



Not all forest carbon credits are created equal

High integrity programmes and conditions for success

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Small forestry in the Peruvian Amazon

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Summary

Concerns about the environmental and social impacts of carbon markets have sparked an effort towards higher integrity. However, greater clarity is needed regarding the different definitions and benchmarks of high integrity carbon (HIC), where these come from, and how they are interpreted and why, to understand their potential. This Occasional Paper reviews the grey and scholarly literature to understand the main trends in HIC definitions, benchmarks and use. The review finds more uniformity in perspectives on environmental integrity than in social integrity; there are differences in emphasis regarding HIC programme governance and on how to monitor integrity. Furthermore, despite the varied understandings of social integrity, with regard to the rights of Indigenous Peoples and local communities (IPs and LCs), the bottom line across reviewed documents remains tied to a ‘do no harm’ standard; this should be considered as a minimum requirement that does not rise to the high ambition expected for high integrity.

Based on our review, we define HIC credits as emissions reduction or removal units supplied by programmes that bring together high quality and high ambition, in both ecological and social dimensions. Concerning high social integrity, we are particularly influenced and inspired by the perspectives and demands from IPs and LCs themselves. Social integrity needs to be taken as seriously as environmental integrity, conceptualized, and practised as going beyond safeguards that ‘do no harm’, and with greater attention to the financial investment and specific guidelines, methods, tools, and capacities required to make it achievable.

We synthesized five key findings from our review of the literature on HIC credits:

1. Definitions emphasize environmental integrity and largely rest on what has generally been accepted as good practices for carbon accounting. Definitions call for ‘robust’, ‘science-based’, and ‘transparent’ measurement, reporting, and verification (MRV) but tend to pay less attention to the social dimensions of integrity.
2. While the different definitions vary regarding how social integrity is addressed, most fall back on safeguards and a ‘do no harm’ standard, rather than demonstrable ambition towards ‘doing better’.
3. Representatives of IPs and LCs, particularly in regional and global policy arenas, that see carbon markets as a potential tool to support their priorities, emphasize transformative change that puts their self-determined well-being pathways at the centre of such initiatives, with the capacities and financial and political support necessary for their success.
4. The governance of carbon-crediting programmes plays a pivotal role in ensuring their integrity. As the voluntary carbon market grows, the need for more sophisticated and robust institutions at all levels will be essential to improving and maintaining its credibility.
5. Robust and adaptive monitoring systems are needed to evaluate programme performance over time. This includes monitoring for social integrity and the participation of local rights-holders and stakeholders, and third-party verification by bodies with in-depth knowledge of the implementation challenges brought by rights for high social integrity.

Five key aspects are relevant to the rights of IPs and LCs with specific considerations for any carbon programme committed to high integrity:

1. The right to free, prior, and informed consent (FPIC) must be designed and respected as a process required across a programme’s lifetime; it must facilitate the right and ability of communities and their organizations to choose to be part of a programme, to shape that programme throughout, and to agree on how they will be included as more than ‘beneficiaries’. Rights-holders should define

FPIC procedures, and women and youth must participate effectively through appropriate methodologies. FPIC processes must be linked to the monitoring of carbon actions.

2. Carbon programmes must go beyond being gender sensitive and work towards transformative approaches that address the underlying institutions and processes that uphold gender inequalities and the differentiated impacts of climate change. Programmes should work with local women and men to identify and address the barriers to women's voice, agency, land, and resources. This includes barriers to how benefits are distributed and invested, and how programmes are monitored to assess their impact on gender equality.
3. Respect for the land and resource rights of IPs and LCs should be a strictly monitored priority and a precondition for the sale of carbon credits. Most standards for voluntary carbon markets call for respect for the land and resource rights of IPs and LCs; however, the bar is low in that proponents must only follow national laws, which are often limited compared with the rights recognized in international agreements. To avoid worsening already volatile political contexts, programmes must identify and resolve land and/or resource conflicts and secure customary rights where relevant.
4. The sharing of benefits and burdens must not only be tied to ownership to land or carbon, which, among other things, can be undefined, unclear, or tend to be assigned to men. Communities and their representatives should participate fully and effectively when defining formal and transparent benefit-sharing mechanisms, based on a complete understanding of burdens. Arrangements

should have built-in flexibility to address potential changes over time, as well as mechanisms to ensure continuous and active participation from rights-holders.

5. Carbon programmes and standards must have grievance and redress mechanisms, as well as mechanisms to monitor compliance to safeguards that are culturally relevant, accessible, transparent, and understood as a feedback loop to an adaptably managed programme. Programmes must prioritize involving rights-holders in the design of these mechanisms to increase legitimacy and promote transparency and accountability in their methods and results. Their processes must be externally verified by third parties.

We believe the biggest challenge to implementing these recommendations is approaching them from a mindset that sees carbon markets as the solution that IPs and LCs need to adopt. Implementation of recommendations should respect IPs and LCs as self-determined communities with their own needs and priorities. If the men and women of IPs and LCs decide to engage in carbon markets, they should have information and mechanisms to ensure their participation supports their self-determined well-being pathways.

Finally, the implementation of these recommendations will also be challenged by governments treating jurisdictional programmes as if they were projects; programmes need to be fully integrated into jurisdictional governance. This process should be informed by the technical and policy-relevant interrelationships that shape a (sustainable) development trajectory and the governance institutions defining citizenship (e.g., participation, representation, accountability).

1 Introduction

Current efforts to achieve the goals of the Paris Agreement are insufficient. The carbon market – one of the hotly debated ‘solutions’ to the climate crisis (Dooley et al. 2022) – continues to be seen as a tool to finance climate mitigation efforts through the trade of credits representing the prevention or reduction of carbon dioxide or other greenhouse gas (GHG) emissions.

In their most common use, carbon credits are purchased by different kinds of actors who can claim them for different purposes. This includes offsetting emissions produced in the pursuit of their activities. Within these exchanges, the role of carbon offsets in the wider effort to achieve net-zero targets has been controversial (Borjigin-Wang et al. 2024). As a basic assumption, carbon credits should not be an excuse to avoid the direct reduction of emissions; instead, they should serve to offset ‘residual’ emissions – those that cannot immediately be reduced despite all efforts to *avoid* and *minimize* emissions (SBT 2021). Investment in such credits varies – from companies attempting to carry out ‘net zero’ production chains to those that need to keep their emissions under a legally set cap such as the European Union Emissions Trading System (EU-ETS n.d.). Most supply for such credits stems from tropical forest regions of the Global South; over 6,000 projects producing emissions reduction units were registered by the end of 2024 (Theresia et al. 2025).

Concerns about the environmental and social impacts of forest carbon credits have sparked an effort towards higher integrity. These include credits produced under payments for forest carbon ecosystem services initiatives or the United Nations Framework Convention for Climate Change (UNFCCC) Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism.

In 2010, the UNFCCC introduced seven Cancun safeguards for REDD+ countries as guidelines that could be understood as an early effort towards environmental and social integrity (UNFCCC 2010):

- Four (A, B, C, and D) deal with social integrity: programme consistency with relevant international agreements (A), access to information and to justice (B), and access to rights (C) and meaningful participation (D) for Indigenous Peoples (UNFCCC Decision 1/CP.16).
- Five (A, B, E, F, and G) deal with environmental integrity: consistency with national programmes and international agreements (A), transparency and effective governance (B), consistency with the conservation of natural forests and biological diversity (E), actions to address reversal risks (F), and displacement of emissions (G) (UNFCCC Decision 1/CP.16).

However, as we have noted elsewhere (Lofts et al. 2021; Sarmiento Barletti et al. 2021), the Cancun safeguards are not an incentive for countries to ‘do better’. Parties to the UNFCCC ultimately interpret the seven safeguards based on their existing legal and policy frameworks. As such, they decide what counts, for example, as ‘respect’ or ‘participation’. Furthermore, parties self-report (through a safeguards information system) how they address and respect safeguards in the implementation of REDD+ activities (UNFCCC Decision 12/CP.17).

Despite a growing role for IPs and LCs among carbon market proponents (ART 2024) and the ongoing development of national compliance markets (Christensen et al. 2024), questions remain about whether carbon markets can or will be supportive of community rights to land, participation, and fair benefit sharing

(APA et al. 2024). In this regard, previous research noted the potential of standards for voluntary carbon markets in promoting a shift from actions that ‘do no harm’ to ones that aim to ‘do better’ (Sarmiento Barletti et al. 2021, 2022, 2023a; Lasheras de la Riva et al. 2024). This shift is important as the broader REDD+ readiness process has placed more importance on technical, political, and financial support towards the MRV of carbon credits, and on safeguards focusing on ‘doing no harm’.

There is less attention on the potential for positive impact on the rights of IPs and LCs to self-determination, participation, and decision making. Similarly, there is less focus on rethinking the roles of IPs and LCs as partners and changemakers, including the contribution of their different worldviews to practices that maintain forests’ standing (Lofts et al. 2021; Sarmiento Barletti et al. 2023b). Despite progress with the design of mechanisms to share the benefits and burdens associated with initiatives producing carbon credits (Wong et al. 2022), representatives and allies of IPs and LCs note that much remains to be done (RFN 2023; APA et al. 2024).

The current interest in HIC provides an opportunity for more balanced attention to environmental and social integrity. Such attention would go beyond the emphasis on the integrity of carbon removals units to reassure buyers that their credits represent genuine reductions (Schneider et al. 2020; Kessler et al. 2024). To provide greater clarity on the limits and transformative potential of the HIC concept

in voluntary carbon markets, this Occasional Paper presents the findings from a review of the specialized literature, including scholarly texts and documents published by the main organizations advocating for HIC. We note that there is a lack of information in the specialized literature from carbon programme and project implementers; this gap in publicly accessible information from key REDD+ actors is a caveat to our review.

Given its scope, the review does not include reviews of domestic compliance markets, how they engage with high integrity or with relevant international standards, or the legal systems upon which these are being constructed (see, for instance, Peña and Sarmiento Barletti 2022 for Peru). Rather, we aim to understand the characteristics, benefits, and challenges of HIC and the enabling conditions necessary to support the supply of HIC credits. To that end, we propose a definition that understands high integrity as combining high quality and high ambition for carbon credits that ‘do better’ in both environmental and social terms.

The methodology for this review is presented below, followed by a synthesis of findings on definitions and characteristics of HIC credits, and another section setting out the key trends in the literature. Section 5 considers the current emphasis on jurisdictional carbon credit initiatives and the enabling conditions for their success. The final section closes with our definition for HIC credits and identifies ways forward towards higher social integrity.

2 Methodology

This review builds on prior research by the authors (Lofts et al. 2021; Sarmiento Barletti et al. 2021, 2022, 2023a, 2023b; Lasheras de la Riva et al. 2024), as well as a systematic search using specific terms related to HIC. Using Google Scholar and Web of Science, we searched for combinations of the following terms: high integrity, high quality, high ambition, environmental integrity, social integrity and carbon, forest carbon, and REDD+. Additional resources were identified through a snowball strategy, including grey literature from key

organizations engaging with high integrity forest carbon. We reviewed papers in English and Spanish, first screening abstracts to select relevant documents, between January and April 2025. A template was used to extract information from each document; notes were recorded using predetermined and inductive codes. To complement the literature search, the review also includes reflections based on three workshops held with Indigenous, local community, and Afro-descendent leaders in Latin America that we took part in.

3 Concerns on the integrity of forest carbon credits

The environmental integrity of forest carbon credits has been questioned due to issues such as lack of additionality, non-permanence, leakage, and inconsistent governance. These factors undermine the credibility of many initiatives and cast doubt on their ability to achieve genuine emissions reductions and meet climate goals (Schneider et al. 2020; ICVCM 2024a). Research has raised doubts about the scale of deforestation reductions claimed by REDD+ actions, as some were likely to have occurred anyway (West et al. 2023). As additionality often relies on hypothetical baselines, it is prone to subjectivity; assumptions about future policies or market changes affect baseline calculations (Schneider et al. 2020).

Research has also noted other concerns. Risk management mechanisms are needed to safeguard the permanence of emissions reductions and prevent leakage in cases when emissions reductions in one area may be displaced to another (Kessler et al. 2024). Events such as wildfires or land-use changes often threaten the permanence of projects like reforestation, potentially reversing the emissions reductions achieved (Schneider et al. 2020). As such, projects must demonstrate clear strategies to mitigate non-permanence risks. Finally, there is the risk of double counting – when more than one actor (commonly the buyer of a credit and the programme’s host country) claims emissions reductions. Double counting could undermine the credibility of carbon markets if not addressed through transparent accounting frameworks (Ma and Duan 2024).

Regarding social integrity, use of carbon credits has raised concerns about their impact on IPs and LCs and their territories and self-

determined livelihoods (RFN 2023; Dunne and Quiroz 2025). Many emissions reduction initiatives take place in landscapes with a history of highly inequitable interactions between actors with political and financial power and those without (Dooley et al. 2022); concerns remain that some carbon credit projects may result in the displacement of IPs or lead to human rights violations (APA et al. 2025). A recent review on the effect of carbon markets on IPs and LCs had two main findings. First, there were significant rights violations of IPs and LCs in recent years. Second, there is “a widespread lack of empirical evidence on the implementation of safeguards to protect local rights” (Cubas-Baez et al. 2025). Research has revealed cases in which REDD+ initiatives have undermined respect for territorial rights and failed to promote inclusive participation mechanisms, fair access to benefits, and FPIC processes (see Sarmiento Barletti and Larson 2020 for a review). For example, some projects in Colombia have been associated with elite capture, fragmenting community trust in leaders, and triggering conflicts over benefit distribution (Schmid and Castro Osorio 2025).

The literature on these concerns tends to focus on a few specific issues: social safeguards (McDermott et al. 2012; McDermott and Ituarte-Lima 2016); benefit sharing (often with an emphasis on financial benefits), especially for historically marginalized groups (Angelsen 2008; Wong et al. 2022); FPIC (Savaresi 2013; Arhin 2014); and the land tenure rights of IPs and LCs (Larson et al. 2013; Sunderlin et al. 2018). There is also specific attention to gender concerns across these dimensions (WGC n.d.; WEDO 2024), including a relatively new standard for women’s empowerment through carbon credit and other initiatives (W+ n.d.). In

addition, the literature increasingly calls for rights-based approaches, assuring that local stakeholders are included in programme design and implementation effectively (Sarmiento Barletti et al. 2023b; Newing et al. 2024). Programmes are also increasingly called to respect and include local and Indigenous knowledge (VCMI 2024). Regarding safeguards, analysts highlight the need for

compliance to be carefully monitored, including through the implementation of grievance and redress mechanisms (Lasheras de la Riva et al. 2024).

The substantial attention to these concerns does not seem to translate into their inclusion in the current, broader understanding of HIC credits, as we discuss below.

4 Different understandings of high integrity forest carbon

Several initiatives have either established or are establishing criteria to distinguish high and low integrity carbon. Prominent market initiatives include the Integrity Council for the Voluntary Carbon Market (ICVCM) and the Voluntary Carbon Markets Integrity Initiative (VCMI). Notably, a recent article on HIC published in Time magazine, co-authored by the CEO of the ICVCM, the Executive Director of the VCMI, and the CEO of the Global Carbon Market Utility, makes no mention of the rights of IPs and LCs. The article notes that “Indigenous peoples (sic) and local communities must be front and centre of [the development of the carbon market]” (Merrill et al. 2024), but the authors do not explain how that participation should be encouraged or operationalized.

The VCMI focuses on the demand side of voluntary carbon markets, setting out recommendations (its Claims Code) “guiding companies and other non-state actors on how they can credibly make voluntary use of carbon credits as part of their climate commitments and on how they communicate their use of those credits” (VCMI 2024, 6). To mitigate social risks such as the displacement of IPs and LCs, the VCMI calls for robust governance structures and benefit-sharing mechanisms to ensure that local communities are not only protected but also benefit from carbon-crediting activities.

In contrast, the ICVCM leads some of the efforts towards defining and identifying HIC credits from the supply side of voluntary carbon markets. The ICVCM aims to build trust in the voluntary carbon market by making it easier for buyers to recognize and put a price on HIC credits.

The ICVCM defined 10 Core Carbon Principles and an Assessment Framework to evaluate whether carbon-crediting programmes meet those principles (ICVCM 2024a). The principles are built around three main topics: governance, emissions impact, and sustainable development. Principle 9 deals with sustainable development and safeguards. It requires that carbon-crediting programmes have clear guidance, tools, and compliance procedures “to ensure mitigation activities conform with or go beyond widely established industry best practices on social and environmental safeguards” (ICVCM 2024a). Notably, the framework requires that carbon-crediting programmes carry out FPIC processes with IPs and LCs, where relevant, as well as stakeholder consultations as part of project design and implementation.

To date, the ICVCM has recognized that three REDD+ carbon-crediting programmes comply with the Core Carbon Principles: ART, the REDD+ Environmental Excellence Standard (TREES) v2.0 (ART 2021); the Voluntary Carbon Standard (VCS), REDD v1.0 (Verra 2023); and VCS, Jurisdictional and Nested REDD+ Framework v4.1 (Verra n.d.). When elaborating its rationale for such recognition, the ICVCM focuses on environmental integrity over a clear emphasis on social concerns and safeguards.¹ Notably, standards were recognized as complying with the Core Carbon Principles label despite several issues. First, there were reports of transgressions of the rights of IPs in jurisdictions with linked programmes (see, for example, APA et al. 2024). Second, IPs and LCs identified

¹ See the observations from REDD+ assessments by the ICVCM board (ICVCM 2024b).

important limitations in the standards in terms of their transparency, inclusivity, and accountability (Hjolmo 2025). Finally, experts have criticized the label's environmental integrity.² This is a reminder that what constitutes 'high integrity', depends on who is doing the evaluation.

In parallel, the Carbon Credit Quality Initiative centred on a tool to assess carbon credit quality (WWF et al. 2020). The initiative defines carbon credits through seven quality markers: determination of emissions impact; avoided double counting; addressing non-permanence; facilitating transition towards net zero; strong institutional arrangements; host country climate ambition; and delivering positive environmental and social impacts. The latter are linked to "prevent[ing] negative impacts and ensur[ing] the project contributes to sustainable development" (CCQI n.d.). In their FAQs, the initiative also notes that "human rights are integral parts" of their assessment methodology. Independent carbon rating agencies – e.g., BeZero, Sylvera, and CalyxGlobal – also evaluate carbon projects individually based on environmental and social standards. However, given their commercial interest, these agencies do not tend to fully disclose the methodologies used for their evaluations or their individual, project-level assessments.

At the international level, the guidelines and methodologies used for carbon credit trading under Article 6 of the Paris Agreement set basic expectations regarding the quality of carbon credits. The Sustainable Development Tool to be used under Article 6.4 aims to ensure that activities comply with the principles of 'do no harm', promote sustainable development, and contribute to the Sustainable Development Goals. Activities under Article 6.4 will need to implement the tool; it requires proponents to comply with specific environmental and social safeguards. This includes general human rights requirements but also specific elements for land acquisition and resettlements, as well as IPs and gender (UNFCCC 2024). Notably, the tool "supports the avoidance of activity related land

acquisition and restrictions on land use that lead to adverse impacts on communities and persons", indicating a clear 'do no harm' mandate.

Any unavoidable involuntary physical and economic displacement is to be minimized, and appropriate measures to mitigate adverse impacts on persons (and on host communities receiving displaced persons) are to be "carefully consulted, planned and implemented" (UNFCCC 2024). The tool also specifies that FPIC must be obtained when there are impacts on IPs' territory or land or resources; cultural heritage; or places with sacred elements of special value. Requirements for equitable benefits for IPs are also included, and to be undertaken through "good-faith negotiations in a manner that is culturally appropriate and inclusive" (UNFCCC 2024).

For the United Nations Development Programme (UNDP) High Integrity Carbon Market Initiative, HIC credits represent genuine and additional emissions reductions or removals. They are verifiable climate benefits aligned with a country's Nationally Determined Contributions (NDCs); both environmentally and socially responsible; governed in inclusive ways; and built on equitable benefit sharing (including with communities where appropriate). For the UNDP, HIC credits are governed through transparent institutional and financial systems and safeguards that mitigate any negative impacts. On the demand side, high integrity requires that entities purchasing these credits are genuinely committed to reducing emissions within their operations and value chains (UNDP 2023).

Beyond the ecological and social integrity aspects of HIC credits, specialists have emphasized aspects linked to their governance. This includes the monitoring and transparency of credits, and the importance of investing in the institutional capacities for good governance (Angelsen and Wertz-Kanounnikoff 2008; Delacote et al. 2024). The ICVCM's Core Carbon Principles also stress the importance of transparent reporting and robust governance mechanisms for high integrity. The initiative highlights the need for standardized methodologies and clear guidelines for the validation and verification processes. It also

² Those standards have also received criticism regarding their environmental integrity, see Oeko (2024).

stresses the need for a credible and independent third-party validation and verification process to ensure that emissions reductions are genuine and measurable.

Although the call for third-party verification emphasizes the environmental integrity of HIC credits, the same attention is not placed on their social integrity (Lasheras de la Riva et al. 2024). The governance and monitoring of HIC credits are also important to ensure programme alignment with broader climate policies and targets, including the NDCs and global climate commitments such as net-zero

goals (Angelsen 2008). ‘Good’ governance also emphasizes transparency, which is key for market trust (ICVCM 2024a). Flexible monitoring systems allow programmes to adapt to changing ecological, social, and political contexts (Kessler et al. 2024), and to demonstrate impact beyond individual projects and the generation of co-benefits (VCMi 2024). Monitoring processes must also engage local stakeholders throughout a programme’s cycle, including local knowledge systems, to identify issues that could compromise the programme’s integrity, and ensure the programme delivers positive co-benefits (Lasheras de la Riva et al. 2024).

5 Indigenous Peoples and local communities, and high integrity

Notably, most of the definitions above include a social or rights dimension, but some are more specific than others. Several focus on social safeguards as ‘doing no harm’ or ‘preventing negative impacts’, and/or they refer to human rights requirements, sustainable development or ‘fairness’ in general terms; a few are more specific about FPIC. We know from research that requirements that may sound far-reaching do not always lead to clear implementation pathways (Lofts et al. 2021; Cubas-Baez et al. 2025) and thus would do little to achieve high integrity. As we have argued elsewhere, while some forest-based initiatives in the Global South aim to promote inclusion, they often address the symptoms of inequality rather than tackling its deeper, structural causes (Sarmiento Barletti and Larson 2020). Half of the world’s tropical forests lie within territories owned and managed by IPs and LCs (Fa et al. 2020), and these lands store nearly 300 million metric tons of carbon (RRI 2018).

Hence, the rights, interests, and well-being of IPs and LCs are critical to any high integrity, transformative climate solution – and the requirements and pathways to achieve these must demonstrate a higher ambition. Notably, carbon markets are controversial within movements and communities of IPs and LCs, leading to debates over how to proceed, whether to engage, and even divisions, from the global to local levels. There is a wide range of responses, from leading initiatives (e.g., Peru’s Indigenous Jurisdictional REDD+ Programme) to the rejection of carbon markets altogether, or the rejection of non-market initiatives that focus on carbon (HRW 2024); there is also widespread denunciation of practices surrounding carbon market projects (RFN 2023).

IPs and LCs are paying close attention to equity and justice considerations in carbon programmes; here, we mention four examples.

The first example is from a global dialogue sponsored by the World Bank’s Forest Carbon Partnership Facility (FCPF) and Enhancing Access to Benefits while Lowering Emissions (EnABLE) fund. The dialogue was organized and led by leaders of IPs and LCs to discuss REDD+ and carbon markets in November 2023, in San Jose (Costa Rica). With more than 50 representatives of IPs and LCs from 26 countries, the group argued for inclusion of communities in carbon crediting operations ‘from start to finish’, and that without their “true engagement... there will be no high integrity of carbon markets” (Mis et al. 2023). Participants identified three strategic pathways: “First, to recognize, respect, and empower Indigenous and local community systems of governance so that IPs and LCs can develop their vision and design life plans separate from the immediate pressure of a project; Second, to build safeguard systems that go beyond ‘no harm’ to ‘do better’. This includes shifting safeguard ownership, design, and monitoring to traditional and customary institutions; And finally, to scale up investments in IP and LC engagement and promote direct financing mechanisms” (Mis et al. 2023; FCPF n.d.).

The second example stems from a workshop on voluntary carbon markets organized by the Rights and Resources Initiative (RRI) and facilitated by CIFOR-ICRAF in Bogota (Colombia) in November 2024, with more than 30 representatives of IPs and LCs from Latin America. Participants identified different characteristics of HIC, including clear processes

for ensuring FPIC and effective participation in decision making from programme design to implementation; respect for the internal structures and dynamics of IP and LC territories; valuing and integrating ancestral and traditional knowledge and practices; fair benefit-sharing mechanisms; independent grievance mechanisms; and accessible and traceable information.

The third example involves the recommendations submitted to the ART TREES Secretariat in December 2024 by 14 organizations representing IPs and LCs from Central and South America. (RFUS 2025). The submission highlighted the current limitations in the jurisdictional standard, and emphasized the need for new standard requirements to ensure 1) early and inclusive consultation processes in jurisdictional REDD+ approaches; 2) equitable decision making and benefit-sharing arrangements through multi-stakeholder governance mechanisms; and 3) strengthened monitoring and quality controls during certification processes. The expectation is that these recommendations are incorporated into the new and revised version of the TREES 3.0 standard, which will be released in the second half of 2025.³

Finally, the Grassroots Justice Network, a civil society network, draws on experience from carbon projects. It defined six carbon

principles needed to make carbon projects fair (GJN n.d.). These principles include a ‘no pay to pollute’ expectation for carbon credits buyers, which specifies that carbon payments must not be a substitute for eliminating avoidable emissions, and the barring of fossil fuel companies’ carbon payment schemes. The remaining principles comprise respecting community rights to land and water; respecting the right to FPIC; ensuring fair compensation (communities should receive at least half of gross revenue and determine how to spend that money); ensuring fair participation, which includes, among others, that communities have access to independent legal support before and during a project; and finally, enforcing the principles with accountability and access to remediation.

Beyond these four examples, some IP and LC leaders and organizations are putting forward alternative approaches to climate change finance from the perspective of their rights to land, culture, and self-determined futures (see Mis et al. 2023). This includes the multiple Indigenous funding mechanisms such as a number of territorial funds, Kawari (n.d.) and the Shandia platform (n.d.), or the recent innovative finance mechanism of the Tropical Forest Forever Facility, which promises to deliver 20% of its funding to IPs and LCs (Guajajara and Jintiach 2025).

3 ART's new Beyond Carbon standard was released for consultation on 12 June 2025. This is a commendable development that was not included within our review as it was released during its layout stage.

6 Key findings

At least five key findings can be drawn from the discussion above.

First, definitions emphasize environmental integrity and largely rest on what has generally been accepted as good practices for carbon accounting. That is, HIC credits deliver additional and permanent emissions reductions, with no leakage or double counting, and are real, measurable, and verifiable through robust MRV systems. These definitions call for ‘robust’, ‘science-based’, and ‘transparent’ MRV but tend to pay less attention to the social dimensions of integrity.

Second, there is more variation regarding how social integrity is addressed in the different definitions, but most remain at the ‘do no harm’ standard. Some frameworks refer to the idea of ensuring that carbon finance contributes to communities’ social and economic well-being or promotes social justice, but these remain somewhat vague; it is not clear how to develop them into specific practices. In HIC definitions, the emphasis falls back on safeguards with a ‘do no harm’ standard rather than ambition towards ‘doing better’. In a different review, we found a similar perspective among the standards for voluntary carbon markets (Sarmiento Barletti et al. 2021).

Third, IPs and LCs themselves, particularly their representatives in regional and global policy arenas, have a different perspective on all of this. For those that see carbon markets as a potentially positive tool to support their priorities, there is need for a transformative

change. This includes moving from ‘being safeguarded’ or even being ‘consulted’ and ‘providing consent’ to being the protagonists of their own self-determined futures. Except for the design of efforts linked to Indigenous Amazonian REDD+ or the World Bank’s Dedicated Grant Mechanism (DGM Global n.d.), this vision is quite far from most actors in the carbon market.

Fourth, the governance of carbon-crediting programmes plays a pivotal role in ensuring their integrity. As the voluntary carbon market grows, the need for more sophisticated and robust governance institutions at all levels will be essential to improving and maintaining its credibility. Importantly, investing in developing the institutional capacities to be able to design and govern a high integrity programme is essential.

Fifth, robust and adaptive monitoring systems are needed to evaluate programme performance over time. This would assure that ‘high integrity’ has real meaning, and is implemented on the ground rather than becoming yet another trope in broader discussions at the nexus of climate change and development. Such systems must include monitoring for social integrity and the participation of local rights-holders and stakeholders. Importantly, monitoring processes and outcomes must be independently verified by third-party verification bodies with in-depth knowledge of the implementation challenges brought by safeguards, FPIC, and human rights for high social integrity.

7 The case for jurisdictions?

Despite the continued importance of projects in terms of investment volume, some key actors in the climate arena equate ‘jurisdictional’ with ‘high integrity’ carbon (UNDP 2023). This fits with the approach to country NDCs, as well as carbon market stakeholders supportive of jurisdictional REDD+, such as ART and the LEAF Coalition. In theory, jurisdictional approaches go beyond project approaches. The former recognizes the importance of a governance entity with an institutional foundation in the geographical area under consideration (e.g., national or subnational government) (Larson et al. 2018).

Seymour (2020) argues that jurisdictional approaches have four main advantages: (1) government has the authority to control land-use change; (2) access to international carbon markets becomes an essential incentive for change; (3) incentives for jurisdictional performance can better protect the social and environmental integrity of carbon credits; and (4) climate negotiations and supply chain initiatives converge at the jurisdictional scale.

In a similar vein, Peteru et al. (2021) argue the correspondence of the landscape with administrative boundaries under jurisdictional approaches facilitates strategic public policy alignment, while also placing government at the centre of initiatives (Nepstad et al. 2013; Boyd et al. 2018). Regarding carbon, jurisdictional approaches are said to create synergies between local action and national climate policies, ensuring that credits have a multilevel impact and contribute to achieving sustainable goals (Angelsen and Wertz-Kanounnikoff 2008).

These arguments, like those about decentralization in recent decades (Ribot 2002; Larson and Soto 2008), likely hold much better in theory than in practice. They are based on ideas of effective or ‘good’ governance under democracy, which is often elusive under specific political economic contexts (Libert-Amico and Larson 2020). It is appealing to think that subnational governments can more easily adopt a landscape approach than national governments, addressing conflicting drivers of deforestation and degradation in a more programmatic and integrated way. However, subnational governments tend to have limited authority and influence over broader national policies (Ribot et al. 2006), or even over forests. For example, in a systematic analysis of the NDCs of 60 ‘REDD+ countries,’ “only 14 explicitly mention a role for subnational governments in mitigation, and only 4 of these give [subnational governments] a decision-making role” (Sarmiento Barletti et al. 2018). To address some of these challenges between the national and subnational scale, the ART TREES standard, which currently supports only jurisdictional initiatives, may support a shift by requiring that subnational programmes move to the national scale by 2030.

Bernstein (2023) finds a similar tension regarding the environmental integrity of jurisdictional credits. Although jurisdictional approaches have a perception of high integrity, he argues, they do not eliminate the “uncertainties associated with ex ante baseline forecasts or the debate over methodologies.” Further, “they may raise additional issues such as the risk of corruption in the allocation of carbon credits” within a jurisdiction.

Even at the national level, there can be discrepancies between different carbon-crediting baselines, such as between the Green Climate Fund, the ART TREES standard, and the emissions reductions reported in the NDCs. Such discrepancies potentially risk double counting emissions reductions.

Regarding social integrity, the social safeguards for carbon programmes need to be embedded into, or considered within, the national legal and policy fabric. When engaging jurisdictions, this requires going beyond ‘good practices’ or ‘guidelines’. Rather, it demands understanding how legal and policy frameworks shape the high integrity of a carbon programme, including its social safeguards. High integrity social safeguards can or should influence improvement of the legal and policy frameworks; improving social safeguards, as part of a high integrity jurisdictional programme, is also a political endeavour.

Furthermore, for some analysts, project-based approaches, primarily led by NGOs or private sector actors, are more adaptable to local conditions. They believe that such approaches have greater potential to directly engage and empower IPs and LCs. Specifically, they can have greater control over the targeting of benefits to address the direct drivers of deforestation and degradation (Jodoin 2017; Cardenas and Guzman Alaya 2023).

In contrast, based on historical precedent, jurisdictional approaches are seen as potentially riskier. IPs and LCs often distrust governments (Cubas-Baez et al. 2025), and carbon credits have previously been granted without local community consent: see APA et al. (2024) for Guyana and Gibson (2025) for Para, Brazil. At the subnational level, effective consultation and consent processes are likely to require more resources as few jurisdictions have their own FPIC procedures.

At the same time, credits from jurisdictional programmes may offer more room for participation and benefit sharing of IPs and LCs in carbon initiatives for certain areas.

These areas have low deforestation and high forest cover, and thus have high carbon stocks that are part of a broader landscape that provides additionality. Currently, ART TREES is the only relevant standard offering the opportunity to generate credits from areas with high forest, low deforestation (HFLD). However, other carbon market actors are sceptical regarding the additionality of these credits (Streck et al. 2022).

If jurisdictional approaches are meant to be an improvement because they pertain directly to the confluence of national government conservation and development policies, the same should be true of social considerations like rights and safeguards. These too would need to be embedded in, or at least considered in the context of, the legal and policy fabric of the country. This requires consideration of how a legal and policy framework shapes the social safeguards in a high integrity programme, and how these safeguards can or should influence, and ideally improve, the legal and policy framework. Progress in this regard would have positive spillover effects for IPs and LCs beyond carbon initiatives. As noted above, improving social safeguards as part of a high integrity jurisdictional programme is inherently a political act.

Given the potential and challenges for jurisdictional programmes to successfully supply HIC credits, certain conditions must be met. If there is to be a distinction between a ‘project approach’ and a jurisdictional approach in practice, then governments cannot treat jurisdictional programmes as if they are projects. Rather, they need to be fully integrated into jurisdictional governance. This process should be informed by both the technical and policy-relevant interrelationships that shape a (sustainable) development trajectory and the governance institutions defining citizenship (e.g., participation, representation, accountability).

In that regard, given the historical relationships between governments, and IPs and LCs, programmes that do not treat social and environmental integrity equally may end up reifying power imbalances and inequalities in their jurisdictions (Sarmiento Barletti and Larson 2020).

8 Raising the bar: Social integrity is as important as environmental integrity

Based on our review, we define HIC credits as emissions reduction or removal units supplied by programmes that bring together high quality and high ambition, in both ecological and social dimensions. We recognize the definitions of HIC credits reviewed above have broadly identified and raised the profile of social standards. However, few of them reach our proposed level of ambition. With regard to high social integrity, we are particularly influenced and inspired by the perspectives and demands of IPs and LCs themselves, some of which we have referenced above.

To raise the bar on the ambition that should be considered as integral to HIC credits, actionable guidelines are needed to open a pathway towards high social integrity. These guidelines should parallel the tools and methodologies supporting high environmental integrity, with similar financial, political, and technical support.

High social integrity must be conceptualized and practised from approaches that place access to, recognition of, and respect for the individual and collective rights of IPs and LCs at the centre of designing, implementing, and monitoring projects and programmes in their territories. Such carbon projects and programmes would promote a transformative change, where communities are no longer viewed as passive beneficiaries of external initiatives. Rather, they would be recognized as autonomous rights-holders with their own vision and goals – whose own definition of climate and sustainable development objectives is essential.

Such a profound change would require safeguards that hold at their centre the recognition and respect for the rights enshrined in key international agreements. These include the United Nations Declaration of the Rights of

Indigenous Peoples (UNDRIP), International Labour Organization c169 (ILO 169), and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). ‘Doing better’ is the goal, with specific indicators to monitor progress, designed and monitored by IPs and LCs themselves. This goes beyond the legal and policy frameworks of most countries that are implementing forest carbon programmes. In this regard, if jurisdictional approaches are to be the standard, the challenges of transformation are considerable.

In what follows, we highlight five key aspects relevant to the rights of IPs and LCs with specific considerations for any carbon programme committed to high integrity: FPIC, gender equality, land and resource rights, benefit sharing, and grievance mechanisms and safeguard compliance. All five require the political and financial commitment of a programme’s proponents or their backers to succeed.

8.1 FPIC

The right to FPIC must be recognized and respected through guidelines in the spirit of ILO 169. This is not a one-off workshop to communicate already-decided actions. It means facilitating processes across a programme’s lifetime, through which communities and their representative organizations have the right and ability to choose to be part of a project or a programme, to agree on how they will be included as more than ‘beneficiaries’, and how this will be different than in the past; this is reflected in the positions by leaders of IPs and LCs we noted earlier. Rights-holders should define the FPIC procedure itself, and have the recognized right to decide how, on what, and when to be consulted and engaged.

As one obstacle for improving FPIC practices, many communities, representative organizations, and jurisdictions do not have relevant procedures in place. Thus, the elaboration of FPIC plans and guidelines should be central to create enabling conditions for HIC. This would also require training programme staff to facilitate these processes through an approach to communication that is both transparent and culturally relevant. If the men and women of a community cannot understand how a carbon programme or project works, do not know their recognized rights, or do not know which are relevant to and could be affected by the programme's objectives, then they cannot 'consent' to it.

FPIC processes must also include the effective participation of women and youth. 'Effective' means going beyond counting participants in a meeting to deploying appropriate methodologies (Maharjan et al. 2012; Cultural Survival and First Peoples Worldwide 2023). The inclusion of youth here is important, as agreements over carbon are decades long; this temporality reinforces the need for FPIC processes across time.

Finally, FPIC processes must be linked to the monitoring of carbon actions; the monitoring process and results should be shared with engaged communities as part of an ongoing FPIC process across the programme's lifetime (including as part of a culturally relevant safeguards information system). Beyond this approach, ideally, external actors will not always be seeking communities to 'participate' in their programme; rather, communities will design their programmes and reach out to external actors.

8.2 Gender equality

Carbon-crediting programmes must go beyond being gender sensitive. They must instead work towards transformative approaches that address the underlying institutions and processes that uphold gender inequalities and the differentiated impacts of climate change (Morgan et al. 2023). Such programmes would work with women and men to identify and address the barriers to women's voice, agency, land, and resources (Larson et al. 2024). This means setting a gender

baseline among initial activities, with data on land and resource tenure rights, and access to governance and decision making.

Working with local women and their representative organizations, such programmes should set the level of ambition for change (see, for example, Larson et al. 2024) and design specific actions and monitoring indicators. Programmes would do well to adapt existing tools to support the effective participation of women throughout the engagement process with communities (Evans et al. 2021). At the same time, they should use agreed approaches to challenge problematic norms and other obstacles (e.g., Kimonyo et al. 2024). This includes FPIC processes around the design and implementation of carbon actions, participation in how benefits are distributed and invested, and how programmes are monitored to assess their impact on gender equality.

8.3 Land and resource rights

Respect for the land and resource rights of IPs and LCs should be strictly monitored and a precondition for the sale of carbon credits. The discursive emphasis on the recognition of community rights to land and resources at the UNFCCC level has not been reflected in practice (with some exceptions, see Jodoin 2017). This is largely because REDD+ has been readied and implemented in contexts of unrecognized, unclear, or unenforced land and resource tenure rights in the Global South (Awono et al. 2014).

Currently, most standards for voluntary carbon markets call for respect for the land and resource rights of IPs and LCs. Many even refer to the rights recognized under the UNDRIP. However, the bar is low in that proponents must only follow national law, which is often limited compared with the UNDRIP (Sarmiento Barletti et al. 2024). This leads to a split between communities with and without titled or recognized collective lands, based on colonization processes and colonial histories in the Global South.

Furthermore, the idea that forced displacement of communities should be 'avoided' is insufficient. It must be disallowed, even in cases of communities that hold no title to land but have ancestral

claims over them. It is the project or programme proponent's responsibility to map and understand these contexts through processes that include the affected groups. To avoid worsening already volatile political contexts, REDD+ projects and programmes must identify and resolve land and/or resource conflicts and secure customary rights where relevant (World Bank [in press]).

8.4 Benefit sharing

The sharing of benefits and burdens must go beyond ownership of land or carbon, which, among other things, can be undefined, unclear, or tend to be assigned to men. Despite the expected inclusion of communities in benefit-sharing plans, communities are often not granted legal rights over carbon. Such rights are seldom defined in national legal frameworks and remain largely untested where they have been (RRI and McGill University 2021). This uncertainty may drive competing claims between communities and actors with different levels of access to technical capacities, time, and resources (Pham et al. 2013; Loft et al. 2017).

Rather, inclusive and meaningful participation and consultation should be prioritized when defining the sharing of benefits and burdens. Communities and their representatives should participate fully and effectively when defining formal and transparent benefit-sharing mechanisms, based on a complete understanding of burdens; what they are being asked to do in return should be discussed in depth throughout the FPIC process. Arrangements should have built-in flexibility to address potential changes over time (e.g., political or market instability that may affect forest carbon actions), as well as mechanisms to ensure continuous and active participation from rights-holders. As noted

earlier, a programme's gender baseline must identify potential limitations of the standing legal framework to distribute funds to communities that may give greater authority to men in, for example, decision making or land ownership (World Bank [in press]).

8.5 Grievance and redress

Carbon programmes must have grievance and redress mechanisms and mechanisms to monitor safeguards compliance that are culturally relevant, accessible, transparent, and understood as a feedback loop to an adaptably managed programme. Grievance and redress mechanisms must be designed and implemented in alignment with the United Nations Guiding Principles on Business and Human Rights (UNGPs): legitimate, accessible, predictable, equitable, transparent, and rights compatible. They should ensure that outcomes and remedies accord with internationally recognized human rights and are not limited to national legal frameworks. Programmes must prioritize involving rights-holders in the design of these mechanisms to promote transparency and accountability in their methods and results. Furthermore, their processes must be externally verified by third parties. Programme proponents or their sponsors should cover costs (see Crook 2023 for examples of best practices in grievance and redress mechanisms).

By harnessing the priorities and voices of local men and women, carbon programmes and their proponents can catalyse transformative change through collaborations and partnerships with communities and their representative organizations. This will ensure inclusion and equal access to land, resources, and benefits, and support self-determination.

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Concerns about the environmental and social impacts of carbon markets have sparked an effort towards higher integrity. However, greater clarity is needed regarding the different definitions and benchmarks of high integrity carbon (HIC), where these come from, and how they are interpreted and why, to understand their potential.

This Occasional Paper reviews the grey and scholarly literature to understand the main trends in HIC definitions, benchmarks, and use. The review finds more uniformity in perspectives on environmental integrity than in social integrity; there are differences in emphasis regarding HIC programme governance and on how to monitor integrity. Furthermore, despite the varied understandings of social integrity, with regard to the rights of Indigenous Peoples and local communities (IPs and LCs), the bottom line across reviewed documents remains tied to a 'do no harm' standard; this should be considered as a minimum requirement that does not rise to the high ambition expected for high integrity.

Based on our review, we define HIC credits as emissions reduction or removal units supplied by programmes that bring together high quality and high ambition, in both ecological and social dimensions. Concerning high social integrity, we are particularly influenced and inspired by the perspectives and demands from IPs and LCs themselves. Social integrity needs to be taken as seriously as environmental integrity, conceptualized, and practised as going beyond safeguards that 'do no harm', and with greater attention to the financial investment and specific guidelines, methods, tools, and capacities required to make it achievable.

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