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"Capitalisation of Carbon Credits: Corporate Green Monopoly and Governance in India – A Critical Case Study of Vantara"

By

B. Shirisha Reddy

Introduction

The world is undergoing a profound shift toward decarbonization, aiming to achieve net-zero carbon emissions — a goal increasingly acknowledged across nations, industries, and civil societies. Central to this drive is the mechanism of carbon credits— a policy instrument designed to assign a monetary value to greenhouse gas (GHG) reductions. These credits are generated when verifiable emissions are reduced or removed through specific projects. Once issued, they become tradable financial assets, offering flexibility: entities exceeding emission reduction targets can sell surplus credits, while those falling short can purchase them to comply with regulatory or voluntary obligations.[1]

Emerging from instruments like the Kyoto Protocol's Clean Development Mechanism (CDM), the concept matured under the Paris Agreement's Article 6, which facilitates international cooperation via tradable credits. Such schemes aim to enhance cost effectiveness in reducing emissions and mobilize private financing for mitigation projects.[2]

Carbon Credits in India: Evolution

India's journey with carbon credits stretches back to CDM participation. Under Kyoto's CDM, Indian projects—ranging from renewable energy to afforestation—generated a significant portion of global Certified Emission Reductions (CERs), positioning India as a key contributor.[3]

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[1]Praveen Raju, Navigating Carbon Credits in India, Spice Route Legal, https://spiceroutelegal.com/publications/navigating-carbon-credits-in-india/ (last visited Sept. 5, 2025).

[2]Ibid.

[3]Mrs. Prajakta Rohit Zirkande & Ms. Mayuree Tawade, Carbon Credit Scenario in India: Challenges and Opportunities, Int'l J. Creative Research Thoughts (IJCRT), Vol. 12, Issue 1 (Jan. 2024)

Post-Paris, India embraced its global pledges through its Nationally Determined Contributions (NDCs), committing to reduce GHG emissions intensity by 33–35% from 2005 levels by 2030. At COP 26, India declared a vision for net-zero emissions by 2070, expanded non-fossil energy capacity, and outlined ambitious renewable energy targets under the "Panchamrit" framework.

Domestically, the government has acted swiftly. The Energy Conservation (Amendment) Act of 2022 empowered the creation of a domestic carbon credit trading scheme. The Bureau of Energy Efficiency (BEE) is spearheading the institutional structure, including launch timelines: initiating voluntary trading mechanisms in 2023, transitioning to Carbon Credit Certificates by 2026. The National Steering Committee under the Carbon Credit Trading Scheme (CCTS) and BEE collectively oversee credit issuance, accreditation, verification, and market oversight.[4]

More recently, the Ministry of Environment, Forest and Climate Change (MoEFCC) approved 14 mitigation and removal activities under Articles 6.2 and 6.4 of the Paris Agreement—potentially eligible for international carbon credit trading.[5] Additionally, a Memorandum of Cooperation between India and Japan facilitates joint implementation through the Joint Crediting Mechanism, enabling technology transfer and capacity building.

Despite policy momentum, the legal and regulatory framework faces challenges. Fragmented institutional authority, ambiguous credit classifications, inconsistent procedural clarity, and limited accountability mechanisms weaken governance.[6]

Problem Statement: Corporate Monopolization of 'Green' as Financial Strategy

While carbon credits offer economic incentives for environmental action, their widespread adoption has also bred unintended consequences— especially within corporate realms. Large firms increasingly exploit carbon credits as tradable commodities, potentially diverting them from genuine environmental mitigation to speculative financial applications. Scholars highlight

[4]Bureau of Energy Efficiency, Carbon Market, (Ministry of Power, Govt. of India), available at https://beeindia.gov.in/carbon-market

[5]Press Information Bureau, Ministry of Environment, Forest & Climate Change, Parliament Question: Progress in Achieving Climate Goals (Feb. 3, 2025), https://pib.gov.in/PressReleasePage.aspx?PRID=2099131.

[6]Komal Mishra & Akshay Kumar, Navigating Legal Complexities in India's Carbon Credit Market: Issues and Prospects, Indian J. Legal Rev. (IJLR), Vol. 5, Issue 4, at 555 (2025).

how murky definitions and market opacity may enable over-crediting or misuse, turning environmental governance into corporate profit channels.

In India, such risks are particularly salient. Agricultural pilots—like NABARD's mango-farmer carbon credit initiative in Karnataka—illustrate the tension: while aiming to empower farmers, these projects face criticism for lack of transparency, delayed payments, and agricultural commodification by corporate or financial entities.[7] Activists warn of inequitable systems where farmers shoulder the burdens while corporations commodify environmental goods devoid of meaningful ecological commitment.

Vantara as Emblem of Corporate Green Governance

Against this backdrop, the case of Vantara (a composite, non-hypothetical case referencing a firm actively issuing and trading carbon credits domestically) encapsulates the broader dynamics at play. Vantara presents itself as a sustainability leader: commissioning afforestation, renewable-energy-linked projects, and launching voluntary carbon credit portfolios. However, under scrutiny, the company's engagement raises critical questions:

- Are emissions reductions genuinely additional and verifiable?
- Is the governance mechanism robust—or are internal controls weak, enabling credit sales divorced from actual ecological outcomes?
- Does Vantara prioritize market domination in the carbon space, leveraging credits for financial return rather than environmental integrity?

This case study serves as a potent prism through which to examine how corporate players can co-opt carbon governance architecture—underscoring the tensions between profitability and ecological legitimacy.

Research Objectives

This study will pursue four core objectives:

[7]Vindhya Pabolu, With a Pilot, NABARD Taps into Carbon Credit Market in Karnataka, Times of India (July 28, 2025, 19:31 IST), https://timesofindia.indiatimes.com/city/bengaluru/with-a-pilot-nabard-taps-into-carbon-credit-market-in-karnataka/articleshow/122955955.cms.

1. Critically analyse India's carbon credit mechanisms, tracing its institutional evolution, regulatory architecture, and integration with international climate commitments.

2. Examine monopolisation tendencies: assess how large corporate entities may dominate carbon credit generation and trading, potentially sidelining equitable and transparent environmental governance.

3. Evaluate governance gaps and accountability issues, focusing on regulatory ambiguity, fragmented oversight, and weak verification frameworks that may facilitate misuse or greenwashing.

4. Assess Vantara's role as a case study, identifying how the company leverages carbon credits and whether its practices epitomize commendable green governance or exploitative financialism.

Methodology

This research adopts a doctrinal legal research framework, supplemented by a critical case study of Vantara:

- Doctrinal legal research will review statutory provisions, official guidelines, policy instruments, and judicial interpretations governing carbon credit markets in India. This includes statutes (like the Energy Conservation Amendment Act 2022), governmental notifications (via MoEFCC, BEE), and international treaties (Paris Agreement, Indo-Japan JCM).

- Policy analysis will investigate regulatory architecture, institutional capacities, procedural enforcement, and market outcomes. It draws on secondary sources—including scholarly articles from international and Indian journals.

- Critical case study of Vantara will examine its publicly disclosed sustainability reports, carbon credit issuance strategies, project documentation, and market activities. This qualitative scrutiny situates Vantara within India's broader carbon marketplace, allowing for nuanced insights into corporate motivations, transparency practices, and structural weaknesses in accountability.

2. Carbon Credits as a Legal and Financial Instrument:

Carbon credits are certificates representing the mitigation or removal of one metric tonne of carbon dioxide equivalent (CO_2e), functioning as tradable instruments that legally formalize emissions reductions. They emerge from diverse emission abatement endeavors—such as reforestation or renewable energy installations—and are standardized into units for commercial exchange. Within global frameworks, these credits operate in two principal arenas: compliance markets, which are created and regulated by governmental or treaty bodies under mandatory obligations, and voluntary markets, which are privately governed and serve discretionary commitments.

In compliance markets, such as the European Union Emissions Trading System (EU ETS), emission allowances are capped and distributed to regulated entities, who may trade to meet their quotas; credits in these circuits are treated akin to derivatives and may be traded through spot, forward, and futures mechanisms under financial regimes like MiFID II.[8] Conversely, voluntary carbon markets (VCMs) are decentralized, governed by standards such as Verra's Verified Carbon Standard or the Gold Standard, where private purchasers voluntarily buy credits to fulfill self-imposed emission targets. Research underscores the divergence in structural rigor: compliance markets usually maintain rigid regulatory enforcement, whereas VCMs—though flexible—often exhibit variable credibility and weak oversight.[9]

Corporate Environmental Responsibility versus Greenwashing:

Corporate Environmental Responsibility (CER) encompasses a firm's internalization of its ecological footprint, emphasizing reductions in emissions, resource optimization, and preservation of future environmental quality. Normatively, CER aligns both ethical stewardship and economic value, driven by stakeholder expectations, regulatory pressure, and reputational leverage.

[8]Tim Archer, Understanding the Compliance and Voluntary Carbon Trading Markets, Deloitte Insights (July 4, 2023), https://www2.deloitte.com/uk/en/services/consulting-risk/blogs/2023/understanding-the-compliance-and-voluntary-carbon-trading-markets.html.

[9]Leonhard Meitner, Voluntary Carbon Markets: A Critical Assessment, Working Paper No. 246/2024, Institute for International Political Economy Berlin (2024), https://www.ipe-berlin.org/fileadmin/downloads/working_paper/Meitner_WP_246.pdf.

However, the concept of greenwashing emerges when corporations portray themselves as environmentally responsible without corresponding substance—often masking detrimental practices with marketing or selective disclosures. In the realm of carbon credits, greenwashing may manifest via ambiguous language, inflated claims, or credits lacking robust verification. Voluntary offsets have been flagged for questionable credibility, with reviews highlighting systemic integrity gaps and the potential for propagating misleading narratives under the façade of sustainability.[10]

Governance and Monopoly Theory:

Monopoly dynamics in emerging carbon markets can skew access to environmental assets, concentrating power among few dominant actors. In theory, monopolistic enterprises can influence credit issuance, shape pricing mechanisms, and determine standards—potentially impeding market fairness and suppressing smaller competitors.

Empirical modeling in environmental economics simulates scenarios where monopolists who invest in environmental R&D or sustainable product differentiation can harmonize profit motives with social welfare—but such dual alignment depends critically on market structure, regulatory frameworks, and the scope of firm behavior.[11] Parallel research on emissions trading in Europe reveals inefficiencies that bolster speculative activity, such as firms hoarding credits or trading opportunistically, reinforcing market asymmetries.[12]

Thus, in nascent carbon markets, unchecked corporate dominance may restrict equitable participation, skew pricing, and erode the social and environmental legitimacy of carbon trading schemes.

Critical Legal Studies Perspective:

[10]Nophea Sasaki, Addressing Scandals and Greenwashing in Carbon Offset Markets: A Framework for Reform, 7 Global Transitions 375 (2025), https://doi.org/10.1016/j.glt.2025.06.003

[11]Chenyu Wang, Monopoly with Corporate Social Responsibility, Product Differentiation, and Environmental R&D: Implications for Economic, Environmental, and Social Sustainability, 287 J. Cleaner Prod. 125433 (2021), https://doi.org/10.1016/j.jclepro.2020.125433

[12]Nicola Borri, Yukun Liu, Aleh Tsyvinski & Xi Wu, Inefficiencies of Carbon Trading Markets, arXiv:2408.06497 [q-fin.GN] (last revised Aug. 15, 2024), https://doi.org/10.48550/arXiv.2408.06497.

Legal structures within carbon markets serve as sites of power contestation rather than neutral frameworks. Under CLS, law perpetuates hierarchies—privileging established elites while marginalizing vulnerable populations. In carbon credit regimes, corporate interests may exert influence over regulatory drafting, standard-setting, and certification norms, thereby aligning legal mechanisms to corporate strategies rather than public or ecological welfare.

This approach uncovers how neoliberal legal architecture enables commodification of environmental goods. For instance, lenient definitions of additionality, imbalanced governance in voluntary schemes, and limited public accountability can obscure the performative aspects of ecological governance. This legal critique emphasizes how law legitimizes market mechanisms that may channel benefits to corporate stakeholders under the veneer of distributive efficiency.

Environmental Justice Framework:

Environmental Justice (EJ) interrogates how environmental initiatives distribute benefits and harms across social groups, especially those historically marginalized. EJ questions: Who gains from carbon trading? Who endures its burdens? In carbon markets, revenues often concentrate with project developers, aggregators, or corporations—while host communities, though directly involved in emission mitigation (e.g., through land-use alterations), may receive limited compensation or transparency.

Critiques point to voluntary markets' opacity, wherein local communities bear the consequences of land-use changes or project-based disruptions, without equitable access to decision-making or resultant financial flows.[13] Additionally, legal actions in jurisdictions such as Germany, Kenya, and Brazil reflect heightened scrutiny over possible exploitation of vulnerable populations under the guise of offset projects.

Therefore, an environmental justice lens insists that carbon trading cannot be ethically validated unless its societal architecture ensures procedural fairness, redistributive justice, and empowerment of affected communities.

3. Carbon Credits and the Indian Legal-Regulatory Landscape

[13]supra note. 10 at 6.

India's carbon credit regime has evolved rapidly, shaped by its Paris Agreement commitments and domestic reforms. The Energy Conservation (Amendment) Act, 2022 and the Carbon Credit Trading Scheme (2023) created compliance and voluntary markets under the Bureau of Energy Efficiency. While India earlier thrived under the Kyoto CDM, it is now building a homegrown market framework. However, transparency gaps, weak verification, and dominance of large conglomerates hinder equitable participation. Regulatory oversight remains fragmented, with limited centralized checks. Compared to mature systems in the EU and US, India's market is still nascent, requiring stronger governance, inclusivity, and accountability.

India's Climate Commitments: NDCs under UNFCCC

India's commitments under the Paris Agreement are articulated through its Nationally Determined Contributions (NDCs). India pledged to lower its greenhouse gas (GHG) emissions intensity of GDP by 33-35 percent below 2005 levels by 2030. Additional long-term strategies include achieving net-zero emissions by 2070, increasing non-fossil energy capacity, and boosting the share of renewable energy in its energy mix.[14] These commitments feed directly into domestic legal reform and market mechanisms geared toward decarbonization and climate action.

The cornerstone of India's legal regime for carbon trading is the Energy Conservation (Amendment) Act, 2022, which came into effect on January 1, 2023.[15] This amendment enhanced the Energy Conservation Act, 2001 by integrating new concepts such as *carbon credit certificate*, *carbon credit trading scheme*, *registered entity*, and related terminology.[16] Under Section 14AA, the central government and its designated agencies can manage a registry of carbon credit certificates (CCCs), enabling issuance, tracking, redemption, and public disclosure of transactions—which is intended to foster transparency.

[14]PRS Legislative Research, The Energy Conservation (Amendment) Bill, 2022, https://prsindia.org/billtrack/the-energy-conservation-amendment-bill-2022.

[15]NovoJuris Team, An Overview of the Energy Conservation (Amendment) Act, 2022 (June 28, 2023), https://www.novojuris.com/thought-leadership/an-overview-of-the-energy-conservation-amendment-act-2022.

[16]Ibid.

In mid-2023, India formally notified the Carbon Credit Trading Scheme (CCTS) via government orders dated June 28 and December 19.[17] This scheme comprises two distinct mechanisms: a compliance mechanism, which mandates emission intensity reductions from specified sectors, and an offset or voluntary mechanism, allowing broader participation from entities not bound by compliance obligations. The Bureau of Energy Efficiency (BEE) oversees the institutional structure of CCTS, framing Measurement, Reporting, and Verification (MRV) systems, managing CCC issuance, and coordinating sectoral engagement. Over time, the existing Perform, Achieve and Trade (PAT) scheme—originally covering energy-intensive industries through energy savings certificates—will merge into the CCTS compliance pathway, phased in from 2026, gradually encompassing broader industrial sectors.

Other regulatory players also influence the broader corporate sustainability alignment. SEBI, for instance, catalyzed environmental disclosure practices through mandated Business Responsibility Reporting (BRR) tied to the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs). Although these guidelines do not directly regulate carbon credits, they set a contextual backdrop for heightened corporate environmental accountability.

From Kyoto Protocol CDM to the Voluntary Carbon Market

Before domestic schemes, India participated heavily in the Kyoto Protocol's Clean Development Mechanism (CDM), contributing a substantial portion of global Certified Emission Reductions (CERs). These externally driven projects—in renewable energy, afforestation, energy efficiency—helped establish early carbon credit infrastructure in India. Over time, policy emphasis shifted toward more localized and voluntary structures, culminating in the domestic voluntary carbon market under CCTS, with sector-specific methodologies approved for energy, waste, agriculture, forestry, and industry.[18] This represents a conscious transition from external, compliance-driven mechanisms to internally governed, heterogeneous market forms.

[17]Press Information Bureau, Ministry of Environment, Forest & Climate Change, Parliament Question: Progress in Achieving Climate Goals (Feb. 3, 2025), https://pib.gov.in/PressReleasePage.aspx?PRID=2099131.

[18]Wood Mackenzie, India's New Carbon Market Methodologies Set Offset Landscape (Apr. 16, 2025), https://www.woodmac.com/press-releases/india-carbon-announcement.

Despite policy progress, the regulatory structure remains fragmented and nascent, burdened by definitional ambiguities, inconsistently applied verification protocols, and absence of a consolidated oversight authority.[19] The balkanized nature of Indian environmental governance complicates uniform enforcement of MRV standards and creates scope for manipulation—particularly in the voluntary offset space where project integrity can vary, and verification may be weakly enforced.

Additionally, large conglomerates with the resources to engage in multiple projects across sectors may accumulate outsized influence. Their capacity to navigate procedural complexity, register offsets early, or leverage internal compliance systems can marginalize smaller entities and concentrate market power. This dynamic risks weakening objectives of inclusivity and equitable access envisioned by the scheme.

Agriculture-based pilot initiatives underscore governance shortcomings. For instance, a carbon credit pilot launched by NABARD in Karnataka, targeting mango growers, encountered delays in disbursement and lacked adequate farmer communication, provoking criticism of unfair treatment and opaque benefit distribution. Such examples illustrate limitations in ensuring that benefits reach grassroots stakeholders and expose procedural and accountability lapses.

Role of State and Regulators: Are Checks Adequate?

While the central government and BEE provide overarching architecture, India's approach to carbon governance currently lacks a unified regulatory body. The Energy Conservation Amendment delegates authority broadly without designating a central carbon market regulator, although future provisions envisage state commissions' involvement in regulation.[20] The absence of a dedicated regulator raises questions about capacity, coherence, and enforcement consistency, especially given diverse institutional mandates across states and agencies.

In contrast, recent developments—such as establishing a National Designated Authority (NDA) to oversee carbon market mechanisms under the Paris Agreement—suggest increasing

[19]Komal Mishra & Akshay Kumar, Navigating Legal Complexities in India's Carbon Credit Market: Issues and Prospects, 5(4) Indian J. Legal Rev. (IJLR) 555 (2025).

[20]supra note.17 at 8.

institutional emphasis, although this body was constituted in late-2025 and falls outside the context of the current regulatory timeline.[21] Meanwhile, states like Uttarakhand have appointed their environmental departments as nodal agencies for carbon credit initiatives, a decentralized move aimed at local inclusion but which may further fragment governance.[22]

In essence, regulatory checks are emerging and evolving, but remain embryonic, lacking the centralized oversight, institutional clarity, and enforcement mechanisms needed to preempt misuse or capture.

How EU and US Regulate Carbon Credits vs. India

In comparison, the European Union's Emissions Trading System (EU ETS) exemplifies a well-established compliance market with firm caps, robust auctioning, benchmarked allocation, and integrated MRV systems governed by clear financial regulation frameworks (e.g., under MiFID II and EU carbon market directives). It features transparency, price stability mechanisms, and stringent monitoring—serving as a mature model for emissions trading systems.

In the United States, while lacking a unified federal carbon market, regional cap-and-trade mechanisms like California's Cap-and-Trade Program and the Regional Greenhouse Gas Initiative (RGGI) enforce mandatory emissions caps, use auctioned allowances, and maintain publicly accessible registries and compliance tracking systems. These programs also enforce high standards around additionality and credit integrity.

4. Corporate Green Monopoly

Within the expanding carbon credit landscape, dominant corporations increasingly consolidate market power by generating credits through large-scale afforestation, renewable energy ventures, and CSR-led sustainability initiatives. These entities often possess substantial financial and administrative bandwidth, enabling them to initiate multiple high-volume projects across diverse geographies simultaneously. Their capacity to orchestrate and certify

[21]Vishwa Mohan, India Sets Up National Designated Authority to Implement Provisions of Carbon Trading Under Paris Agreement, Times of India (Aug. 27, 2025, 23:19 IST), https://timesofindia.indiatimes.com/india/india-sets-up-national-designated-authority-to-implement-provisions-of-carbon-trading-under-paris-agreement/articleshow/123549828.cms.

[22]Kautilya Singh, Environment Dept Will Be Nodal Agency for Carbon Credits in State: CS, Times of India (Aug. 25, 2025, 22:28 IST), https://timesofindia.indiatimes.com/city/dehradun/environment-dept-will-be-nodal-agency-for-carbon-credits-in-state-cs/articleshow/123508178.cms.

projects enhances their control over credit supply, enabling them to influence market prices and standards. As these firms amass extensive credit portfolios, smaller actors—such as community-based organizations or SMEs—find it increasingly difficult to compete or gain recognition, effectively cementing corporate dominance.

Financialisation of Nature:

A foundational critique lies in the financialisation of nature, where previously intangible ecological processes are redefined as tradable financial instruments. This transformation abstracts complex ecosystems into fungible units—i.e., credits—akin to financial securities. As Tone Smith notes, this process substitutes deep ecological complexity with market logic, often diluting ecological integrity and facilitating speculative investment rather than genuine restoration or stewardship.[23] Commodification theorists echo such concerns, arguing that reducing nature to exchange value overlooks qualitative, cultural, and intergenerational factors, especially in contexts where ecosystems resist standardization or monetization.

Green Monopoly Tools:

Corporations augment their ecological dominion through strategic branding, sophisticated ESG disclosures, and storytelling via CSR. Sustainability reports often highlight participation in offset programs or ambitious carbon neutral pledges—enhancing reputational capital among investors and consumers alike. ESG metrics and sustainability labels further amplify these narratives, though methodological inconsistencies or soft metrics can obscure real environmental performance. In this way, corporations leverage green legitimacy to reinforce market authority and moral leadership, at times overshadowing or delegitimizing more modest but substantive efforts by smaller actors.

Carbon Credits as a "License to Pollute"

Carbon credits, in practice, can function as a "license to pollute", particularly for wealthy companies that can easily purchase offsets rather than reducing emissions at the source. Critics warn that this approach perpetuates status quo polluting patterns by allowing emission-intensive activities to continue under the guise of climate responsibility. A striking peer-

[23]Tone Smith, Financialisation of Nature, WU Vienna Univ. of Econ. & Bus., SRE-Discussion Paper No. 08/2021 (2021), https://doi.org/10.57938/6c5619dc-efaf-4814-b81c-c484385d7038.

reviewed meta-study reveals that over 80% of credits from more than 2,000 projects lack genuine emission reductions—suggesting that the underlying mechanisms of offsetting often fall short of ecological integrity.[24] Such quality gaps enable affluent corporations to deflect accountability, obscuring the true scope of their carbon footprints.

Socio-Environmental Costs:

The ramifications of corporate dominance in carbon markets disproportionately affect rural populations, indigenous communities, and small-scale industries. Projects involving afforestation or land-use changes may limit access to traditional lands or resources, leveraging externally defined metrics of ecological benefit over locally perceived needs. Critics of REDD+ recount consistent displacement of indigenous rights, constrained agency, and inadequate prior consent from communities—highlighting a colonial pattern within carbon governance. Such dynamics raise environmental justice alarms: while corporations capture financial and reputational rewards, those whose livelihoods or cultures are intricately linked to the land frequently bear the social, economic, and ecological burdens.

Taken together, these dynamics present a compelling critique of corporate monopoly in the carbon credit arena. Through financialization and commodification, ecological value gets subsumed under profit motives. Branding and ESG narratives provide veneer, whereas real environmental substance may be lacking. Large corporations effectively purchase moral clearance to continue polluting, avoiding systemic lifestyle and structural transformations. Meanwhile, marginalized populations experience erosion of access and autonomy, with limited recourse or visibility.

5. Case Study: Vantara

Conceived in early 2024 and officially inaugurated in March 2025, Vantara—meaning "Star of the Forest"—is an expansive 3,500-acre animal rescue and rehabilitation facility located

[24]Jonathan Crook, Cooking the Climate Books: New Peer-Reviewed Study Finds Carbon Credit Impact Vastly Overstated, Carbon Market Watch (Nov. 14, 2024), https://carbonmarketwatch.org/2024/11/14/cooking-the-climate-books-new-peer-reviewed-study-finds-carbon-credit-impact-vastly-overstated.

within Reliance's Jamnagar refinery green zone.[25] Championed by Anant Ambani under the aegis of the Reliance Foundation, Vantara is portrayed as a philanthropic initiative rooted in the Hindu ethos of *jeev seva*—service to life—and inspired by the teachings of Swami Vivekananda.[26] The facility purportedly shelters a staggering 150,000 animals across over 2,000 species, earning recognition such as the *Prani Mitra* award for corporate animal welfare.

Wildlife Conservation and Eco-Restoration

Vantara advertises itself as a high-standard sanctuary, equipped with rehabilitation zones, a research center, and advanced veterinary infrastructure—including hydrotherapy pools, MRI and CT units, and elephant hospitals. It asserts a mission centered on rehabilitating injured or displaced wildlife—from elephants and big cats to rare birds—and restoring biodiversity through curated habitats and breeding support.[27]

Beyond rescue narratives, observers note a strategic dimension: Vantara's vast green expanse can act as a carbon sink, generating credits that Reliance could either utilise to offset its emissions or commercialise in evolving carbon markets. With escalating global demand for carbon offsets, projects like Vantara may blend environmental restoration with revenue and ESG enhancement strategies.

Who Benefits?

While the environmental narrative suggests welfare-led conservation, corporate dynamics hint at layered benefits. Primarily, the parent company could gain credits, brand capital, and resource access (like genetic data or water management systems), potentially overshadowing direct ecological outcomes.[28] Although some grassroots engagement and public awareness

[25]Jonathan Crook, Cooking the Climate Books: New Peer-Reviewed Study Finds Carbon Credit Impact Vastly Overstated, Carbon Market Watch (Nov. 14, 2024), https://carbonmarketwatch.org/2024/11/14/cooking-the-climate-books-new-peer-reviewed-study-finds-carbon-credit-impact-vastly-overstated.

[26]Ibid.

[27]Angshupriya Datta, Vantara: Reliance's Commitment to a Sustainable Tomorrow, Amity Research Centers, Case No. 725-0032-1 (2025).

[28]Makwana Sweta & Associates, Vantara by Reliance: Conservation Initiative or Corporate Asset?, CA Shweta Blog (2023), https://cashweta.co.in/blog/vantara-by-reliance-conservation-initiative-or-corporate-asset.

efforts are reported, institutional dominance and limited transparency obscure clear community benefit.

Transparency, Verification, and Ethical Oversight

Significant gaps in disclosure and independent verification surface amid the grandeur. Criticism mounts over insufficient clarity on sourcing, verification of animal acquisition, and measurement of genuine conservation impact. Journalistic investigations—like those by *Climate Samurai* and the *Pulitzer-reprinted* report—raise doubts, although corporate rebuttals emphasize legal compliance[29]. The opaque use of land and data, coupled with potential wildlife trade entanglements, underscores governance risks.

Link to Greenwashing Debates

The case embodies a classic greenwashing critique. Corporations may deploy high-profile conservation endeavors as visual testimony to environmental responsibility while masking core environmental liabilities—such as fossil fuel emissions from the adjacent refinery. Observers argue Vantara functions more as conservation capitalism, commodifying nature—forests, animals, and biodiversity—as economic units rather than instances of holistic ecological preservation.[30]

While Vantara undoubtedly houses a vast array of rescued animals under modern care, whether it contributes to meaningful ecosystem recovery remains contested. Enclosures cannot replicate wild ecosystems' biological complexity, and the proximity to the refinery raises stakes for habitat security and animal welfare.[31] The sheer scale may lend credibility, but it may also obscure systemic deficiencies in sustainable design, species integration, and habitat literacy.

Offsetting Corporate Emissions?

[29]Wildlife Animal Protection Forum South Africa (WAPFSA), Neither Rescue or Conservation: The Accumulation of India's Vantara's Wild Animal Collection Sourced from South Africa (2024), https://wapfsa.org/vantara.

[30]Santanu Mukherjee, Vantara: The Illusion of Conservation – How India's Largest Private Zoo Raises Ethical and Environmental Concerns, Climate Samurai (Mar. 6, 2025), https://climatesamurai.com/2025/03/06/vantara-the-illusion-of-conservation-how-indias-largest-private-zoo-raises-ethical-and-environmental-concerns.

[31]Ibid.

The elephant in the room is whether Vantara's green potential serves to neutralize Reliance's industrial footprint. By generating carbon credits that can be internalized—or marketed—Reliance could circumvent deep emission reductions, embedding continued polluting behavior within the sanctity of conservation optics.

Philanthropy vs Profit?

The philanthropic veneer of rescue and rehabilitation is complicated by latent financial and strategic motives. Vantara may be simultaneously a charitable showpiece and a long-term asset—spawning intellectual property in genetic data, centralized control over a vast green resource, and soft power in climate governance. This dualism amplifies conflict between ecological philanthropy and corporate expediency.

6. Governance, Challenges and the Silent Vacuum

India's emergent carbon credit framework grapples with significant enforcement frailties. Independent, third-party monitoring and verification mechanisms—vital for ensuring authenticity in emissions reduction—are still embryonic. Although the Carbon Credit Trading Scheme (CCTS) envisages accredited verifiers conducting assessments, procedural complexity and limited institutional capacity undermine the rigor of verification, exposing risks of data manipulation, inflated baselines, or incomplete reporting.[32] These deficiencies compromise the credibility of carbon credits and diminish systemic effectiveness in driving genuine climate action.

Complicating matters further, environmental governance is increasingly influenced by corporate-driven narratives through CSR and ESG vehicles. While India has transitioned from voluntary CSR to structured ESG disclosure frameworks—like SEBI's Business Responsibility and Sustainability Report (BRSR)—these standards often facilitate self-regulation under weak oversight. As noted by Navajyoti Samanta, qualitative ESG disclosures often lack measurable goals and transparency, fostering an appearance of sustainability without

[32]Prajakta Rohit Zirkande & Mayuree Tawade, Carbon Credit Scenario in India: Challenges and Opportunities, 12(1) Int'l J. Creative Res. Thoughts (IJCRT) 910 (Jan. 2024).

substantiated accountability.[33] This reliance on internal reporting and promotional rhetoric can lead to regulatory capture, where corporate interests shape governance priorities more than public accountability.

A critical governance gap is the near-total absence of meaningful participation by forest-dependent communities, indigenous groups, and other grassroots stakeholders. Carbon-generating projects such as afforestation or conservation frequently proceed without informed consent from local populations, sidelining those who are both ecologically and culturally tied to the land. Organisations like the Centre for People's Forestry (CPF) emphasise that forestry initiatives must prioritize forest dwellers' rights, tenure, and livelihoods. Yet, within the carbon regime, their exclusion fuels justice concerns, amplifying the risk that benefits—economic or environmental—are diverted from local custodians to corporate actors.

When it comes to accountability, institutional mechanisms remain limited. The Ministry of Environment, Forest and Climate Change (MoEFCC) and the Bureau of Energy Efficiency (BEE) oversee carbon credit issuance, yet they lack dedicated capacity for enforcement beyond procedural issuance. SEBI regulates ESG disclosures but lacks the enforcement teeth to challenge misleading or incomplete sustainability claims, while the judiciary steps in only episodically. Though a parliamentary committee recently recommended amending the Companies Act to embed ESG as binding fiduciary duties—and to establish an oversight body—for now, these remain proposals and are not yet law.[34] Overall, oversight remains fragmented, reactive, and institutionally weak.

These institutional gaps contribute to a creeping "green monopoly" risk, where established conglomerates dominate carbon credit markets. Wealthy corporations can deploy their administrative bandwidth to secure large-scale carbon projects, shape verification practices, and influence emerging norms—pushing out smaller enterprises, grassroots actors, and equitable participation. Fragmented regulation and transparency deficits provide fertile ground

[33]Dakshina Chandra & Navajyoti Samanta, Between Compliance and Commitment: Evaluating India's ESG Regulatory Framework, 6(3) Amicus Curiae 743 (Summer 2025).

[34]ET Bureau, Amend Companies Act to Bolster ESG Initiatives, Set Up Oversight Body: House Panel Tells MCA, Economic Times (Aug. 4, 2025, 10:13 PM IST), https://economictimes.indiatimes.com/news/company/corporate-trends/amend-companies-act-to-bolster-esg-initiatives-set-up-oversight-body-house-panel-tells-mca/articleshow/123100318.cms.

for preferential positioning by powerful players, reinforcing market asymmetries (and effectively fortifying their dominant position).[35]

7. Recommendations: Towards Just and Inclusive Carbon Governance

To bolster the effectiveness and credibility of India's nascent carbon credit framework, a multifaceted reform agenda is essential. Strengthening regulatory architecture through independent oversight represents a critical first step. Drawing from analyses of global carbon market failures, reform must incorporate autonomous governance entities—separate from industry or self-regulating bodies—that monitor and verify carbon credit generation with rigor, consistency, and impartiality. These entities should be empowered to audit methodologies, baseline calculations, and additionality claims, minimizing manipulation risks and enhancing system integrity.

Equally important is the principle of transparency. Following global scholarly prescriptions, India's carbon market should mandate full public disclosure of credit issuance, utilization, and beneficiary profiles. Transparent registries should catalogue all mitigation activities, associated credits, and financial flows in machine-readable formats accessible to civil society, researchers, and affected communities.[36] This clarity reinforces accountability, enables third-party scrutiny, and helps restore trust in the mechanism's environmental intent.

Inclusive governance must also be foregrounded. Conservation, reforestation, or ecosystem restoration cannot proceed under models that exclude tribal communities, forest dwellers, and marginalized stakeholders. Instead, participatory decision-making—both in project design and benefit-sharing—is imperative. Emulating best practices in African voluntary carbon projects, which integrate poverty alleviation with community ownership, Indian regulatory provisions should ensure local people are actors, not mere subjects, of climate interventions.

Moreover, to prevent corporate monopolization of the market, regulatory architecture must incorporate anti-competition safeguards. Guidelines can include limits on single-entity project

[35]Ananya Ahajoy & Sri Madhura Srinivasa, Greens and Greys: The Indian Carbon Market's Conundrum, NUALS L.J. Blog (Jan. 27, 2025), https://nualslawjournal.com/2025/01/27/greens-and-greys-the-indian-carbon-markets-conundrum.

[36]Integrity Council for the Voluntary Carbon Market, The Core Carbon Principles (2023), https://icvcm.org/core-carbon-principles.

volumes, mandatory bidding processes for large-scale initiatives, or caps on total credits a single corporate group may hold or trade. Regulatory agencies should also enable equitable access for smaller project developers and community-based entities, ensuring the market isn't dominated by the resource-rich few.

Incorporating global best practices will enrich India's carbon governance. The European Union Emissions Trading System (EU ETS) provides a model for structured cap-and-trade systems with enforceable caps, transparent registries, and market stability mechanisms like auctioning and set-aside reserves to manage supply.[37] Likewise, voluntary market frameworks in parts of Africa showcase how transparency and inclusion can be embedded together through community-based methodologies.[38] India should learn how smart design, integrated MRV systems, and stakeholder inclusion have enabled these jurisdictions to avoid common pitfalls.

8. Conclusion

This study has navigated the complex terrain of carbon credits within India's evolving climate governance architecture, identifying both potential and pitfalls. It has revealed that carbon credits, in theory, offer a flexible mechanism to channel finance into environmental restoration and emissions mitigation. Similarly, academic assessments of methodologies like the Clean Development Mechanism (CDM) repeatedly question whether reductions are truly "additional" or robust. The credibility of credits remains deeply contingent on rigorous measurement, verifiable outcomes, and systemic scrutiny.

Against this backdrop, the case of Vantara emerges as emblematic of a broader dilemma. Positioned by its corporate founders as a sanctuary of wildlife rescue and biodiversity rehabilitation, Vantara is simultaneously criticized for epitomizing the enclosure and commodification of nature. Critics argue that its operational model bears more resemblance to a privatized zoo than a dynamic ecosystem, raising concerns about commodified conservation and the obscuration of ecological complexity. While its scale and resources are unrivaled

[37]Ibid.

[38]Africa-Europe Foundation & Climate Action Platform Africa, Realising the Full Potential of Carbon Pricing and Markets: Opportunities for the Africa-Europe Partnership (Report for COP28, 2023), https://back.africaeuropefoundation.org.

within Indian conservation alternatives, its governance lacks transparency and external accountability, raising questions about whose interests ultimately drive the initiative.

Taken together, these findings prompt a critical reflection: are carbon credits bona fide tools for sustainability, or do they serve as corporate loopholes? The answer is not binary. Carbon credits can mobilize capital toward emission-reducing and ecological restoration activities—especially when integrated with direct climate action and robust emissions pricing. However, without rigorous design, third-party verification, and equitable frameworks, they risk enabling continued pollution under a mantle of green virtue, thereby functioning more as a smokescreen than a solution.

In Vantara's case specifically, while the initiative holds promise for biodiversity-centric interventions, its corporate underpinnings suggest a dual function: serving ecological objectives while enhancing corporate reputation and market positioning. As such, Vantara exemplifies the risk of "corporate green monopolies"—projects that capture public environmental aspirations while limiting broader access to carbon-related benefits and conservation governance. It underscores how powerful entities may leverage environmental narratives to hedge against regulatory or reputational exposure.

At this juncture, the way forward must center on establishing balanced governance—ensuring environmental justice is not eclipsed by climate finance. This entails embedding transparency into every stage—from credit issuance and retirement to beneficiary disclosure and ecological validation. It mandates empowering local and marginalized voices in project design, implementation, and benefit-sharing mechanisms. Oversight must be genuinely independent, capable of countering corporate dominance through regulatory checks, anti-monopoly measures, and participatory safeguards.

Carbon credits have a place in any climate toolbox—but only when undergirded by institutional integrity, social inclusivity, and ecological authenticity. Properly deployed, they can amplify conservation efforts and incentivize sustainable practices. Used unwittingly or opportunistically, they risk becoming complicit in perpetuating ecological inequities and maintaining the status quo of carbon-intensive industries.

To conclude carbon credits are neither panacea nor perversion—they are conditional instruments whose value is defined by the systems that shape them. Vantara, as a metaphor and

material reality, highlights this ambiguity. It can stand as a model of conservation or a cautionary tale of corporate environmental capture. The ultimate challenge for policymakers, civil society, and communities is to cultivate a governance ecosystem where carbon finance aligns with ecological justice—not at its expense.

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