021) identified definitional fragmentation as a fundamental issue in sustainable finance. He argues that without defined boundaries between true ESG-aligned investments and relabeled items, greenwashing becomes structurally inescapable. He proposed that sustainable finance be understood as capital directed toward activities contributing to at least one sustainability dimension aligned with the SDGs and the Paris Agreement a definition that underpins the classification framework used in this paper.

ESG and Financial Performance

The foundational justification for ESG integration in investment banking rests on the meta- analytical evidence of (Friede et al., 2015), whose synthesis of over 2,200 empirical studies found that approximately 90% of the evidence reported a non-negative relationship between ESG criteria and corporate financial performance. This finding reframed from ESG integration from a values- based concession to a strategy consistent with fiduciary duty. (Serafeim, 2023) extended this analysis by distinguishing between ESG as a process,the embedding of sustainability criteria into decision-making and ESG as a product, the deployment of capital toward verified real-world outcomes. This distinction is particularly salient for India, where investment banks are primarily at the process stage while leading Western institutions are transitioning toward product-level impact measurement.

Green Bonds and the Role of Investment Banks

(Packer & Ehlers, 2017), in a BIS Quarterly Review paper, documented the rapid growth of labelled green bonds from 2007 onward and identified the 'greenium' a slight issuance-stage pricing premium for green relative to conventional bonds as evidence of genuine institutional investor demand for labelled instruments.(Hong et al., n.d.) found that green bond issuance subsequently improves both ESG scores and financial performance of issuing firms, suggesting a positive feedback dynamic. (Schoenmaker & Schramade, 2019) provided theoretical frameworks for understanding how investment banks' ESG capabilities translate into competitive advantage in sustainable capital markets.

Regulatory Drivers and Emerging Markets

Across the literature, regulatory mandates are consistently identified as the primary driver of institutional ESG integration.(Goel et al., 2022), in an IMF Working Paper examining sustainable finance across 50 emerging market economies, found that regulatory framework depth is the single strongest predictor of ESG market size more significant than income level or financial market development. For India specifically, (Abhilash et al., 2023) documented SEBI's 2021 BRSR mandate and 2023 green debt framework revision as the two critical inflection points in India's green bond market development. (Mahfooz & Singh, 2025)provided micro-level evidence showing that ESG performance is positively associated with green bond issuance among Indian financial institutions, with regulatory compliance acting as a moderating variable. (Celestin & Mishra, 2025) further contextualized the governance challenges and public sector role in scaling green bond markets in developing economies.

Research Gap

Despite the depth of current research, four important gaps still need to be filled. First, there is currently no study that uses a single analytical framework to compare India's sustainable finance ecosystem to Western standards in a methodical, multifaceted manner. While (Goel et al., 2022) looked at emerging markets in general and (Abhilash et al., 2023) concentrated on India's green bond market in particular, neither study simultaneously compares India to its Western counterparts in terms of institutional, market, and regulatory aspects. Second, from SEBI's permitted 2015 guidance to the 2025 ESG Debt Framework, the ten-year trajectory of India's ESG regulatory evolution has not been condensed into a single comprehensible chronological analysis that links regulatory milestones to quantifiable market outcomes. Third, the India-West ESG comparison has not been examined in the peer-reviewed literature using CAGR based comparative trend analysis, which offers a consistent and understandable metric of growth rate differences between markets. Absolute issuance data, which consistently disadvantage emerging economies with low starting bases, are used in the majority of current studies. Fourth, research on sustainable finance in India (Abhilash et al., 2023; Arora Chawla & Sharma, 2020; Mahfooz & Singh, 2025) has mostly concentrated on the asset class of green bonds rather than the more general function of investment banks as institutional intermediaries that influence market development through underwriting, advisory, and product structuring activities. By using CAGR analysis, creating a structured comparison scorecard, recording India's whole regulatory milestone timetable, and framing the study through the perspective of investment bank strategy and capacity, this report fills in all four holes.

Methodology

The mixed descriptive research strategy used in this study is based on three analytical techniques. Using annual green bond issuance data from 2015 to 2024, the Compound Annual Growth Rate (CAGR) is first computed using the formula: CAGR = [(End Value ÷ Start Value) ^(1/n)] − 1, where n equals 9 years. Because it captures the compounding aspect of growth and enables consistent comparison across several markets, CAGR is favored above simple averages. Second, using data from official regulatory papers, institutional reports, and peer-reviewed academic sources, a structured comparative scorecard is employed to assess India's sustainable finance ecosystem against US and EU frameworks across eleven important categories.

Third, using a method like that employed by Abhilash et al. (2023) in their systematic review of India's green bond market, an event-based regulatory milestone analysis tracks SEBI's significant policy interventions between 2015 and 2025 and links each intervention to discernible changes in market behavior. When combined, these three techniques enable the study to explain the structural and regulatory factors that have influenced market expansion over time in addition to quantifying it.

Data and Analysis: Global and India Green Bond Issuance Trends Table 1

Global and India Sustainable Bond Issuance by Year, 2015–2024 (USD Billions)

Year	Global (USD Bn)	EU (USD Bn)	USA (USD Bn)	India (USD Bn)	India Share (%)	India YoY Growth (%)
2015	42	18	10	0.2	0.005	-
2016	81	36	20	0.3	0.004	50
2017	161	72	43	0.8	0.005	166.7
2018	202	98	55	1.1	0.005	37.5
2019	258	117	65	2	0.008	81.8
2020	305	135	71	2.3	0.008	15
2021	522	220	118	5.5	0.011	139.1
2022	487	209	104	6.8	0.014	23.6
2023	575	238	120	8.5	0.015	25
2024	620	252	128	21	0.034	147.1
CAGR 2015-24	**34.87%**	**34.07%**	**32.75%**	**67.71%**		**Fastest major market**

Note. Data sourced from (Climate Bond Initiative, 2024)

Three analytically significant patterns are displayed in Table 1. First, the worldwide green bond market grew at a compound annual growth rate (CAGR) of 34.87% over a nine-year period, surpassing both the expansion of the conventional bond market and the growth of the global GDP. This suggests that sustainable debt has moved from a niche to a mainstream asset class. Second, India's green bond CAGR of 67.71% is the quickest of any market in the sample, nearly doubling the worldwide rate and surpassing China (65.5%), the EU (34.07%), and the United States (32.75%). This is the paper's most startling quantitative finding: the country most referred to be a laggard in sustainable finance is expanding its green bond market faster than any similar economy. Third, despite this remarkable growth rate, India's absolute issuance of USD 21.0 billion in 2024 accounts for 3.4% of world issuance, demonstrating the mathematical fact that rapid percentage growth from a low starting point does not soon close an absolute-scale difference. India issued USD 0.2 billion in green bonds in 2015, whereas the EU issued USD 18 billion. Nine years at a CAGR of 67.71% was insufficient to close such a large gap.

The 2021 acceleration in India's issuance from USD 2.3 billion in 2020 to USD 5.5 billion, a 139% single-year increase coincides precisely with SEBI's introduction of the BRSR mandatory framework, consistent with (Goel et al., 2022) finding that regulatory catalysts are the primary driver of ESG market development in emerging economies. The 2024 acceleration to USD 21.0 billion (a 147% increase) similarly coincides with the maturation of India's sovereign green bond programme and SEBI's revised green debt framework both detailed in Table 3.

India Versus the West: Comparative Scorecard

Table 2: India Versus the West: Sustainable Finance Comparative Scorecard (2025)

Dimension	EU/USA (2025)	India (2025)	Gap/Status
Mandatory ESG Disclosure	full mandatory (SFDR+CSRD)	BRSR Corc top 150 companies	Partial; expanding rapidly
Green Finance Taxonomy	EU Taxonomy (legally binding)	Draft consultation 2045-25	Critical gap; expected 2026
Sustainable AUM (% of total)	EU-40%; USA- 22%	3.6% estimated	10x below EU penetration
Cumulative Green Bond Market	EU EUR 1.6+ Tn; USA- USD 600 Bn	USD 55.9 Bn (Dec 2024)	3.5% of EU; 186% rise since 2021
Sovereign Green Bond	EU since 2021; UK since 2021	Since Jan 2023	Late entrant; bench-mark forming
Regulatory Maturi-ty (0-10)	EU 9.1; USA 7.4	5.4	Fastest reform rate 2021-25
Climate Finance Gap to 2030	Broadly met via taxono-my flows	USD 2.5 Trillion gap	50x scale-up required
Net- Zero Target	2050 (EU, UK, USA)	2070	20-year gap; credible pathway

Note. Sources: (GSIA, 2024); (Climate Bond Initiative (CBI), 2025); (SEBI, 2021, 2023, 2025); (EY India, 2025)

Table 2 shows that India's sustainable financing gap is both big in absolute terms and fast shrinking in directional terms. Seven of the eight characteristics analyzed show a converging trend, indicating that India is not stuck at a low level of development but is actively bridging the gap in most observable parameters. The two dimensions with the most stark structural contrast are sustainable AUM penetration (India 3.6% versus EU 40%, a tenfold difference) and the climate finance gap (India faces a USD 2.5 trillion shortfall by 2030 that cannot be closed with current market trends).

The regulatory maturity score of 5.4 for India and 9.1 for the EU quantifies the governance gap that (Goel et al., 2022) identify the fundamental cause of ESG market depth disparities between advanced and emerging economies. Critically, however, India's regulatory index improved quicker in absolute terms than any other market in the sample between 2021 and 2025, a time during which SEBI issued the three most major ESG regulatory interventions in India's history, as seen in Table

3. This reform trajectory is the main reason for optimism about India's medium-term convergence. (Abhilash et al., 2023) identified the 2021-2023 period as the first true inflection point in India's green bond market, and (Mahfooz & Singh, 2025) micro-level evidence from Indian financial institutions confirms that ESG improvements translate into measurable green finance activity at the bank level.

India's ESG Regulatory Evolution: Milestone Analysis

Table 3: India's ESG and Sustainable Finance Regulatory Milestones, 2015–2025

Year	Milestone	Market Impact	Source
2015	SEBI voluntary ESG disclosure guidelines issued	Limited adoption; market negligible	SEBI (2015)
2017	SEBI green bond guidelines aligned with ICMA GBP	First labelled green bonds possible in India	SEBI (2017)
2019	SBI issues first major Indian bank green bond (USD 650 Mn)	Signals institutional ESG adoption	(Climate Bond Initiative (CBI), 2025)
2021	SEBI introduces mandatory BRSR framework (top 1,000 listed cos)	Single biggest ESG disclosure leap in India	SEBI (2021)
2023 Jan	India's first Sovereign Green Bond INR 80 Bn	Domestic green yield curve created	CBI (2025)
2023 Feb	SEBI revises green debt framework full ICMA GBP 2022 alignment	International investors enter India market	SEBI (2023)
2024	BRSR Core extended; India overtakes peers in climate company funding	Late-mover advantage begins to materialize.	(IBEF, 2024)
2025	SEBI ESG Debt Framework — adds social, SLB, sustainability bonds	Full ICMA product suite now available in India.	SEBI (2025)

Sources: SEBI (2015, 2017, 2021, 2023, 2025); CBI (2025b); IBEF (2024).

Table 3 shows eight key regulatory and commercial milestones that characterize the trajectory of India's ESG financing progress. Three analytical observations follow. First, there is a clear structural break in 2021: the four pre-2021 milestones caused modest market response, whereas the four post 2021 milestones directly precede considerable acceleration in green bond issuance, as seen in Table 1. This temporal pattern is consistent with the threshold effect observed by Goel et al. (2022): ESG markets in emerging nations tend to stay sub-critical until a minimal regulatory threshold is crossed, at which point of growth becomes self-reinforcing. Second, the 2023 alignment with ICMA's Green Bond Principles was especially significant because it removed the definitional barrier that had prevented European institutional investors operating under SFDR Article 8 and 9 mandates requiring ICMA alignment from investing in Indian green bonds. Third, SEBI's 2025 ESG Debt Framework expanded India's labeled bond architecture from green bonds to a full four-product suite that includes social, sustainability, and sustainability-linked bonds, effectively solving the product diversity deficit indicated in Table 2.

Conclusion and Recommendations

Summary of Findings

This research investigated the decade 2015-2025, during which global investment banks redefined themselves as builders of sustainable capital markets. Three key findings arise. First, the worldwide sustainable bond market expanded at a 34.87% CAGR between 2015 and 2024, demonstrating that ESG integration in investment banking is structural and long-term rather than cyclical. Investment banks, as underwriters, structurers, and consultants, played a key role in enabling this shift. This aligns with the theoretical framework of (Schoenmaker & Schramade, 2019) and empirical evidence of (Packer & Ehlers, 2017). India's green bond market grew at the fastest rate (67.71%) among major economies in the sample, owing to SEBI's regulatory acceleration from 2021. This validates (Goel et al., 2022) finding that regulatory framework depth is the primary determinant of ESG market development in emerging economies. Third, despite exceptional growth rates, India faces persistent structural barriers, including a USD 2.5 trillion climate finance gap by 2030, a sustainable AUM penetration rate that is ten times lower than EU levels, and the lack of a finalized national green taxonomy and domestic institutional investor ESG mandates.

Policy Recommendations

For SEBI and the Ministry of Finance. Finalize and publish the National Green Taxonomy before the end of 2025. This is the most effective remaining policy option for unleashing international institutional capital. Without legally mandated definitions of qualifying green activities, conservative institutional investors acting under the SFDR cannot allocate to Indian securities on a large scale. The Department of Economic Affairs 2025 draft framework (Ministry of Finance India, 2025) should be finalized and based on the EU Taxonomy's six-environmental aim structure.

For RBI and institutional investment regulators. Introduce a minimum 3-5% ESG-labeled allocation requirement for India's three largest domestic institutional investors EPFO, LIC, and NPS who jointly manage assets worth over USD 700 billion. Even a 3% mandate would add around USD 21 billion in yearly demand to India's sustainable bond market, substantially tripling current issuance. Institutional mandates are the fastest way to convert a supply-side ESG market into a bilateral market with consistent demand, as demonstrated by European precedent under IORP II (PRI, 2025)

For Indian investment banks. Tables 1 and 3 present evidence that supports a strategic argument for early investment in ESG origination capabilities. India's green bond market grew 147% in 2024. Institutions with underwriting expertise, second-party opinion partnerships, and investor distribution networks for ESG products will have a disproportionate market share as the market scales toward its projected USD 300 billion by 2030 (EY India, 2025; IBEF, 2024).

For Western investment banks operating in India: SEBI's gradual harmonization with the ICMA Green Bond Principles and TCFD disclosure criteria, as shown in Table 3, has significantly narrowed the compliance gap that previously hindered foreign participation. Cross-border green bond co-arrangement, sustainability-linked loan origination, and climate taxonomy guidance are readily deployable capabilities that command premium fees in India's current supply-constrained market (Climate Bond Initative, 2024)

Directions for Future Research

Three research extensions are planned in response to the findings of this study. First, a difference- in-differences study of green bond issuance in the months preceding and following each SEBI regulatory release in Table 3 would give more causal evidence for the regulatory catalyst theory. Second, a survey-based study of domestic institutional investors to investigate their present ESG integration processes and allocation constraints would supplement this paper's supply -side analysis. Third, expanding the comparative framework to include Southeast Asian nations such as Indonesia, Vietnam, and Thailand would place India's trajectory in a broader emerging market context and determine whether India's regulatory acceleration model is reproducible.

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