

Briefing 1: Ownership and Attribution of Forest Carbon Rights

The law and policy of forest carbon in Ghana: who owns it, who benefits, and what should change

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This briefing in brief

- **No Ghanaian law currently states who owns forest carbon.** The Environmental Protection Act, 2025 (Act 1124) regulates how carbon markets operate, but is silent on who holds the rights to the carbon stored in trees, soils and forests.
- **Ownership is therefore inferred from existing rules** on land tenure, tree tenure, forestry regulation and customary law - a patchwork that produces different answers depending on where a tree stands and who planted it.
- **Two competing classifications are on the table:** treating forest carbon as an ecosystem service (benefits follow the people who own or steward the trees and land) or as a natural resource (control vests in the State, in trust for the people).
- **The choice matters enormously for farmers and communities,** because it determines whether the people whose daily land-use decisions actually sustain forests receive direct benefits - or are left out of the value chain.
- **Community Resource Management Areas (CREMAs)** and well-drafted contracts offer a practical bridge until Parliament settles the question. This briefing closes with concrete recommendations for reform.

1. Introduction

Forests are a vital part of the global economy: they harbour biodiversity, support livelihoods and contribute to climate resilience (FAO, 2020; World Bank & PROFOR, 2012). Ghana, however, has experienced persistently high rates of deforestation and forest degradation, driven by agricultural expansion, illegal logging, illegal mining (locally known as *galamsey*) and fuelwood collection (Forestry Commission, 2016). The loss of forest cover has significant climate implications because forests function as carbon sinks, absorbing and storing carbon dioxide from the atmosphere. When forests are degraded, cleared or burnt, the carbon stored in trees, vegetation and soils is released back into the atmosphere, contributing to greenhouse gas (GHG) emissions and climate change (IPCC, 2022). It is within this context that forest carbon¹ has become an important legal and economic concept, both globally and in Ghana.

To curb emissions from the forest sector, the United Nations developed the REDD+ ²framework as a mechanism to incentivise forest conservation, sustainable forest management and the enhancement of forest carbon stocks in developing countries. Its central idea is results-based payment: countries that verifiably reduce deforestation and degradation receive payments for the emissions avoided (UNFCCC, n.d.). In Ghana, where both forest reserves and off-reserve landscapes have suffered significant degradation, REDD+ forms part of the country's broader climate change and forest governance strategy, and the forestry sector is expected to contribute roughly a third of the national emission reduction goal under Ghana's Nationally Determined Contributions (Forestry Commission, 2016; MESTI & EPA, 2021).

“Forest carbon” refers to carbon stored or sequestered in forests in trees, vegetation, soils and other forest-related carbon pools (Osafo, 2012; UN-REDD Programme, 2021). Its growing recognition as a measurable and potentially tradeable climate asset has opened new opportunities for conservation finance: emission reductions and removals generated by forest conservation, restoration and afforestation can be converted into carbon credits³ and sold within voluntary and compliance carbon market systems (Ghana Carbon Market Office, 2022; MSCI, 2024).

The emergence of these markets makes the legal treatment of forest carbon increasingly consequential. As markets expand, three questions become legally significant: who owns the carbon stored in forests; who may generate, manage, or transfer carbon credits; and who is entitled to benefit from their monetisation. These questions are especially complex in Ghana, where forest governance sits at the intersection of constitutional provisions on natural resources, statutory rules on forests and

¹ Carbon stored or absorbed (“sequestered”) in forests, in trees, vegetation, soils and other forest-related carbon pools.

² The UN framework for Reducing Emissions from Deforestation and forest Degradation, plus conservation, sustainable forest management and enhancement of carbon stocks. It rewards developing countries with results-based payments for verified emission reductions.

³ A tradeable certificate representing one tonne of carbon dioxide equivalent (tCO₂e) that has been reduced or removed from the atmosphere, verified against a recognised standard.

timber, customary land tenure, community-based natural resource governance and emerging carbon market regulation. The UN-REDD Programme defines carbon rights as claims on the benefit streams from carbon pools, for example, the benefits derived from carbon stored in a specific parcel of forest (UN-REDD Programme, 2021), but attributing those rights is difficult where land ownership, tree tenure, customary interests, State control over natural resources, and community-based forest management intersect (Streck, 2020). This briefing therefore examines the legal framework governing forests in Ghana, with particular focus on ownership, benefit-sharing and the attribution of rights under existing statutory and customary regimes.

2. Legal and Institutional Framework

2.1. Legal framework in Ghana

Ghana's legal system is hierarchical, with the 1992 Constitution at the apex, followed by Acts of Parliament, subsidiary legislation, and the common law (which incorporates customary law).⁴ A point of practical importance for carbon markets is that international treaties do not automatically become part of Ghanaian domestic law upon signature: under article 75 of the 1992 Constitution, treaties executed by or under the authority of the President must be ratified by an Act of Parliament before they bind domestically. This means that international climate instruments shape Ghana's carbon governance as a matter of policy and international obligation, but enforceable domestic rights and duties must be found in Ghanaian legislation (TaylorCrabbe, 2024).

At the international level, Ghana's climate obligations arise principally from the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. Article 5 of the Paris Agreement recognises forests as sinks and reservoirs of greenhouse gases and encourages Parties to conserve and enhance them, including through REDD+; Article 6 provides the basis for voluntary cooperation between Parties, particularly the transfer of internationally transferred mitigation outcomes (ITMOs).⁵ Domestically, the Constitution requires the State to take appropriate measures to protect and safeguard the national environment for posterity.⁷

The principal statute governing climate change and carbon market regulation is now the Environmental Protection Act, 2025 (Act 1124). The Act establishes the Environmental Protection Authority (EPA) as the main regulatory authority for environmental protection and management and

⁴Constitution of the Republic of Ghana, 1992, art 11 (sources of law) and art 75 (ratification of treaties).

⁵Paris Agreement (2015), arts 5 and 6. Article 5 addresses forests as sinks and reservoirs of greenhouse gases; Article 6 establishes the framework for voluntary international cooperation, including internationally transferred mitigation outcomes (ITMOs).

⁶ An Internationally Transferred Mitigation Outcome :an emission reduction authorised by a host country and transferred to another country under Article 6.2 of the Paris Agreement.

⁷Constitution of the Republic of Ghana, 1992, art 36(9).

gives it a coordinating role over climate change responses.⁸ Part Five of the Act (sections 148–159) provides the statutory basis for Ghana’s climate governance framework. It addresses the implementation of Article 6 of the Paris Agreement and provides the legal foundation for regulating carbon market activities, including the authorisation, tracking and accounting of mitigation activities and mitigation outcomes generated in Ghana.⁹

Within Part Five, four features deserve emphasis:

- **The Ghana Carbon Registry:** the national platform for listing, registering, recording and tracking GHG mitigation activities and outcomes. The registry promotes transparency, helps avoid double counting and supports the transfer and use of mitigation outcomes in market transactions.¹⁰
- **The Carbon Market Committee:** which provides institutional oversight of carbon market activities and supports the approval, implementation and assessment of mitigation activities.¹¹
- **The National Greenhouse Gas Mitigation Fund:** with defined sources of funds, objects and management arrangements, intended to ensure that revenue from carbon transactions is properly managed.¹²
- **A regulation-making power:** empowering the EPA to develop further regulations on climate change and the carbon market. A draft Carbon Markets Regulations Bill is being finalised for submission to Cabinet and Parliament (Batini, 2026).¹³

The critical gap, for present purposes, is that while Act 1124 provides a broad statutory framework for the governance of carbon market activity, it does not provide for the ownership of forest carbon, the attribution of carbon rights, or benefit-sharing in carbon-related transactions. Those questions remain governed, imperfectly, by the general law of land, trees and natural resources discussed in section 3 below.

2.2. Institutional framework

Ghana’s institutional framework for carbon market regulation cuts across the environment, forestry, lands and community sectors, reflecting the fact that climate change and carbon markets sit at the

⁸Environmental Protection Act, 2025 (Act 1124), ss 1–3 (establishment and functions of the Environmental Protection Authority).

⁹Environmental Protection Act, 2025 (Act 1124), ss 148–159 (Part Five: climate change and carbon market governance).

¹⁰Environmental Protection Act, 2025 (Act 1124), s 150 (Ghana Carbon Registry).

¹¹Environmental Protection Act, 2025 (Act 1124), ss 151–152 (Carbon Market Committee).

¹²Environmental Protection Act, 2025 (Act 1124), ss 153–159 (National Greenhouse Gas Mitigation Fund).

¹³Environmental Protection Act, 2025 (Act 1124), s 159 (power of the Authority to make regulations for the carbon market framework). A draft Carbon Markets Regulations Bill is under finalisation for submission to Cabinet and Parliament.

intersection of climate regulation, forestry, land tenure and natural resource governance. Table 2 summarises the principal institutions and their roles. The EPA is the apex regulator: under Act 1124 it is designated as the national authority for carbon markets, covering voluntary carbon market activities, non-market approaches, domestic carbon pricing instruments and the Article 6 mechanisms of the Paris Agreement.¹⁴

Institution	Role in forest carbon governance
Environmental Protection Authority (EPA)	National authority and primary regulator for carbon markets; coordinates Ghana’s climate change response; hosts the Carbon Market Office, the Ghana Carbon Registry and the Carbon Market Committee; empowered to make carbon market regulations.
Carbon Market Office (CMO)	Technical and administrative arm within the EPA supporting the development, authorisation, registration and tracking of mitigation activities, including projects generating ITMOs.
Ghana Carbon Registry	Digital platform for registration, tracking and transparent management of mitigation activities, voluntary market projects and ITMOs; prevents double counting.
Carbon Market Committee	Oversees procedures for the development, approval, implementation and assessment of mitigation activities and associated methodologies.
Forestry Commission (FC)	Regulates, manages and coordinates the use of Ghana’s forest and wildlife resources; in practice acts as gatekeeper for forest-based carbon projects (as implementer or through letters of “no objection”).
National REDD+ Secretariat (Climate Change Directorate, FC)	Coordinates REDD+ implementation and forest-based emission reduction programmes; develops benefit-sharing arrangements, safeguards and stakeholder engagement processes.
Resource Management Support Centre (RMSC, FC)	Provides technical support for forest inventory, mapping, monitoring and measurement - the backbone of quantification and verification in forest carbon projects.
Ministry of Environment, Science, Technology and Innovation (MESTI)	Sector ministry with oversight of the EPA; sets environmental and climate change policy.

¹⁴Environmental Protection Act, 2025 (Act 1124), ss 148–149 (designation of the Authority and scope of carbon market governance).

Institution	Role in forest carbon governance
Ministry of Lands and Natural Resources (MLNR)	Sector ministry for lands, forests and natural resources; supervises the Forestry Commission and the Lands Commission.
Office of the Administrator of Stool Lands (OASL)	Constitutional body that collects and distributes revenue from stool lands according to the formula in article 267(6) — directly relevant to how carbon revenue from stool land may be shared.
CREMAs and traditional authorities	Community-based structures (with statutory recognition under Act 1115) through which farmers, landowners, traditional authorities and forest-fringe communities participate in forest carbon projects and benefit-sharing.

Table 2. Principal institutions in Ghana's forest carbon governance and their roles.

Two institutional points merit emphasis. First, the Ghana Carbon Registry and the Carbon Market Committee together form the operational backbone of the carbon market system, ensuring that market activities are properly recorded, assessed and authorised within the EPA's regulatory framework. Second, with regard to forest carbon specifically, the Forestry Commission plays a decisive practical role: it is responsible for the regulation, management and utilisation of forest and wildlife resources¹⁵ and hosts the National REDD+ Secretariat, which coordinates REDD+ programmes, benefit-sharing arrangements, monitoring systems and safeguards (Forestry Commission, 2016; Appiah-Gyapong, 2026). In current practice, no forest-based carbon project proceeds, and no transfer of forest carbon credits is recognised by international registries, without Forestry Commission involvement, either as implementer or through a letter of no objection (TaylorCrabbe, 2024).

Community Resource Management Areas (CREMAs) are increasingly important. They provide a community-based structure for natural resource management and serve as institutional vehicles for local participation in forest carbon projects and benefit-sharing arrangements. With the enactment of the Wildlife Resources Management Act, 2023 (Act 1115), CREMAs now enjoy statutory recognition within Ghana's natural resource governance framework,¹⁶ making them especially relevant in landscapes where conservation and restoration depend on the participation of farmers, traditional authorities, landowners and forest-fringe communities (Agidee, 2011).

2.3. International frameworks applied in Ghana

Ghana's carbon market and forest carbon governance are shaped by international climate instruments and carbon crediting standards: the UNFCCC, the Warsaw Framework for REDD+, the Paris Agreement

¹⁵Forestry Commission Act, 1999 (Act 571), ss 2–3.

¹⁶Wildlife Resources Management Act, 2023 (Act 1115).

and recognised international crediting standards used in voluntary markets. These frameworks impose requirements of transparency, monitoring, reporting, verification and proper accounting of mitigation outcomes (Ghana Carbon Market Office, 2022).

The international rules for REDD+ were consolidated in 2013 at the nineteenth Conference of the Parties in Warsaw. The Warsaw Framework for REDD+ comprises a set of decisions providing technical and methodological guidance for REDD+ implementation, national forest monitoring systems, forest reference emission levels, safeguards information systems, measurement, reporting and verification (MRV), and results-based finance, and establishes the conditions under which developing countries may receive results-based payments for verified emission reductions (UNFCCC, n.d.-b). The Paris Agreement, adopted in 2015 and ratified by Ghana on 21 September 2016, reinforced this architecture: Article 5(2) encourages Parties to implement and support REDD+, including through results-based payments, while Articles 6.2 and 6.4 establish, respectively, a decentralised mechanism for bilateral cooperation through ITMOs and a centralised crediting mechanism under UNFCCC supervision (UNFCCC, 2015).

Validation and verification bodies (VVBs), independent entities accredited under recognised crediting standards, also play a significant role: forest carbon projects in Ghana must be capable of independent assessment before credits or ITMOs can be issued or transferred. VVBs do not create legal frameworks, but they underpin the credibility and integrity of carbon transactions (MSCI, 2024). In terms of sequence, this independent assessment operates as a precondition to sale or transfer: validation and verification must be completed before credits are issued under the applicable standard, and title to a credit can only pass upon issuance. Parties may contract in advance for future delivery (for example, under forward purchase agreements), but no credit or ITMO can actually be transferred until verification has been obtained and, in the case of ITMOs, a Letter of Authorisation has been issued.

Importantly, although the Paris Agreement does not define ownership of forest carbon, its requirements for state authorisation, national accounting adjustments and results-based finance effectively compel domestic legal clarification of who holds rights to carbon benefits (Felicani & Neeff, 2020; Streck, 2020). Because Ghana's land tenure is pluralistic, governed by constitutional provisions, statute and customary ownership systems, the Paris Agreement indirectly obliges Ghana to articulate a coherent legal position on the ownership and attribution of forest carbon rights if it is to participate effectively in REDD+ and international carbon markets.

3. Current Practice

Ghana's carbon market is presently voluntary in character: there is no domestic compliance scheme equivalent to the European Union Emissions Trading System or California's Cap-and-Trade Program, and no general national law requires companies in Ghana to offset their emissions. Instead, the

framework is designed to attract public and private investment into activities that reduce GHG emissions or enhance removals, while aligning with the international market mechanisms under Article 6 of the Paris Agreement (Ghana Carbon Market Office, 2022). In practice the market is administered through the EPA and its Carbon Market Office, which supports the development, authorisation, registration and tracking of mitigation activities, including projects that generate ITMOs. Ghana is among the first African countries to operationalise Article 6, positioning it as a credible supplier of compliance-grade credits in Africa (Ghana Carbon Market Office, 2025). The mechanics of these transactions are the subject of Briefing 2.

For forest carbon rights in particular, however, the law remains unsettled. Act 1124 supplies the statutory machinery for carbon market regulation but does not conclusively define ownership of forest carbon or carbon rights. In the absence of a dedicated carbon rights law, forest carbon rights are generally inferred from existing rules on land tenure, tree tenure¹⁷, forestry regulation, natural resource governance and customary law (Osafo, 2012; TaylorCrabbe, 2024). Understanding current practice therefore requires a short tour of those underlying regimes.

3.1. Land tenure, tree tenure and the constitutional trust

Land in Ghana is classified into public land, stool (or skin) land, and private land. Public lands are vested in the President for the benefit of the public and managed by state agencies; stool lands are controlled by traditional authorities on behalf of their communities, with government oversight exercised through the Office of the Administrator of Stool Lands (OASL); private lands are those that are neither public nor stool lands.¹⁸ Within these categories, the Land Act, 2020 (Act 1036) recognises a hierarchy of interests: the allodial title (the highest interest, typically held by stools, skins, families or clans), followed by the customary law freehold and the usufructuary interest, and below them leaseholds and customary tenancies.¹⁹

Trees are subject to a distinct tenure regime, which varies along two axes: whether the trees are naturally occurring or planted, and whether they stand on reserve or off-reserve land. Economic rights in naturally occurring timber are vested in the State: the Constitution vests natural resources in their raw state in the President in trust for the people of Ghana,²⁰ and timber legislation gives the State, acting through the Forestry Commission, control over the grant of timber rights even where naturally

¹⁷ The bundle of rights a person or body holds in trees, which in Ghana may differ from the rights held in the land on which the trees stand.

¹⁸ Constitution of the Republic of Ghana, 1992, arts 257(1) (public lands) and 267(1) (stool lands).

¹⁹ Land Act, 2020 (Act 1036), ss 2–7 (allodial title, customary law freehold, common law freehold, usufructuary interest, leasehold and customary tenancy).

²⁰ Constitution of the Republic of Ghana, 1992, art 257(6): “Every mineral in its natural state in, under or upon any land in Ghana ... is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana.” See also art 268 on parliamentary ratification of transactions granting rights for the exploitation of natural resources.

occurring trees stand on stool or private land.²¹ Planted trees, by contrast, generally belong to the person or entity that planted them (or as provided in the relevant planting agreement). The result, well known to Ghanaian farmers, is that a farmer may own the land but not the naturally occurring trees standing on it, a separation with profound consequences for who can claim the carbon those trees contain (Osafo, 2012; Kotey et al., 1998).

3.2. How carbon rights are attributed in practice

Because no statute attributes carbon rights directly, previous forest carbon projects in Ghana have relied on contracts to clarify rights and benefits. The working premise, distilled from practice and reflected in legal opinion, is that carbon credits from forest-based projects are generated by a combination of three contributions: the land, the trees and the verified actions of those who plant, tend or protect the trees. Accordingly, the landowner, the tree tenure holder and the “verified actor” each hold a proprietary stake in the resulting credits, subject to modification by contract, for example, where a project funder takes a share of credits in exchange for finance (TaylorCrabbe, 2024). Table 3 shows how these default entitlements play out across common scenarios.

Scenario	Tree tenure (carbon stake in the trees)	Land tenure and benefit-sharing implications
Forest reserve – naturally occurring trees	Government of Ghana (Forestry Commission)	Land vested in the State (or managed for the stool). Benefits flow through government channels; where the underlying land is stool land, stool land revenue is distributed by the OASL under the constitutional formula. Verified actors share by contract.
Forest reserve – plantation	Contract between the Government and the planter (e.g., Modified Taungya System agreements)	Benefit shares are defined in the plantation or taungya agreement between the FC, the planter, and (where applicable) the landowning stool and community.
Off-reserve – naturally occurring trees	Government of Ghana (Forestry Commission)	On stool land, land-related benefits pass through the OASL formula; on private land, the landowner holds the land stake. The State’s control of naturally occurring timber creates the central uncertainty over carbon.

²¹Timber Resources Management Act, 1997 (Act 547), s 4 (timber rights in respect of naturally occurring timber); Timber Resources Management Regulations, 1998 (LI 1649).

Scenario	Tree tenure (carbon stake in the trees)	Land tenure and benefit-sharing implications
Off-reserve – planted trees	The planter (farmer or entity that planted the trees)	The landowner holds the land stake; where the farmer is also the landowner, the land and tree stakes — and hence the carbon stake — unite in the farmer. Grant conditions attached to seedlings may modify this default.

Table 3. Default attribution of forest carbon stakes under Ghana’s land and tree tenure rules (adapted from TaylorCrabbe, 2024). All defaults may be varied by contract; Forestry Commission consent is in practice required before forest carbon credits are transferred.

Where carbon revenue is attributable to stool land, the constitutional formula for stool land revenue becomes relevant: 10 per cent to the OASL for administrative expenses, and of the remainder, 25 per cent to the stool, 20 per cent to the traditional authority and 55 per cent to the relevant District Assembly.²² Notably, this formula contains no allocation to the individual farmer or land user whose conduct actually maintained the forest, a structural feature that explains much of the current debate about whether existing benefit-sharing channels are fit for carbon (Felicani-Robles, 2022).

Forest carbon governance in practice, then, rests on a combination of State oversight and local participation. The State, through the EPA, regulates carbon market authorisation, while the Forestry Commission, through the National REDD+ Secretariat, leads REDD+ implementation and forest sector monitoring (Forestry Commission, 2016). Yet at the local level, forest-fringe communities, farmers and landowners remain at the core of forest carbon outcomes, because their land-use decisions directly determine conservation, restoration and sequestration. CREMAs have accordingly become the principal institutional mechanism for securing local participation: a series of contracts between the community (as verified actors), the Government (as tree tenure holder) and the Forestry Commission has been used in previous projects to identify claimants, obtain consent through the CREMA hierarchy and distribute benefits (Agidee, 2011; TaylorCrabbe, 2024).

4. Proposals and Implications

Because ownership and attribution of forest carbon rights are not yet expressly defined by statute, current legal and policy discussions revolve around two possible classifications: forest carbon as an ecosystem service, or forest carbon as a natural resource. The classification adopted will significantly influence the allocation of rights and benefits among the State, traditional authorities, landowners and local forest users; it will also shape the incentives for sustainable forest management and

²²Constitution of the Republic of Ghana, 1992, art 267(6). The formula allocates 10 per cent of stool land revenue to the Office of the Administrator of Stool Lands for administrative expenses; of the remainder, 25 per cent to the stool, 20 per cent to the traditional authority and 55 per cent to the relevant District Assembly.

participation in carbon markets. A draft Forest Carbon and Other Ecosystem Services Management and Utilisation Policy, developed by the Forestry Commission and under Cabinet review at the time of writing, is expected to codify the practical outcomes of previous projects.²³

4.1. Carbon as an ecosystem service

One proposal is to treat forest carbon as an ecosystem service arising from the ecological functions performed by forests and trees. On this view, rights to carbon benefits would logically follow ownership or control of the trees and land responsible for generating the service. This approach aligns with Payment for Ecosystem Services (PES) frameworks, under which those who maintain ecological services are compensated for the environmental benefits they help generate (Boyd & Banzhaf, 2007). The National REDD+ Strategy identifies PES as a potential mechanism for distributing carbon revenue: payments from REDD+ or voluntary markets could be directed to farmers, landowners and communities whose land-use practices maintain or enhance forest carbon sinks (Forestry Commission, 2016). This is consistent with the practical reality that forest carbon outcomes depend heavily on the conduct of local land users.

The implications of this model nonetheless depend on the existing rules on land and tree ownership. Given the distinction between naturally occurring and planted trees, private individuals and groups may hold rights over trees they planted, while economic rights in naturally occurring timber are vested in the State; even under an ecosystem service model, uncertainty would therefore persist over who holds the rights to carbon stored in naturally occurring forests (Osafo, 2012). This asymmetry also carries a perverse-incentive risk: because planted trees attract private rights while naturally occurring trees vest in the State, land users may be tempted to clear naturally regenerating trees and replace them with planted stock. Existing law formally deters such conduct, since harvesting timber without the requisite rights is an offence under the Timber Resources Management Act, 1997 (Act 547), as amended, and forest offences attract enhanced penalties under the Forest Protection (Amendment) Act, 2002 (Act 624); however, enforcement in off-reserve areas remains uneven, weakening the deterrent precisely where most on-farm trees stand. Recommendation 5(c) below therefore targets the root cause by giving farmers a recognised stake in naturally occurring trees. On the positive side, recognising forest carbon as an ecosystem service could provide a more inclusive basis for benefit-sharing, supporting direct benefits for farmers, customary landowners and communities, and could facilitate broader ecosystem credit markets, biodiversity, watershed protection and landscape restoration (World Bank, 2023). Ghana's Riparian Buffer Zone Policy, for example, already recognises forests and vegetative buffers as protectors of water bodies, biodiversity corridors and carbon sinks (Ministry of Water Resources, Works and Housing, 2011); carbon frameworks could operate alongside

²³The Forestry Commission's draft Forest Carbon and Other Ecosystem Services Management and Utilisation Policy had, at the time of writing, been submitted to Cabinet for review (TaylorCrabbe, 2024).

such ecosystem-based mechanisms, reinforcing environmental protection while delivering social and economic benefits locally (UNEP, 2021).

4.2. Carbon as a natural resource

The alternative proposal is to classify forest carbon as a natural resource, a distinct resource or commodity, separate from the trees, land or ecosystems that generate it (Morgera & Kulovesi, 2016). This raises significant constitutional considerations. The 1992 Constitution establishes the State as trustee of natural resources in their raw state;²⁴ if forest carbon were classified as a natural resource, the argument could be made that legal control over forest carbon, and the authority to regulate the credits generated from it, vests primarily in the State. Such an interpretation would be consistent with the existing pattern in which economic rights to naturally occurring trees are vested in the State even where they stand on private land.

But the model raises serious policy concerns. First, it risks excluding farmers and local land users from meaningful participation in carbon benefit-sharing, even though their practices are critical to reducing deforestation and emissions: under the existing constitutional benefit-sharing framework, revenues are distributed among the State, traditional authorities and district assemblies,²⁵ with no direct allocation to the individuals whose conduct sustained the carbon stocks. Second, it may create perverse incentives: where farmers receive no tangible benefit from maintaining trees on their land, they may remove or decline to nurture trees to avoid crop damage, land-use restrictions or future disputes — a dynamic long observed in Ghana's timber regime and under the Modified Taungya benefit-sharing arrangements, where unclear rights have undermined long-term participation (Kotey et al., 1998; Kalame et al., 2011). Although classifying carbon as a natural resource may strengthen State oversight, national accounting and Article 6 compliance, a more balanced model would pair State authority over carbon market transactions with clear statutory or contractual entitlements for the local actors whose conservation and land-use practices generate the benefits.

4.3. Community-based governance and CREMAs

CREMAs offer a practical institutional mechanism for mitigating the difficulties associated with both classifications. As community-based natural resource management structures, now statutorily recognised under Act 1115, CREMAs can identify the relevant community actors, organise participation in forest carbon projects and provide a mechanism for distributing carbon-related benefits (Agidee, 2011). Properly structured, the CREMA model allows the State to retain regulatory authority over authorisation, registration and accounting, while local governance structures ensure that communities and land users receive a fair share of benefits. This balance is particularly necessary while

²⁵Constitution of the Republic of Ghana, 1992, art 267(6).

Ghana lacks comprehensive legislation defining ownership of forest carbon rights (Osafo, 2012). Table 4 summarises the comparative implications of the two classifications, with the CREMA/contract model as a cross-cutting mitigant.

Dimension	Ecosystem service classification	Natural resource classification
Who holds the carbon rights?	Owners/stewards of the trees and land generating the service (farmers, landowners, communities), subject to the State's rights in naturally occurring timber.	The State, as constitutional trustee, holding and regulating carbon on behalf of the people.
Benefit-sharing pathway	PES-style direct payments to verified actors and landholders; compatible with CREMA and contractual models.	Constitutional/statutory channels (OASL formula, district assemblies, mitigation fund); limited direct benefit to individual land users.
Incentive effects	Strong direct incentives for tree retention, planting and sustainable land use.	Risk of perverse incentives (tree removal, non-participation) if local benefits are not guaranteed.
State control and Article 6 accounting	Requires robust State authorisation/registry functions layered over private rights.	Strong: aligns with existing natural resource governance and simplifies national accounting.
Key legal risk	Residual uncertainty over carbon in naturally occurring trees; complexity of aggregating many small rights-holders.	Potential expropriation of community/farmer expectations; equity and constitutional challenges; weakened project credibility for investors.

Table 4. Implications of classifying forest carbon as an ecosystem service versus a natural resource.

5. Recommendations

Drawing the threads together, the following measures would clarify the ownership and attribution of forest carbon rights in Ghana and strengthen the integrity and equity of its forest carbon initiatives:

- a) **Legislate carbon rights expressly.** The forthcoming Carbon Markets Regulations (under section 159 of Act 1124), or a dedicated amendment, should define “carbon rights” as a distinct, registrable interest, state how those rights are attributed among landholders, tree tenure holders and verified actors, and confirm that the default attribution may be varied by contract or, where the variation affects proprietary interests in land or trees, by a deed or other

registrable instrument executed and recorded in accordance with the Land Act, 2020 (Act 1036).

- b) **Adopt a hybrid classification rather than a binary choice.** Treat the regulation, authorisation and international accounting of forest carbon as a State function (consistent with the natural resource model), while statutorily recognising the benefit entitlements of those who own, plant or steward trees (consistent with the ecosystem service model).
- c) **Resolve the naturally occurring tree problem.** Align carbon rights reform with the long-standing agenda of tree tenure reform, so that farmers who nurture naturally occurring trees on their land acquire a recognised stake in the carbon (and timber) value of those trees, removing the perverse incentive to destroy them.
- d) **Guarantee a statutory minimum share for local actors.** Benefit-sharing rules for forest carbon revenue should guarantee a defined minimum share to farmers, verified actors and forest-fringe communities, rather than routing all benefits through the article 267(6) formula, which allocates nothing directly to land users.
- e) **Use CREMAs and standardised contracts as the delivery vehicle.** Pending and after legislation, scale the proven model of CREMA-based contracting (and corporate alternatives such as companies limited by guarantee with special purpose vehicles, where CREMAs are unsuitable), with standardised template agreements vetted by the Forestry Commission and the EPA.
- f) **Record interests in the Ghana Carbon Registry.** The registry should record not only mitigation activities and outcomes but also the holders of carbon rights and benefit-sharing arrangements for each registered activity, providing transparency and reducing disputes.
- g) **Embed safeguards and free, prior and informed consent.** Consent procedures, grievance redress (building on the REDD+ Feedback and Grievance Redress Mechanism) and gender-responsive participation should be mandatory conditions of authorisation for forest carbon projects.

6. Conclusion

The ownership and attribution of forest carbon rights in Ghana remain a developing area of law. The Environmental Protection Act, 2025 (Act 1124) has established a regulatory framework for participation in international carbon markets, but it does not determine who owns the carbon stored in forests. Current debates centre on whether forest carbon should be classified as a natural resource, vesting control in the State under the constitutional trust over natural resources, or as an ecosystem service, which would link carbon benefits to the owners and stewards of the trees that generate the sinks. The distinction has important implications for benefit-sharing: existing constitutional channels largely bypass individual farmers and land users, despite their critical role in maintaining forest cover.

Mechanisms such as CREMAs, supported by carefully drafted contracts, offer a practical pathway for community participation and equitable distribution in the interim. Ultimately, however, the effectiveness and credibility of Ghana's forest carbon initiatives, including the transactions examined in Briefing 2, will depend on clarifying carbon ownership in legislation and on policies that recognise and reward the land users who sustain forest ecosystems.

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Wildlife Resources Management Act, 2023 (Act 1115).

International instruments

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