Carbon Credits as Property in India: Legal Status, Ownership, and Enforcement under Emerging Climate Regulation

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Abstract:
The legal characterization of carbon credits has become central to India's transition from fragmented voluntary markets to a unified, government-regulated carbon trading system under the Energy Conservation (Amendment) Act, 2022 and the Carbon Credit Trading Scheme (CCTS), 2023. Although carbon credits originate as regulatory constructs, they increasingly function as commercially valuable intangible assets capable of ownership, transfer, securitization, and enforcement. This paper provides a comprehensive analysis of the property status of carbon credits in India, examining statutory frameworks, taxation treatment, judicial reasoning, and the evolving role of securities and contract law. It further explores competing ownership claims arising in compliance markets, voluntary markets, and nature-based solutions, including the rights of local communities under the Forest Rights Act. The study evaluates transferability, insolvency treatment, securitization potential, and dispute-resolution mechanisms while highlighting constitutional constraints under Articles 14, 19(1)(g), and 300A on governmental control over carbon markets. By comparing India's emerging regime with international models such as the EU ETS, California's cap-and-trade system, Australia's ACCU framework, and China's ETS, the paper identifies critical policy gaps and proposes reforms for a transparent, constitutionally compliant, and globally interoperable carbon market. The analysis concludes that recognizing carbon credits as intangible movable property—subject to legitimate regulatory oversight—is essential for ensuring legal certainty, market stability, and investor confidence in India's rapidly evolving climate governance landscape.

Keywords: Carbon credits, Property rights, Intangible movable property, Carbon Credit Trading Scheme (CCTS), Energy Conservation Act, 2022, Regulatory property, Carbon markets, Ownership of carbon credits, Climate governance, Market-based mechanisms, Emissions trading, MRV (Monitoring, Reporting, Verification), Community carbon rights, Constitutional law (Articles 14, 19, 300A), Securitization, Environmental law, Green finance, International carbon markets, Article 6 of the Paris Agreement.

I. INTRODUCTION

Climate change presents a classic "tragedy of the commons" problem—where unregulated atmospheric emissions impose global externalities without cost to polluters. Carbon markets represent an economic and legal innovation aimed at internalizing these externalities by monetizing emission reductions. The basic logic is simple: *emission reduction becomes a measurable, tradable commodity*.

India, long a participant in voluntary international carbon markets, historically lacked a domestic regulatory market. The **Energy Conservation (Amendment) Act, 2022** reforms this position by creating a statutory architecture for issuing and trading carbon credits. This development brings carbon credits into the mainstream of India's commercial legal system, raising questions central to property theory, regulatory power, and commercial enforceability:

- Are carbon credits **goods**, **property**, **securities**, **licenses**, or **regulatory authorizations**?
- Who owns carbon credits—project developers, financiers, technology owners, landowners, or the State?

- Can credits be pledged, inherited, securitized, or treated as assets in insolvency?
- How do Indian courts and tribunals interpret the proprietary nature of these credits?
- What constitutional constraints limit governmental control over carbon markets?

This article answers these questions and situates India's emerging framework within comparative global perspectives.

II. CONCEPTUAL FOUNDATIONS: WHAT IS A CARBON CREDIT IN LEGAL THEORY?

Carbon markets operationalize the principle that *reducing or removing greenhouse gases has economic value*. The foundational unit that represents such value is the **carbon credit**, commonly defined as:

A certified unit representing a verified reduction or removal of one metric tonne of CO_2 or its equivalent (CO_2e).

Although this is a technical definition, carbon credits also possess a complex legal and economic identity. Their nature must be understood through the lenses of administrative law, property law, and financial regulation. Three conceptual pillars define the legal foundations of carbon credits.

A. Carbon Credits as Regulatory Constructs

Carbon credits are a classic example of *regulatory property*—a category of rights that exists only because the State, or an authorized regulatory regime, brings them into existence. Unlike natural resources (such as land, water, minerals, forests) that exist independently of government intervention, carbon credits are:

1. Created Through Administrative or Statutory Processes

Carbon credits arise from:

- **Regulatory certification** (e.g., CCTS, CDM, VCS).
- **Methodology approval** (baseline measurement, monitoring, verification).
- **Issuance by a competent registry or government authority**.

Without this procedural recognition, no legal entitlement exists. This distinguishes carbon credits from traditional forms of property, where rights can exist prior to or independently of the State.

2. Not Common Law Property by Origin

Because carbon credits do not exist in nature, common law cannot recognize them as a form of property *per se* unless legislation or regulatory practice creates the entitlement. Thus:

- There is no inherent or natural right to generate or own carbon credits.
- Rights arise only upon **certification** and **registration**.

This characteristic makes carbon credits analogous to mining licenses, fishing quotas, emission allowances, and telecommunications spectrum.

3. Entirely Dependent on Statutory or Regulatory Authority

The validity, duration, and enforceability of carbon credits hinge on government or regulatory rules. Consequently:

- A change in methodology can invalidate existing credits.
- A regulatory reform can reduce or enhance the value of credits.
- Governments can suspend or cancel credits for non-compliance.

The State holds residual authority over:

- **Eligibility criteria**,
- **Monitoring and verification**,
- **Revocation**,
- **Compliance mandates**.

4. Vulnerability to Extinguishment or Modification

Unlike traditional property (e.g., land rights protected under Article 300A), regulatory property can often be:

- Limited in duration
- Revocable
- Non-compensable upon cancellation

This creates a distinction between:

- **Property created by law**, which may be revoked only through due process, and
- **Property created by regulatory permission**, which may be contingent or qualified.

Carbon credits occupy this second category.

This fundamentally affects investment risk, security interests, and contractual arrangements.

B. Carbon Credits as Intangible Assets

Even though carbon credits arise from regulation, they acquire the characteristics of property once issued. They are **intangible assets**—non-physical entities capable of being owned, transferred, and monetized.

1. Comparison with Other Intangible Proprietary Rights

Carbon credits share important similarities with other intangible assets:

- **Intellectual Property (IP)**: IP rights arise through statutory registration/certification and grant exclusive benefits similar to carbon credits' market exclusivity.
- **Digital Assets (Cryptocurrencies)**: Like digital tokens, carbon credits exist only in registries, are transferable via electronic systems, and derive value from market demand rather than physical form.
- **Spectrum Licenses**: Spectrum, like carbon credits, is a regulatory construct. Licenses confer a limited property-like right to use a state-controlled resource.
- **Import/Export Quotas or Trade Licenses**: These involve administrative allocation of rights to perform regulated activities, similar to emissions allowances.

Thus, carbon credits exhibit:

- **Identifiability**,
- **Exclusivity**,
- **Transferability**,
- **Economic value**.

These are core indicators of proprietary interests.

2. Market-Dependent Value

The credit has no intrinsic utility—it cannot be consumed, used, or applied physically. Its value arises from:

- **Demand in carbon markets**,
- **Regulatory requirements (compliance markets)**,
- **Corporate ESG commitments (voluntary markets)**.

Thus, carbon credits are closer to **financial commodities** than traditional goods.

3. Legal Consequences of Intangibility

As intangible assets, carbon credits:

- Can be transferred without physical delivery,
- Can be stored in electronic registries,
- Can be pledged as security,
- Can be cross-border assets,
- Must be defined through statute or contract for enforceability.

Their legal existence is entirely informational.

C. Carbon Credits as Dual-Function Instruments

Carbon credits uniquely serve both **environmental** and **economic** functions. This dual character complicates their legal classification.

1. Environmental Function

Carbon credits:

- Incentivize emission reductions,
- Internalize environmental externalities,
- Support climate commitments (Paris Agreement, NDCs),
- Facilitate decarbonization and sustainable practices.

Their environmental integrity is ensured through methodologies, monitoring, verification, and registry-based accounting.

2. Economic/Market Function

Carbon credits are tradable commodities enabling:

- Market-based climate action,
- Investment in decarbonization,
- Financial gains for project developers,
- Hedging and derivative contracts for investors.

Thus, they function like:

- **Assets** (transferable),
- **Commodities** (priced),

- **Instruments** (exchange-traded),
- **Regulatory permits** (compliance-driven).

3. Implications of Duality

Because carbon credits combine:

- Environmental policy objectives and
- Private commercial rights

their legal framework must draw from:

- **Environmental law**,
- **Administrative law**,
- **Property law**,
- **Contract law**,
- **Financial market regulation**,
- **Constitutional law**.

No single field is sufficient. Courts must adopt a **hybrid interpretative approach**, similar to how competition law or intellectual property integrates multiple legal principles.

III. LEGAL STATUS OF CARBON CREDITS AS PROPERTY IN INDIA

India's legal treatment of carbon credits influences:

- Taxation,
- Ownership,
- Transfer rights,
- Enforcement,
- Market regulation,
- Investment incentives.

The classification of carbon credits as "property" is not explicitly provided in legislation, but is strongly implied through several legal pathways.

A. Statutory Basis Under the Energy Conservation Act

The **Energy Conservation (Amendment) Act, 2022** introduces statutory authority for a carbon market. Key features include:

1. Statutory Definition

For the first time, "carbon credit certificate" is defined, signalling:

- A legally recognized unit,
- Issued by the central government,
- Capable of being traded,
- Under a national registry.

2. Authorization for Issuance and Cancellation

The Act empowers the government to:

- Issue credits,
- Suspend or cancel them,
- Regulate the conditions of issuance.

This indicates that credits are:

- **Legally recognized entitlements**,
- Subject to regulatory control.

3. Establishment of Compliance Markets

The Act enables:

- Sector-specific baselines,
- Energy efficiency obligations,
- Trading across obligated entities.

A statutorily created tradeable entitlement **strongly resembles movable property**, especially because it is transferable for consideration.

B. Taxation Authorities Recognize Credits as "Goods"

Indian tax authorities have repeatedly treated carbon credits as property-like:

1. Income Tax Treatment

Courts have treated credits as:

- **Capital receipts**,
- **Commodities**,
- **Transferable assets**.

Income tax rulings assume the existence of a property interest before considering its taxability.

2. GST Classification

GST treats carbon credits as **"goods"** or **"actionable claims"**, depending on the form of transfer. This is important because:

- GST applies only to goods, services, or actionable claims,
- If credits were not property, they would lie outside GST's scope.

Thus, taxation jurisprudence reinforces that carbon credits are proprietary, transferable interests.

C. Securities Law Implications

India's carbon market is expected to integrate with financial markets. Thus, carbon credits or their derivatives may fall within the ambit of:

1. Securities Contracts (Regulation) Act (SCRA)

Under SCRA, "securities" include:

- Marketable instruments of value,
- Derivatives,
- Rights or interests in securities.

Carbon credits may qualify as:

- **Other marketable securities**, or
- Underlying assets for **futures and options**, if they are recognized by SEBI.

2. Derivative Trading

If carbon credits become underlying assets for derivatives:

- Futures contracts must be traded on recognized exchanges,
- SEBI oversight will be mandatory.

3. Commodities Regulation

If treated as commodities:

- Forward contracts would fall under the regulation of commodity markets.

Recognition under securities or commodities law gives carbon credits the status of:

- **Marketable property**,
- **Transferable financial instruments**, not mere regulatory permissions.

D. Judicial Position: Carbon Credits as Independent Commodities

Indian courts, though primarily dealing with taxation disputes, have articulated clear views on the proprietary nature of carbon credits.

1. My Home Power Ltd. v. DCIT (2014)

Key holdings:

- Carbon credits are "**an entitlement**" arising from environmental initiatives.
- They are not manufacturing by-products, but a new class of **tradable commodities**.
- Their sale produces capital receipts.

This implies:

- Carbon credits are **independent assets** with market-determined value.

2. Ambika Cotton Mills v. ACIT (2020)

The Madras High Court emphasized:

- Credits are **"independent, tradable units"**,
- They arise from climate initiatives,
- They have **distinct proprietary character**.

Judicial recognition solidifies the idea that credits:

- Can be owned,
- Can be transferred,
- Are capable of generating capital gains.

3. Shree Cement Ltd. v. ACIT (2018)

The court described credits as:

- "**Valuable intangible assets**",
- Similar to "rights" capable of transfer.

This classification aligns them with intellectual property and business assets.

Collective Judicial Impact

Although domestic carbon markets were undeveloped when these cases were decided, courts clearly recognized:

- The independent proprietary nature of carbon credits,
- Their status as **commercially valuable intangible property**,
- Their transferability for consideration.

This judicial foundation will significantly influence future litigation under the CCTS-based market.

IV. OWNERSHIP OF CARBON CREDITS: COMPETING CLAIMS AND LEGAL PRINCIPLES

The question of **who owns carbon credits** lies at the heart of India's emerging climate regulatory architecture. Unlike tangible commodities, carbon credits arise from **regulatory recognition of emission reductions**. Their ownership therefore depends on a layered interaction of **statute, policy, contract, and property law principles**. As India transitions from a predominantly voluntary-credit ecosystem to a regulated compliance market, ownership conflicts are likely to become more frequent and economically significant.

A. Project Developer Ownership as the Default Rule

Under traditional voluntary carbon markets—such as the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), and Gold Standard (GS)—the **project proponent** is recognized as the legal owner of the credits unless expressly assigned to another party.

This default rule is grounded in the idea that:

- The project proponent bears the financial, operational, and regulatory risks.
- The emission reductions are attributable to the project's actions.
- Verification agencies certify reductions based on the developer's monitoring and reporting.

Indian Private Law Alignment

Under general Indian property and contract principles:

- Ownership vests in the entity that **creates or controls the process** generating the tradable asset unless statute provides otherwise.
- The Supreme Court's treatment of intangible assets such as *spectrum* and *licenses* suggests that **regulatory creation does not automatically imply state ownership** unless the statute expressly reserves rights.

Thus, absent a statutory deviation, project developers remain the **prima facie owners** of carbon credits.

B. Ownership Under Government-Regulated Markets (CCTS, 2023)

India's Carbon Credit Trading Scheme (CCTS), notified in 2023, introduces a new paradigm: carbon credits may be issued in compliance markets where the central government determines:

- **Who receives credits**,
- **How baselines are set**,
- **What methodologies apply**,
- **What conditions affect eligibility**.

Potential Ownership Models Under CCTS

- **Allocation to obligated entities**: Industries that reduce emissions below prescribed targets may receive credits.
- **Government allocation or withholding**: The State may reserve ownership of certain categories of credits, particularly those tied to sovereign commitments under India's NDCs.
- **Project-based allocation**: Renewable energy, hydrogen, green mobility or energy-efficiency initiatives may generate credits allocated to developers.

Indeterminacy Until Rules Are Finalized

Current rules do not conclusively specify:

- Whether carbon credits are **owned by the entity achieving reductions**,
- Or whether they are **merely licensed for trading**,
- Or whether the State retains a **sovereign climate claim** that overrides private entitlements.

This regulatory vacuum creates a fertile ground for:

- Disputes between private developers and the government,
- Challenges to credit cancellations,
- Conflict between voluntary and compliance markets,
- Potential expropriation issues if earlier credits are retrospectively invalidated.

Judicial intervention is inevitable as the compliance market matures.

C. Contractual Allocation: The Most Significant Determinant

Despite regulatory developments, **contractual allocation** remains the single most powerful determinant of ownership. Carbon transactions typically arise from complex commercial arrangements such as:

- Emission Reduction Purchase Agreements (ERPA),
- Forward sale contracts,
- Technology licensing agreements,
- Community participation or benefit-sharing agreements.

Judicially Enforceable Contracts

Indian courts will enforce contractual allocations provided they meet three criteria:

- **Certainty:** The parties must clearly define present or future ownership entitlements.
- **Legality:** Contracts cannot transfer rights restricted by statute or regulatory scheme.
- **Non-contradiction:** Contractual clauses cannot override the government's power to regulate or revoke credits.

Credits arising in the future ("future goods" under contract law) may also be assigned, similar to assignment of future receivables.

Complex Contractual Scenarios

- Investors funding carbon projects may claim **priority rights** to credits.
- Suppliers providing technology (e.g., biomass digesters, renewable components) may negotiate **co-ownership structures**.
- Aggregrators may seek exclusive rights in exchange for financing validation and verification costs.

Thus, contractual architecture is poised to shape market behavior more significantly than statutory ownership rules, at least in the interim.

D. Community-Owned Credits in Nature-Based Solutions

Nature-based solutions (NBS)—forestry, agroforestry, wetlands, and mangrove restoration—raise uniquely sensitive ownership issues.

The FRA Challenge

Under the **Forest Rights Act, 2006 (FRA)**:

- Forest-dwelling communities possess rights over forest produce,
- Management authority is shared through Gram Sabhas,
- Conservation responsibilities are decentralized.

These rights may extend to environmental services such as carbon sequestration.

Emerging Claims

Local communities increasingly assert:

- **Co-ownership of carbon credits** generated from forests they protect,
- **Right to consent (FPIC)** before carbon projects are developed,
- **Benefit-sharing** entitlements analogous to the Biodiversity Act's benefit-sharing norms.

Legal Vacuum

India lacks a statutory framework for:

- Community carbon rights,
- Revenue-sharing mandates,
- Dispute resolution mechanisms for carbon benefit-sharing.

Judicial clarification will be required to reconcile:

- FRA community rights,
- State ownership of forest land,
- Project developer investments,
- Carbon market imperatives.

This is likely to be one of the most litigated questions in India's climate governance in the coming decade.

V. TRANSFERABILITY, SECURITIZATION, AND COMMERCIAL EXPLOITATION

Once recognized as property, carbon credits acquire the full suite of commercial characteristics associated with tradable intangible assets. Their economic functionality depends on **free transferability**, **assignability**, and **financial integration**.

A. Modes of Transfer

India's carbon markets accommodate a wide range of transfer mechanisms:

1. **Outright Sale** – Transfer of existing credits.
2. **Assignment of Future Credits** – Often used in project finance or ERPA structures.
3. **Forward Purchase Agreements** – Credits are sold ahead of issuance with performance conditions.
4. **Exchange-Based Trades** – Under regulated carbon markets, credits may be traded on recognized exchanges.

Each mode triggers distinct legal implications under contract law, securities law, and regulatory compliance.

B. Treatment Under Indian Contract Law

Under the Indian Contract Act, a contract for the sale or assignment of carbon credits is valid if:

- The object is lawful,
- The consideration is lawful,
- The terms are certain or capable of being made certain.

Remedies for Breach

- **Damages** – Based on the market value of credits at the time of breach.
- **Specific Performance** – Particularly for identifiable batches of credits already issued.
- **Restitution** – For invalid or mistaken transfers.
- **Injunctions** – Preventing sale of disputed credits.

Credits that have been double-issued or double-sold may result in **claims for rescission and restitution**.

C. Carbon Credits in Insolvency and Bankruptcy

Under the Insolvency and Bankruptcy Code, 2016:

- Carbon credits constitute **assets of the corporate debtor** if held at the outset of insolvency.
- Future credits may be treated as **receivables** if contractually secured.
- Resolution professionals may monetize credits to maximize recovery.

This creates opportunities for:

- Creditors to secure interests in future credits,
- Developers to use credits as collateral,
- Financial institutions to structure climate-linked lending instruments.

However, regulatory cancellation of credits can reduce their value to zero, making them uniquely risky collateral.

D. Securitization and Financial Engineering

With maturing markets, carbon credits increasingly serve as:

- **Collateral for loans**,
- Underlying assets for **carbon-backed bonds**,
- Components of **green securitization pools**,
- Input parameters for **insurance products** (e.g., reversal risk insurance in forestry projects).

Financialization requires robust legal classification as **property** and predictable rules for enforcement, assignment, and cancellation.

India is moving in this direction but is not yet fully aligned with the sophistication of EU or California carbon markets.

VI. ENFORCEMENT OF CARBON CREDIT RIGHTS

Enforcement is perhaps the most under-examined yet critically important dimension of carbon law in India.

A. Types of Disputes Common in Carbon Markets

- **Non-delivery of contracted credits** – Often arises due to project underperformance or verification delays.

- **Over-issuance or double counting** – Regulatory error or project misrepresentation.
- **Fraudulent credits** – Falsified data or non-existent projects.
- **Regulatory cancellation** – Government cancellation due to non-compliance or methodology changes.
- **Disputes between project developers and local communities** – Over benefit-sharing and rights in nature-based projects.

The cross-border nature of many carbon agreements amplifies the complexity.

B. Relief Through Indian Courts and Arbitration

Most carbon agreements contain **arbitration clauses**, frequently invoking:

- Singapore International Arbitration Centre (SIAC),
- LCIA,
- UNCITRAL Rules.

Judicial Remedies in India

Indian courts can grant:

- **Specific Performance** – Especially when credits are identifiable and unique.
- **Damages** – Including market differential at the date of breach.
- **Injunctions** – Preventing unauthorized sale or transfer.
- **Restitution** – When transfers are void or voidable.
- **Recognition and enforcement of foreign arbitral awards** under the Arbitration and Conciliation Act, 1996.

Regulatory Remedy

Regulators (BEE or designated agencies) may:

- Suspend credits,
- Cancel credits,
- Blacklist non-compliant entities.

This form of administrative enforcement can supersede contractual rights, highlighting the hybrid public-private nature of carbon credit regulation.

VII. PUBLIC LAW LIMITATIONS: CONSTITUTIONAL AND ADMINISTRATIVE LAW DIMENSIONS

Even though carbon credits increasingly function as **marketable proprietary assets**, their origin lies squarely in **State regulatory power**. They are created, validated, and extinguished through statutory mechanisms that reflect India's broader climate and energy policy. As such, carbon credits occupy a unique position at the intersection of **private law property rights** and **public law regulatory authority**.

The State's sovereign powers over carbon credits include:

- **Suspending or regulating trading**,
- **Modifying emission baselines**,
- **Cancelling or withholding credits**,
- **Imposing new compliance obligations**,
- **Changing methodologies or eligibility criteria**.

These exercises of power must withstand scrutiny under **constitutional and administrative law**, particularly Articles 14, 19(1)(g), and 300A.

A. Article 14 – Non-Arbitrariness and Reasonableness

Under the **doctrine of arbitrariness**, the State must ensure that all regulatory actions affecting carbon credits satisfy three core principles:

- **Reasonableness:**

Policies must reflect rational nexus with environmental goals, scientific standards, and India's NDC commitments. Arbitrary baselines, sudden reversals of methodology, or ex post facto cancellation of credits would be vulnerable to constitutional challenge.

- **Non-Discrimination:**

Distinctions among sectors or project types—such as renewable energy, industrial efficiency, or nature-based solutions—must be based on intelligible differentia and rational justification.

- **Transparency:**

Regulatory decisions affecting the issuance or cancellation of credits must adhere to transparent and predictable criteria. Sudden changes without stakeholder consultation may fall afoul of Article 14.

Administrative Law Constraints

Under principles of administrative fairness:

- Entities must receive **notice and reasons** before adverse action (credit suspension or cancellation).
- There must be **consistency of application** across similarly situated participants.
- Regulatory discretion cannot be unfettered.

Thus, Article 14 imposes **procedural and substantive constraints** on the State's climate regulatory power.

B. Article 19(1)(g) – Freedom of Trade and Occupation

Trading in carbon credits constitutes:

- **A form of business**,
- **A financial activity**,
- **A commodity transaction**.

Therefore, Article 19(1)(g) protects the right of individuals and enterprises to enter carbon markets, develop projects, and trade credits.

Permissible Restrictions under Article 19(6)

The State may impose restrictions if:

- **They are reasonable**,
- **They serve public interest**,
- **They are proportionate** to the objective pursued.

Examples of permissible restrictions include:

- Preventing fraud or double counting,
- Mandating minimum verification standards,
- Regulating trading platforms,
- Temporarily suspending trading to prevent market manipulation.

However, restrictions may be unconstitutional if they:

- Impose **total prohibitions** without justification,
- Discriminate between domestic and foreign project developers without rational basis,
- Retrospectively invalidate credits without compensatory mechanisms.

Given the complexity and volatility of carbon markets, **proportionality review** is likely to become a central judicial tool.

C. Article 300A – Right to Property and Regulatory Takings

Article 300A protects against **deprivation of property without authority of law**. Once carbon credits are recognized as **movable property** or **intangible proprietary rights**, cancellation or forced surrender becomes an act of deprivation.

Key Constitutional Requirements

- **Deprivation must be supported by valid law:** Executive guidelines or administrative circulars cannot override statutory entitlements.
- **Due process must be observed:**
  - Notice,
  - Opportunity to respond,
  - Reasoned decision.
- **Deprivation must not be arbitrary:** Blanket cancellations, retroactive reductions of baselines, or unilateral invalidation without scientific basis could violate Article 300A.
- **Compensation is not mandatory but may become relevant:** If the State changes rules midstream and destroys the economic value of credits, courts may entertain claims of *regulatory takings*, drawing on comparative constitutional principles.

Significance for India's Transition to a Compliance Market

As India moves to a stricter compliance regime, regulatory interventions will intensify. Balancing **public interest climate goals** with **private proprietary expectations** will be a major constitutional challenge.

VIII. COMPARATIVE GLOBAL MODELS AND LESSONS FOR INDIA

Carbon markets across the world vary significantly in legal structure, ownership principles, and regulatory design. Examining major jurisdictions provides important guidance as India shapes its own hybrid system.

A. European Union Emissions Trading System (EU ETS)

The EU ETS is the most mature and influential carbon market globally.

Key Features:

- **Allowances (EUAs) are fungible, marketable commodities** under EU law.
- Ownership and transferability are well-defined in statute.
- **Banking and borrowing** are permitted, ensuring market stability.
- The EU employs **strong anti-fraud systems** (post–VAT carousel fraud scandals), including registry security and transaction monitoring.
- Although EUAs are regulatory creations, their treatment closely resembles that of **financial instruments**.

Lesson for India:

India must adopt:

- Strong registry security,
- Transparent allocation rules,
- Stability in baseline methodologies.

B. California Cap-and-Trade Program

California adopts a more tightly controlled model.

California's Distinct Legal Stance:

- Carbon allowances are treated as **limited, revocable authorizations**, not as full property rights.
- The State reserves broad power to modify or withdraw allowances.
- Offsets face **stringent additionality and permanence requirements**.

Lesson for India:

This model offers guidance on:

- Managing market volatility,
- Controlling excessive speculation,
- Ensuring environmental integrity through rigorous oversight.

C. Australia's ACCUs (Australian Carbon Credit Units)

Australia provides perhaps the clearest statutory property regime.

Key Features:

- ACCUs are explicitly defined as **personal property** (Carbon Credits Act).
- Ownership, transfer, security interests, and registry processes are codified.
- Contracts and financing structures operate with certainty.
- Administrative decisions affecting credits are subject to **transparent review**.

Lesson for India:

India can borrow from the Australian approach by providing:

- Clear, statutory recognition of carbon credits as movable property,
- Defined procedures for registration, transfer, and cancellation,
- Appeal and review mechanisms for regulatory actions.

D. China's National ETS

China's ETS, though the largest by emissions volume, is highly centralized.

Core Characteristics:

- Carbon allowances are treated as **administrative permits**,
- The State retains strong control over allocation and revocation,
- Transparency is limited,
- Allowances have unclear property status.

Lesson for India:

India may adopt aspects of China's **centralized oversight**, but should avoid:

- Unclear property rights,
- Ambiguity in allocation rules,
- Weak market confidence.

India's Optimal Path: A Hybrid Model

Among global models, India currently aligns most closely with:

- **Australia** regarding statutory property recognition,
- **California** regarding regulatory oversight and revocability.

A hybrid approach is emerging where:

- Carbon credits are treated as **property for economic purposes**,
- But remain subject to **public law control** to safeguard environmental integrity.

This dual-character model is workable, but it demands:

- Legislative clarity,
- Transparent administrative rules,
- A constitutionally compliant framework for allocation and cancellation,
- A robust adjudicatory system for disputes.

IX. POLICY GAPS AND RECOMMENDATIONS

India stands at a pivotal moment in the evolution of its carbon market governance. While the Energy Conservation Act (as amended in 2022) establishes the foundation for a national compliance market, significant **policy, regulatory, and legal gaps** remain. These gaps create uncertainty for investors, limit India's ability to mobilize climate finance, and pose constitutional risks. To build a credible, robust, and internationally compatible carbon market, India must pursue a suite of strategic reforms.

1. Statutory Definition: Recognizing Carbon Credits as Intangible Movable Property

Despite judicial pronouncements and taxation rulings treating carbon credits as "goods" or "intangible assets," India lacks a **clear statutory declaration** that carbon credits possess movable property status.

A statutory definition is critical because:

- It ensures **uniformity** across sectors (tax, insolvency, securities, contract law).
- It supports **use of credits as collateral**, enabling project finance.
- It provides **constitutional clarity** when credits are cancelled or modified.
- It aligns India with **Australia's ACCU framework**, which explicitly classifies credits as personal property.

Recommendation:

Amend the Energy Conservation Act to explicitly define carbon credits as **"intangible movable property, transferable and enforceable in accordance with law"**, while clarifying that such rights remain subject to statutory oversight.

2. Comprehensive Ownership Rules

The lack of detailed statutory rules on ownership is one of the most significant legal risks in India's carbon governance landscape. As carbon credits emerge from complex, multi-stakeholder workflows, clear rules are essential to prevent litigation and promote investor confidence.

Ownership issues arise in:

a. Community-Driven Projects

Projects in forests, wetlands, and agroforestry areas implicate the **Forest Rights Act (FRA)** and **Panchayat-level governance**. Communities often claim co-ownership or benefit-sharing rights. Without a statutory mechanism, developers face uncertainty and communities risk exclusion.

b. Forestry and Agroforestry

Long-term permanence obligations raise questions regarding:

- Liability allocation,
- Risk pooling,
- Reversal events (fires, storms, pest outbreaks).

c. Joint Ventures

Renewable energy and industrial decarbonisation projects often involve:

- Foreign investors,
- Technology providers,
- Financial institutions.

Ownership of future credits must be clear to structure financing instruments.

d. Financial Engineering

Carbon credits increasingly underpin:

- Securitization,
- Collateralization,
- Climate-linked derivatives.

These arrangements require legal certainty on priority and enforceability.

Recommendation:

The government should publish **Carbon Ownership Rules**, detailing ownership allocation, co-ownership structures, community participation rights, and treatment of future credits. These should be binding across compliance and voluntary markets.

3. Unified National Registry

India currently faces fragmentation between:

- The proposed **national compliance market registry**, and
- Multiple **voluntary market registries** (VERRA, Gold Standard, etc.).

Fragmentation leads to:

- Risk of **double counting**,
- Weak oversight of project integrity,
- Inconsistent documentation and verification,
- Difficulties tracking cross-market transfers.

Recommendation:

Create a **Unified National Carbon Registry** that:

- Integrates both compliance and voluntary credits,
- Allows registry-level tagging of host-country authorization,
- Supports Article 6 (Paris Agreement) reporting,
- Enables secure API-linked integration with international registries,
- Provides transparent public access to project information.

This would dramatically enhance India's market credibility.

4. Market Integrity Mechanisms

Carbon markets globally face persistent issues of:

- Fraudulent credits,
- Overestimation of reductions,
- Connivance in MRV processes,
- Registry-level cyber-security breaches.

For India to attract global market confidence, integrity and transparency must be central pillars.

a. Anti-Fraud Controls

Implement:

- Transaction monitoring systems,
- Know-your-customer (KYC) norms for market participants,
- Automated transaction alerts for suspicious transfers.

b. MRV Reform

India must evolve from CDM-style MRV to a robust, science-driven model including:

- Independent verification agencies with strict accreditation rules,
- Remote sensing and AI-based monitoring for forestry/agroforestry,
- Transparent publication of monitoring reports,
- Third-party audits of high-volume projects.

c. Blockchain and Distributed Ledger Technology (DLT)

A blockchain-based registry could:

- Reduce fraud by creating immutable transaction histories,
- Support traceability across voluntary and compliance markets,
- Enhance auditability for Article 6 reporting.

Recommendation:

Adopt **market integrity regulations** covering fraud prevention, MRV modernization, registry resilience, and optional DLT integration.

5. Clear Taxation Framework

Currently, taxation treatment is inconsistent across jurisdictions and credit types. Contradictions include:

- Income Tax treating credits variably as revenue receipts or capital receipts,
- GST ambiguity on classification as goods vs. actionable claims,
- Possible double taxation in cross-border trades.

Uncertainty reduces investment and complicates accounting.

Recommendation:

Issue a **Comprehensive Carbon Taxation Circular** clarifying:

- GST applicability (preferably treating credits as "goods" without cascading),
- Income tax treatment for creation, transfer, and retirement,
- Taxation of international transfers under DTAA frameworks,
- Capital gains implications for credit trading.

A unified framework would align tax law with the economic reality of carbon markets.

6. Constitutional Compliance: Due Process in Cancellation and Modification

Given that carbon credits constitute property under Article 300A, regulatory interventions—particularly cancellation or modification—must satisfy constitutional scrutiny.

Current issues:

- No statutory requirement for notice or hearing before cancellation,
- No clear appeal mechanism against BEE or ministry decisions,
- Risk of arbitrary baseline modifications,
- Potential for ex post facto invalidation of credits.

Recommendation:

Enact **procedural safeguards** including:

- Mandatory notice prior to adverse action,
- Right to respond and present evidence,
- Reasoned orders,
- Appellate review before a dedicated tribunal (e.g., an expanded **Energy Appellate Tribunal** role),
- Proportionate regulatory action.

This would align the carbon market with Articles 14, 19, and 300A.

7. International Linkages

India's carbon market will eventually operate in a globally interconnected system. For India to benefit from climate finance inflows and Article 6 trading, it must create a credible international interface.

Recommendations:

a. Article 6 Readiness

Introduce rules for:

- Corresponding adjustments,
- Host-country authorization,
- Avoidance of double claiming,
- Reporting through Biennial Transparency Reports (BTR).

b. Cross-Border Trading

Enable interoperable carbon credit trading with:

- EU (once external linkage becomes feasible),
- Singapore and Japan (early movers in Article 6 pilots),
- Australia (which already has clear property regimes),
- Voluntary market platforms (with host-country approval).

c. Assurance Mechanisms

Establish:

- Internationally recognizable certification standards,
- Mutual recognition agreements with foreign registries,
- Backstopping mechanisms for reversal or invalidation.

These measures would allow India to position itself as a leading exporter of high-quality carbon credits.

Conclusion: A Coherent Framework for a Future-Ready Carbon Market

India's transition to a regulated carbon market is both economically and environmentally transformative. However, without:

- A statutory definition of credit property rights,
- Clear ownership rules,
- Integrity-driven MRV reforms,
- Unified registry architecture,
- Constitutional due process, and
- International compatibility,

India risks creating a fragmented, legally unstable carbon ecosystem.

The recommendations outlined in this section provide a **roadmap for developing a high-integrity, constitutionally robust, globally aligned carbon market** capable of mobilizing investment, supporting climate commitments, and safeguarding the rights of all stakeholders—from project developers to community custodians of natural ecosystems.

X. CONCLUSION

Carbon credits have rapidly evolved from experimental environmental instruments into one of the most consequential forms of **regulatory property** in India's climate governance architecture. As India transitions from a fragmented voluntary regime to a sophisticated, State-regulated carbon market under the forthcoming **Carbon Credit Trading Scheme (CCTS)**, the legal character of carbon credits acquires unprecedented significance. Recognizing these units as **intangible movable property**, while simultaneously subjecting them to legitimate sovereign regulation, is indispensable for creating a stable and predictable carbon economy.

The emerging jurisprudence—rooted in administrative law, constitutional guarantees, environmental governance, and private commercial law—demands a careful balance between **market autonomy** and **regulatory oversight**. The State retains inherent authority to recalibrate baselines, cancel credits, or impose new compliance obligations in the public interest. However, such interventions must remain constitutionally disciplined: **non-arbitrary under Article 14**, **proportionate under Article 19(6)**, and **consistent with due process under Article 300A**. These constitutional guardrails ensure that carbon markets are both environmentally robust and legally defensible.

At the same time, the economic utility of carbon credits depends on clear and enforceable rules governing **ownership**, **transferability**, **securitization**, and **commercial exploitation**. As carbon projects become increasingly complex—spanning private developers, financial investors, technology providers, and community rights-holders—contractual clarity and statutory coherence become indispensable. The legal system must therefore accommodate flexible commercial arrangements while preventing overreach, double counting, and fraudulent creation or misuse of credits.

International experience demonstrates that successful carbon markets rest on **legal certainty**, **transparent registry systems**, and **strong market integrity mechanisms**. India stands at a pivotal moment: it can embrace best practices from mature jurisdictions such as Australia and the EU, while crafting a model tailored to its unique developmental priorities, federal structure, and community-driven environmental governance.

Ultimately, the credibility, liquidity, and global interoperability of India's carbon market will depend on the strength of its foundational legal framework. With clearly articulated statutory definitions, harmonized ownership rules, due process safeguards, and a unified national registry, India is well-positioned to build a carbon market that is not merely functional but globally influential.

In this transformative decade of climate action, carbon credits are more than regulatory abstractions—they are instruments of **economic value**, **environmental accountability**, and **climate justice**. A coherent, transparent, and constitutionally compliant legal regime will not only safeguard investor confidence and market integrity but also anchor India's leadership in the emerging landscape of **green finance**, **climate diplomacy**, and **sustainable development**.

REFERENCES:

1. Bodansky, D. (2010). *The art and craft of international environmental law*. Harvard University Press.
2. Gerrard, M. B., & Hester, T. (2018). *Global climate change and U.S. law*. Edward Elgar Publishing.
3. Gerrard, M. B. (2020). *Carbon capture and climate change law*. Edward Elgar Publishing.

4. Stavins, R. N., & Michael, A. (Eds.). (2017). *Economics of climate change: Carbon markets and policy instruments*. Oxford University Press.
5. Hepburn, C., et al. (2019). *Carbon markets: Design, implementation, and regulation*. Oxford University Press.
6. Bodansky, D., Brunnée, J., & Hey, E. (2016). *The Oxford handbook of international climate change law*. Oxford University Press.
7. Rajamani, L. (2012). *International climate change law*. Oxford University Press.
8. Ellerman, A. D., & Buchner, B. K. (2008). *The European Union emissions trading scheme: Origins, allocation, and implementation*. Cambridge University Press.
9. Kossoy, A., & Ambrosi, P. (2018). *State and trends of carbon pricing 2018*. World Bank Group.
10. Marcu, A. (2015). *Carbon markets: The role of property rights in climate policy*. Routledge.