



Recognising improved land tenure security as a co-benefit in forest carbon projects.

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Introduction: The demand and urgency for high quality carbon credits

Markets for nature credits and carbon offsets are expanding rapidly, creating a pivotal moment for forest conservation and climate action. Whilst nature credit market growth remains unpredictable, some estimates indicate that the carbon market alone could reach \$50 billion by 2030 and \$4 trillion by 2050 (Adams, Winter and Nazareth, 2021). Over two-thirds of nations are planning to utilize carbon markets to fulfil their Nationally Determined Contributions (NDCs) (World Bank, 2022). As the market expands, countries and industries are intensifying discussion around the safeguards for human rights and the criteria for participation in voluntary carbon market (VCM) activities.

To expedite efforts to combat climate change, the Taskforce for Scaling Voluntary Carbon Markets (TSVCM) has been formed to facilitate the necessary expansion of voluntary carbon markets. Additionally, an increasing number of nations are entering into agreements for results-based payments with specialized climate financing mechanisms to acknowledge recent (e.g., Green Climate Fund) and future emissions reductions (e.g., Carbon Fund). A collaboration between the public and private sectors, known as the LEAF Coalition, has also been established to reduce emissions by boosting the forest carbon market. The LEAF Coalition aims to raise at least \$1 billion initially to purchase jurisdictional Reducing Emissions from Deforestation and Forest Degradation (REDD+) credits issued by the Architecture for REDD+ Transactions (ART) from tropical and subtropical forest nations.

In parallel, discussions are focusing on crediting mechanisms and the regulations necessary for internationally transferred mitigation outcomes (ITMOs) under Article 6.4 of the Paris Agreement, alongside the establishment of a Supervisory Body. Against this backdrop, governments worldwide are hastily enacting new laws and regulations to govern these markets and projects within their jurisdictions (Colombia University, 2023).

The expansion of the market does not automatically ensure positive outcomes for forest conservation, climate, or equity. Insights gleaned from early ventures into nature-based markets and associated offset schemes highlight significant risks if the concerns of frontline participants - often indigenous peoples and local communities (IPLCs) - are not thoroughly integrated at every stage of planning and execution. These risks encompass greenwashing, undervaluation, the possibility of double counting and excessive accounting based on hypothetical scenarios, displacement of people, and threats to self-determination and sovereignty. The risk of failing to secure land and marine tenure rights is a major challenge for achieving positive outcomes (Colombia University, 2023).

Moreover, issues such as disregarding future climate risks and biodiversity baselines, ensuring additionality, permanence and addressing shortcomings in local jurisdictional policies and governance structures have been observed. As policies evolve, so too will the market dynamics, pricing mechanisms, and approaches to project development. Collectively, these factors underscore how risks may escalate, particularly as pressure mounts to ramp up climate financing through avenues such as debt-for-nature swaps, biodiversity credits, certification of co-benefits and project finance for long-term conservation efforts.

For the Paris Agreement scenario to be successful, markets must have certainty that claimed goals are achieved, and risks are mitigated. Current progress is ambiguous. Global targets for forest conservation are significantly off track (Forest Declaration Assessment, 2023) and forest carbon credit markets are facing increased scrutiny and waning public trust surrounding concerns of measurement inaccuracy and infringements on the rights of IPLCs (Balmford et al., 2023, Sarmiento Barletti, J.P., 2023). Buyers have become more wary of association with low-integrity credits, and there is growing demand for 'high-quality' credits, and mechanisms to verify integrity (Donofrio and Procton, 2023, Thompson et. al., 2022).

Co-benefits, and co-benefits certification, as a mechanism to address forest carbon market integrity

What determines high-quality, high-integrity credits? In 2023, the Integrity Council for the Voluntary Carbon Market (ICVCM) launched its *Core Carbon Principles and Program-level Assessment Framework* as ten fundamental, science-based principles for identifying high-quality carbon credits that create real, verifiable climate impact. These ten principles span governance (including tracking, verification and transparency), impact (including additionality, permanence and robust quantification) and sustainable development (being benefits, safeguards and contribution to the net-zero transition). The development of these principles, and the inclusion of ‘co-benefits’ and safeguarding, demonstrates increased recognition that there is more to a forest carbon project than simply accounting how much carbon is stored in forests.

And the market is following: credits derived from projects with ‘co-benefit’ impacts including sustainable development, biodiversity and livelihood components carry a premium price – (Donofrio and Procton, 2023) report that ‘projects with at least one co-benefit certification had a 78 per cent premium in 2022’ and projects aligned with the UN Sustainable Development Goals (SDGs) showed a significant price premium, 86% higher than projects not linked to SDGs. Such projects, however, require sound methodologies and verification (or accreditation) practices to ensure these impacts are what they claim.

So, co-benefits are additional (positive) impacts across environmental, social and economic categories created by a project (see, for example, Figure 1). To be an effective mechanism for ensuring high-quality credits and market integrity, co-benefits must be measured, reported and certified. Certifications (also known as co-benefit ‘add-ons’ or ‘labels’) indicate carbon credits which are produced through projects which verifiably contribute to local sustainable development beyond the projects primary aim of carbon emissions mitigation (FlowCarbon, 2024).

Environmental	Social	Economic
<ul style="list-style-type: none">• Air quality• Biodiversity• Water• Soil protection	<ul style="list-style-type: none">• Improved public health• Energy access• Gender equality• Community engagement	<ul style="list-style-type: none">• Job creation• Education opportunities• Inclusive economy• Technology transfer

Figure 1: The 3 categories of co-benefits (Watson, 2022)

Co-benefits hold value for all parties implicated in a forest carbon project. Local communities benefit from more rigorous safeguarding and robust social benefits. Project developers can benefit from a price premium of co-benefit certified credits, and often reduced project risk through improved local buy-in and social legitimacy. Buyers are assured that the credits they are buying not only represent a specified amount of carbon but are *actually* addressing climate change by achieving broader set of both climate and social goals, including the SDGs.

A number of recognised carbon standards issue co-benefit certifications, although none yet issue specific land tenure security co-benefits. A key challenge is the considerable variation in the way that co-benefit certifications are applied and issued (see, e.g. Figure 2).

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	Gold Standard	VCS	SD VSta	CCB
Markers to designate projects with sustainable development impacts	Renewable Energy Certificates Only	No	Labels Only	Yes
Generation of tradable standalone SDG assets	Yes	No	Assets Only	No
Contributions to sustainable development	Yes	Yes	Yes	Yes
Clear methodology for quantifying & monitoring each sustainable development impact	Yes, to Varying Degrees	No	Assets Only	No
Rigorous auditing of sustainable development outcomes achieved	Yes	No	Yes	Yes
Specific measures for benefit sharing	No	Yes	No	Community Gold Only
Theory of change for assessing impacts	No	No	Partially	Yes

Figure 2: (Hamerkop, 2023)

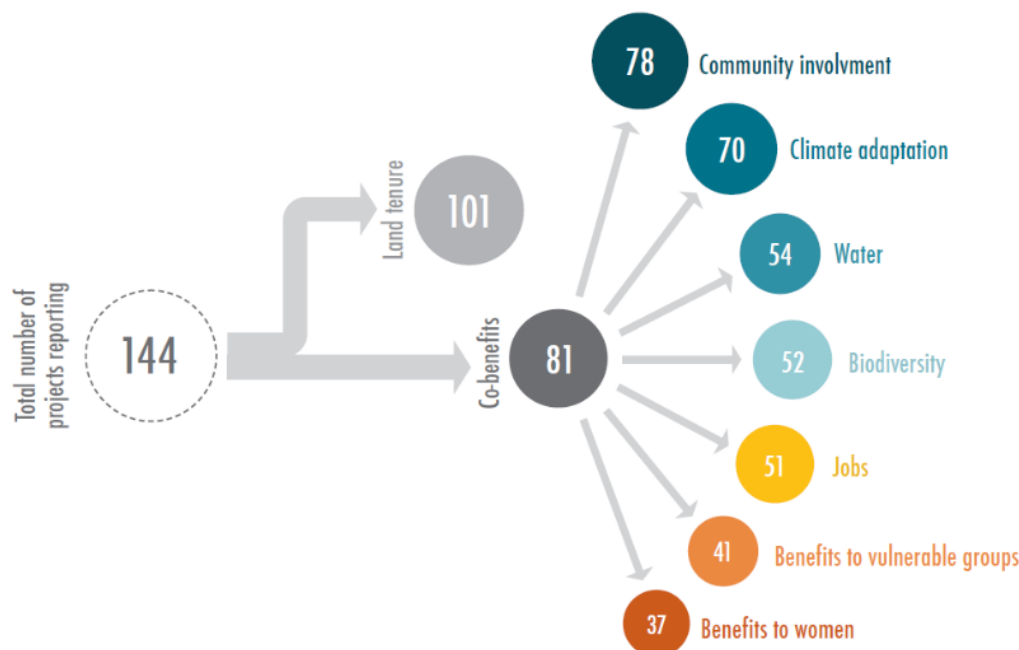
Standards such as the Gold Standard, Verified Carbon Standard (VCS) and SocialCarbon issue co-benefit certifications through integrating SDG reporting into their credit methodologies. Both Gold Standard and VCS require that a minimum of three SDGs are addressed. SocialCarbon does make some minor reference to clear tenure arrangements but only in relation to a benefit-sharing mechanism (SocialCarbon, 2023). One key difference between Gold Standard and VCS is that where Gold Standard verifies its co-benefit claims through tools designed to monitor progress and impact, VCS only verifies that actions contributing to sustainable development have taken place (Hamerkop, 2023). Furthermore, the Integrity Council for the Voluntary Carbon Market (ICVCM) has recently issued its integrity label to the Gold Standard based on the Standard's alignment to the Core Carbon Principles (CCP) (Gold Standard, 2024).

There are also standalone co-benefit standards such as the Climate, Community and Biodiversity Standard (CCB) which externally certify co-benefits, and the Sustainable Development Verified Impact Standard (SD VSta), which can be used to generate standalone tradable SDG assets and is often added on to a VCS certification to bolster its credibility (Hamerkop, 2023).

The status and challenges of co-benefit certification in practice

Forest Trends (Goldstein, 2016) undertakes an annual survey of forest carbon offset suppliers, determining in the 2016 results that of 144 reported projects, as many as 101 report land tenure impacts (Figure 3). It's unclear why land tenure here is seen as separate to other co-benefits. Possibly it's because carbon standards already have some basic requirements relating to tenure that must be addressed before developers begin operations. However, the requirements within voluntary carbon standards vary significantly and are subject to interpretation within national contexts, which has led to criticism regarding safeguarding inadequacies. (Sarmiento Barletti et al., 2023). Recognising the strengthening of land tenure security as a specific co-benefit with an underlying standardised methodology has significant potential. It can mitigate risks to forest carbon projects, underpin the achievement of broader co-benefits and provide an additional financing towards achieving global land tenure security goals, including the achievement of SDG 1.4¹. Initiatives in this direction also have potential to add to global efforts to channel funding directly to Indigenous Peoples.

¹ SDG 1.4: By 2030, ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of



Despite evidence that co-benefit credits carry price premiums (Donofrio & Procton, 2023), one challenge for co-benefits is ambiguity regarding the extent to which such premiums vary between the carbon project type, type of co-benefit as well as which standard certifies it (Wissner & Schenider, 2022), (Hamerkop, 2023). A recent study (Lou et al., 2022) shows a discrepancy between the type of co-benefit and extent of price premium of 30.4%. The International Carbon Reduction and Offset Alliance (ICROA) suggests that 'social' co-benefits are most valued (ICROA, 2014) and the associated SDGs which attract the largest price premiums are SDG 4 (education) and SDG 10 (reducing inequalities) (Hamerkop, 2023). The result of these price premium discrepancies is that it is difficult for carbon project developers to know clearly what they stand to gain by incorporating specific co-benefits (Watson, 2022) and furthermore, how much to invest in achieving them. It is therefore desirable for a common co-benefit accreditation methodology across standards, especially a co-benefit regarding land tenure security building on existing methodologies².

Why tenure security must be recognised as a standalone co-benefit

The assurance of land tenure security is widely viewed as a crucial foundation for the effectiveness of forest conservation endeavours, including but not limited to initiatives such as REDD+, the SDGs, the Aichi Biodiversity Targets under the Convention on Biological Diversity, the International Platform for Biodiversity and Ecosystem Services (IPBES), certification programs like the Forest Stewardship Council, and the broader scope of "new conservation" (Kareiva 2014). However, relatively little attention has been paid to making explicit linkages between land and resource tenure security (henceforth referred to as tenure security) and the voluntary carbon market, and absolute causality of tenure security to forest conservation is challenging to ascribe in the presence of multiple factors and pathways.

Despite the lack of clear evidence for causality, there is widespread consensus that tenure insecurity significantly drives deforestation (Seymour, La Vina and Hite, 2014). Moreover, specific cases, primarily from Latin America, provide ample evidence linking improved forest conditions to the reinforcement of indigenous and community tenure, yielding notably positive outcomes for protected

property, inheritance, natural resources, appropriate new technology, and financial services including microfinance.

² E.g. One example of an existing methodology can be drawn from Prindex – www.prindex.net

indigenous areas. For instance, deforestation rates in indigenous territories in the Brazilian Amazon were less than 1 percent between 2000 and 2012, contrasting with a 7 percent rate elsewhere in the country during the same period (Ding et al., 2016). Another study revealed that half of the community forest areas demonstrating positive conservation outcomes corresponded with indigenous territories where rights had been legally guaranteed (Seymour, La Vina and Hite, 2014).

Clear tenure rights have a strong correlation with reduced deforestation and forest degradation (Tseng et al., 2021). Large-scale studies have shown that "*the transfer of land ownership of forest commons likely advances carbon storage benefits because local communities have the incentive to defer present livelihood benefits*" (Chhatre and Agrawal, 2014). Improved forest stewardship by IPLCs with secure tenure is typically attributed to three factors: local involvement in forest governance; heightened incentives to safeguard and enhance forest resources linked to direct livelihood gains from forest products; and the desire to maintain the resource base for future generations. IPLCs are well-documented to be effective land stewards (Fa et al., 2020) and their profound understanding of the forest and spiritual connections with nature also yield positive impacts. (Bradley and Fortuna, 2021).

Securing IPLC tenure rights of course requires an investment – but available case studies have typically shown generally low costs and high benefits, especially when contrasted with other strategies promoting sustainable forest management (Baragwanath and Bayi, 2020; Blackman and Veit, 2018; Ding et al., 2016; Porter-Bolland et al. 2012; Sze et al., 2022). For example, a 2016 study (Ding et al. 2016) across three countries in the Amazon found that the annual per-hectare costs for the government (excluding in-kind contributions by communities and other sources of funding) to secure and fund the management of indigenous forestlands amounted to US\$5.35 in Bolivia, US\$5.58 in Brazil, and US\$1.35 in Colombia. Meanwhile, the estimated 20-year economic benefits from ecosystem services for all lands eligible for a 20-year titling period ranged from USD 54 billion to USD 119 billion for Bolivia; USD 523 billion to USD 1.165 billion for Brazil; and USD 123 billion to USD 277 billion for Colombia.

The above demonstrates a clear need for land tenure security to be recognized as a co-benefit in forest carbon projects – but there are some challenges to doing so. In many cases, tenure documentation *is* required as a readiness procedure (e.g. REDD+ projects) but may not reflect the various rights of forest dwellers and communities utilizing the forest. Similarly, such projects also introduce additional layers of complexity, including ambiguity around ‘the carbon right’, and uncertain ramifications for various marginalized groups, notably women, who own and utilize these resources.

Land tenure encompasses a spectrum of rights, regulations, and institutions governing individual or community access to land, and it may be important to consider the intersection of forest carbon markets with each of these. Key rights extend across access, resource withdrawal, management, exclusion, alienation (property sale), and enforcement authority (Schlager and Ostrom, 1992) and the absence of security across these rights (tenure insecurity) is acknowledged as a major driver of deforestation in numerous developing nations (Robinson, Holland and Naughton-Treves, 2014; Kissinger, Herold and De Sy, 2012)³. However, despite this evidence, there is a clear gap in linking the two domains of land tenure security and forest carbon markets. Whilst clarification and enhancement of land tenure rights are widely recognized as initial steps toward REDD+ readiness, there appears to be little support to project developers to identify how to achieve tenure security goals – e.g. Davis et al. (2010) particularly noted this gap within national REDD Preparation Proposals (R-PP), and little progress appears to have been made since.

³ Conversely, transitioning to tenure security may also incentivize deforestation – as in many contexts tenure may be traditionally or even legally secured through forest conversion to agricultural land (Cotula and Mayers 2009).

In light of the importance of secure land tenure as a success factor and co-benefit in forest conservation projects, the absence of clear guidance to achieve this security and the challenge of making carbon payments work (in both public and private programs) - it is valuable to explore specific mechanisms and actions by which the voluntary forest carbon market could incentivize secure land tenure. These are discussed below, with particular emphasis on adding land rights into co-benefit certification.

Identifying Pathways for tenure strengthening as a co-benefit in forest carbon

- ***Establishing land tenure security as a recognised co-benefit under the Gold Standard, utilising SDG indicator 1.4.2.***

Land tenure security is recognised under the SDGs via indicator 1.4.2, which has in recent years been the focus of an initiative to facilitate better reporting of land tenure security data (Kumar et al., 2017). The Gold Standard achieves its verified social co-benefits by addressing three SDG impact areas, presenting an opportunity for projects incorporating tenure strengthening activities to qualify as part of the criteria needed to achieve co-benefit certification. Greater recognition may be needed, within forest carbon markets, of indicator 1.4.2, linked with clear criteria and measures for what actions may achieve tenure strengthening in an equitable manner (see below).

ICVCM's recognition of the Gold Standard's alignment with the CCP may provide additional pathways, given tenure security is a foundational element to many of the principles – arguably especially core principles 6 (permanence) and 9 (sustainable development benefits and safeguarding). Increased alignment of carbon standards with the CCPs, clear articulation of the importance of tenure security (e.g. that poor land tenure security impacts land governance and the ability to ensure the permanence of carbon reductions or removals) may support the formal recognition of land tenure security as a co-benefit.

- ***Establishing transparent and appropriate criteria for a land tenure security co-benefit.***

Recognition is just the first step – for uptake to be significant, clear criteria and measures are needed that are implementable and able to be monitored and verified. Potential indicators and markers for issuing a land tenure co-benefit could be derived from the Land Rights Standard: a set of principles incorporating international legal requirements and best practice standards to guide development and investment at a landscape level (Rights and Resources Initiative et al., 2021). Clear and transparent measures for such indicators within a land tenure security co-benefit would ensure consistency across the various carbon standards and promote trust in project claims made. Such measures would also provide further evidence of the contribution of land tenure security to higher quality credits via improved carbon sequestration. Possible metrics drawn from the Land Rights Standard could include:

- Verified impacts from a carbon project relating to the promotion of legal recognition of community-based rights to land.
- Full IPLC collaboration in project implementation.
- Full demonstration of free, prior and informed consent (FPIC) and grievance mechanisms throughout a project

Evidence to date suggests that adhering to the Land Rights Standard would likely offer greater protection for IPLCs due to more comprehensive requirements for recognising customary tenure at a project's inception, compared with current practice under voluntary carbon standards (Sarmiento Barletti, 2023).

- ***Demonstrating clear financing modalities for land tenure security through forest carbon markets***

Financing modalities for land tenure security can include: early project-investment by project developers based on an expectation of a carbon credit price premium, additional activities undertaken

at project preparation/readiness phases to strengthen tenure and realise a co-benefit, post-establishment/credit distribution top-up payments to direct-fund tenure-strengthening activities and realise a co-benefit, implementation of a carbon credit transaction cost to fund land tenure strengthening and monitoring at regional/national scales – levied by Standards and/or national governments, and/or reinvestment of project revenues through a benefit-sharing mechanism to directly finance tenure strengthening activities for to IPLCs.

Outlining these in more detail across project stages:

- **During pre-feasibility**, project proponents are likely assessing broader governance frameworks to determine rule of law and determine the extent to which project claims/rights are likely to be enforced. Individual projects are unlikely to fund tenure strengthening actions here without strong legal frameworks and/or existing or well-established projects nearby, although incentives could be developed through national market support, or through donor funding. For example, national carbon markets may be able to establish a *tenure levy*, or similar, to fund targeted tenure strengthening activities and hence generate momentum and interest. Once some momentum is gained, and assuming a continued price premium for higher integrity carbon credits, this price alone should be sufficient for project proponents to consider early project investment in tenure strengthening to achieve a co-benefit accreditation.
- **At project preparation/readiness phases**, most carbon standards have a tenure assessment requirement (Sarmiento Barletti et al., 2023). Project sites that are attractive ecologically, but which lack sufficient tenure security could fund tenure-strengthening activities. Activities might include, for example, recognising de facto community rights to forested areas via community and social forestry arrangements (Ding et al., 2016). Other actions might include developing local institutions and capacity through training in reporting and accounting, boundary patrolling as well as establishing office infrastructure. There is a need to better articulate the range of activities that could contribute to tenure strengthening (acknowledging differences between contexts), as well as the possible impacts on forest carbon credit generation (e.g. additional security, risk minimisation, SDG co-benefit, etc.).
- **After project establishment, and during credit distribution phases**, there is an opportunity for Standards and/or governments to levy a transaction cost on carbon credit issuance or sales, to finance ‘jurisdictional-level’ tenure strengthening. This is likely to work best at national-scales, and as early-market establishment/momentum building incentivisation. Separately, projects which have established robust benefit-sharing mechanisms could fund both project longevity and ‘co-benefit’ reinvestment components, which can sustain ongoing tenure strengthening activities (see inset box).

Inset box: Case study Plan Vivo

A positive benefit-sharing example can be found in Plan Vivo’s project-level mechanisms which allocate 60% of carbon credit revenue to local communities both in the direct allocation of revenues but also contributed to the enhancement of socio-economic conditions (WARSI, 2014). Part of Plan Vivo’s reporting of socio-economic well-being includes measuring indicators inclusive of a household’s land ownership (WARSI, 2014). As credits in a stable carbon project can be generated year after year, the reinvestment of revenues into social development, inclusive of further land tenure strengthening activities can be viewed as financially sustainable. Communities indirectly funded via benefit-sharing mechanisms can bypass obstacles to direct financing for IPLCs. While efforts to support IPLCs in securing forest tenure rights have seen promising funding pledges, such as the \$1.7 billion commitment over five years made during COP26, direct financing remains limited and IPLCs receive inadequate financing needed to secure their rights and effectively steward their territories (Forest Declaration Assessment, 2023).

- ***Identify mechanisms to channel funds for regional/jurisdictional level impact.***

A key limitation of targeting only project-level tenure security is the possibility of ‘leakage’ in terms of both increasing tenure insecurity for communities in neighbouring forest areas, as well as an inability to effectively plan at landscape scales. There is increasing interest in ‘beyond value chain mitigation’, whereby carbon credit investment is undertaken on the basis of contributing to the achievement of global climate goals, rather than simply offsetting emissions. Such an approach is difficult to measure in terms of directly avoided or sequestered emissions but could be achieved through additional voluntary mechanisms tied to projects and ‘jurisdictional’ approaches.

Article 6 of the Paris Agreement provides a framework for both public and private carbon projects to exist by enabling international cooperation and the exchange of emission reductions between countries and entities and encourages mechanisms which support sustainable development alongside climate action. One such mechanism could involve an initial land tenure security fund for each jurisdiction which acts as the ‘float’ for catalysing the sustainable financing of land tenure strengthening activities. The ‘float’ would supply the up-front transaction costs at a projects inception for achieving a tenure security badge or certification of the co-benefit. This could include covering the cost of land registration, as well as broader tenure-strengthening activities. As a project begins to generate income, a portion of the revenue can be returned to the float until (all, or an agreed portion of) the initial financing is repaid. The funds in the float can then be used to finance the tenure security of neighbouring projects and those under the same jurisdiction to address the ‘leakage’ issues noted above in a financially sustainable manner.

The funding for this tenure-specific mechanism could come from both private and public sources, like the readiness activities of the UN-REDD program. These activities include supporting IPLCs to establish communal tenure arrangements for social forestry, serving as a foundation for REDD+ projects in Indonesia (UN-REDD, 2024).

Summation: the case for a standardised land tenure strengthening co-benefit in forest carbon markets

Reeling from a year of critical scrutiny, carbon project developers recognise the need to assure buyers that the credits being sold really do what they claim to – that is, that credits both mitigate carbon emissions and provide positive social impacts. Co-benefits are an essential component of the emerging high-integrity carbon credit stock – directly contributing to reducing project risk, improving permanence and driving social legitimacy. Recent studies confirm buyer interest in co-benefits - the American Forest Foundation (Goodman, 2022) finding that 29% of carbon credits buyers evaluate projects based on co-benefits⁴. Furthermore, evidence suggests that a majority of buyers are willing to pay more for Gold Standard carbon credits which assure social development benefits (Parnphumeesup & Kerr, 2015).

With the recognised role that land tenure security plays in carbon credit permanence, as well as in underpinning community and diverse stakeholder rights and interests, there is an emerging impetus for both:

- recognising **strengthened land tenure security** in forest carbon projects as a key ‘co-benefit’, improving the quality and permanence of carbon stocks.
- Developing a sound methodology for certification and verification of **strengthened land tenure security**.

Early action is critical, given the role that land tenure plays in reducing forest carbon project risks, the benefits that arise to communities from secure tenure and the significant growth by voluntary carbon

⁴ and 26% specifically on a project’s commitment to diversity, equity, and inclusion.

markets up to 2030. Addressing global land tenure insecurity is considered critical for bridging the current climate finance gap and scaling-up nature-based solutions to meet global climate goals (Gibber, 2023).

Key direct actions identified in this document to finance tenure strengthening within voluntary forest carbon markets include: :

- Develop the concept of a land tenure security co-benefit, linking with carbon standards to incentivise project developers to include land tenure security as a means to achieve a credit price premium.
- Establish clear criteria and metrics for accrediting the land tenure co-benefit. In all cases, the question of how to deliver land tenure security in a cost-effective manner needs to be addressed: how will it be done, and by whom?
- Legal recognition of a distinct carbon right may be necessary, in particular to protect and support the rights of IPLCs and women.
- Develop the mechanisms for a jurisdictional land tenure float (i.e., reimbursable fund) as a sustainable finance option. *A pilot implementation will likely be required.*
- Ensure and document robust benefit sharing mechanisms which can sustainably (and directly) finance IPLC activities to recognise and strengthen tenure security.

Additional awareness and capacity-related needs include:

- Awareness raising with project developers on the importance of a land tenure co-benefit, clear documentation of how to implement tenure strengthening, and the value of these activities to carbon projects. This should be supported by growing the existing evidence base and demonstrating how land tenure security benefits the core carbon principles (including governance, permanence and sustainable development).
- Clear data and research are further needed to demonstrate a willingness to pay for anticipated price premiums on carbon credits including a land tenure security co-benefit. This research should include analysis demonstrating the extent to which price premiums may adequately cover the total costs of land tenure strengthening activities, and possibly disaggregation of such activities to determine which may be most beneficial to communities, and most attractive to developers/credit buyers.
- A further avenue for research and further work may be detailing and quantifying the risk of insufficiently securing tenure in carbon projects, drawing on the Quantifying Tenure Risk economic modelling tool⁵.

Further opportunities to tap into political will and interest include:

- Leveraging Article 6 development mechanisms to support tenure security improvements across all carbon markets.
- With increasing political attention to supply chain transparency, including the 2022 EU Deforestation-free Regulation (EUDR), there is additional scope to link payments for tenure-strengthening to evolving regulatory frameworks, facilitating alignment between forest carbon markets and related sectors. Of particular note is the need for effective institutions and capacity to lead and implement such activities to promote cost efficiencies. Without top-down incentives, it's likely that demands at the individual project level will be too onerous, and in the absence of standard approaches and appropriate tools, too expensive.

⁵ Tool is available here <https://tenurerisks.com/>, with access required from TMP Systems. Further information available at <https://asktmp.com/landscape/> and Feyertag and Bowie (2021).

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Annex 1 – List of Acronyms

ART	Architecture for REDD+ Transactions
CCP	Core Carbon Principles
FCPF	Forest Carbon Partnership Facility
GCF	Green Climate Fund
FPIC	Free, Prior and Informed Consent
LEAF	Lowering Emissions by Accelerating Forest Finance
ICROA	International Carbon Reduction and Offset Alliance
ICVCM	Integrity Council for the Voluntary Carbon Market
IPBES	International Platform for Biodiversity and Ecosystem Services
IPLC	Indigenous Peoples and Local Communities
ITMO	Internationally Transferred Mitigation Outcomes
NDC	Nationally Determined Contributions
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SD VSta	Sustainable Development Verified Impact Standard
SDG	Sustainable Development Goals
TSVCM	Taskforce on Scaling the Voluntary Carbon Market
VCM	Voluntary Carbon Market
VCS	Verified Carbon Standard