

A Legal Perspective on Supply-side Integrity Issues in the Forest Carbon Market

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In the case of avoided deforestation initiatives, a forest carbon credit is a symbolic representation of forest carbon that has been conserved in a landscape via a successful intervention. As such, the credit represents a quantification of the climate impact of the conservation activities (the carbon benefit) and to be considered high-integrity that quantification must be accurate. However, the way the intervention is implemented also contributes to the integrity of the credit it generates - for example, the extent to which the initiative complies with relevant law and uses appropriate incentive structures. From a legal perspective, a forest carbon credit is a specific type of property and the issue of integrity can be unpacked by looking at the consequences of this: existing tenure arrangements will influence the implementation of conservation work and inform the proper allocation of carbon revenue between participants; how a carbon credit is recognised in relation to existing taxation and climate regimes will influence a Government's ability to tax carbon revenue and use credits to meet climate commitments; and, clarity regarding the ownership of the title to the carbon credit is at the heart of a carbon transaction (ie. the flow of carbon finance). As such, a legal perspective helps to disaggregate key issues that must be addressed in the design and implementation of avoided deforestation initiatives and the regimes that seek to regulate them. This paper identifies the different proprietary interests linked to forest carbon property (and concomitant obligations), and discusses how addressing the issues linked to them in an appropriate manner supports market integrity.

I. Introduction

Deforestation contributes to both the global climate and biodiversity crises, dual environmental emergencies recognised under international law¹. For more than a decade, project-based initiatives designed to

avoid deforestation have produced credits for trade by organisations and individuals on the voluntary carbon market (VCM); in parallel, a results-based international financing mechanism under the UNFCCC framework (REDD+)² has evolved to facilitate the flow of public climate finance into country-led, na-

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1 United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107; Kunming-Montreal Global Biodiversity Framework, CBD/COP/DEC/15/4 (19 December 2022) made under the Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79, 31 ILM 818; United Nations Environment Assembly, Nature-based solutions for supporting sustainable development, UNEP/EA.5/RES.5 (7 March 2022).

2 "Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries" (REDD+) is a climate change mitigation strategy which has emerged from the international climate negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). A REDD+ mechanism was officially established in

tional approaches to forest conservation in developing countries. Recent controversies³ have raised questions regarding the quality of such credits and the integrity of the voluntary carbon market in general⁴, leading to a decrease in demand for credits generated from this project type.⁵ Given the urgent need to find ways to finance work to avoid deforestation and forest degradation, it is timely to consider how initiatives can be structured to deliver high-quality credits that represent both a true carbon benefit (a real reduction in carbon emissions) in tandem with

co-benefits (ie. other Sustainable Development Goals such as biodiversity conservation⁶ and poverty alleviation⁷).

It is essential that the (forest) carbon credit⁸ generated by an initiative (irrespective of its scale of implementation⁹) is quantified correctly¹⁰, providing assurance that the credit represents a real reduction in atmospheric carbon. The climate benefit can be said to be properly quantified when the issues of additionality, permanence and leakage are properly addressed¹¹ (noting that different globally

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- 2010 by the Conference of the Parties (COP) to the UNFCCC. In 2013, the COP outlined the “Warsaw Framework for REDD+” to provide guidance for domestic implementation and this was subsequently incorporated into the Paris Agreement in 2015. Collectively, these decisions create an international framework for REDD+ implementation which contains several elements that countries should include in their national REDD+ policies.
- 3 See A Balmford, PH Brancalion, D Coomes, B Filewod, B Groom, A Guizar-Coutiño, JP Jones, S Keshav, A Kontoleon, A Madhavapeddy, and Y Malhi, ‘Credit credibility threatens forests’ (2023) 380(6644) *Science* 466, 467; Alejandro Guizar-Coutiño, Julia PG Jones, Andrew Balmford, Rachel Carmenta, and David A Coomes, ‘A global evaluation of the effectiveness of voluntary REDD+ projects at reducing deforestation and degradation in the moist tropics’ (2022) 36(6) *Conservation Biology*; Thales AP West, Jan Börner, Erin O Sills, and Andreas Kontoleon, ‘Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon’ (2020) 117(39) *Proceedings of the National Academy of Sciences*; The Guardian (various reports, January 2023–May 2024) regarding integrity issues associated with avoided deforestation projects.
 - 4 The current debate regarding the integrity of the carbon market can be approached from different perspectives: with respect to the demand side (integrity of the use of the credit), with respect to market infrastructure (such as certification agencies/registries), and with respect to the supply side (integrity of the assets traded, including what they represent and how they are made).
 - 5 Forest Trends’ Ecosystem Marketplace, State of the Voluntary Carbon Market 2024 (2024, Washington DC, Forest Trends Association) 3 regarding ‘Key Findings’ #3 (‘Market participants reported a clear negative impact from media scrutiny of the VCM’) and #6 (‘REDD+ credits ... lost 62% of their value ... with transaction volume falling 51% and price falling 23%’).
 - 6 Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (UN General Assembly, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1, 21 October 2015).
 - 7 Goal 1: End poverty in all its forms everywhere, *ibid*.
 - 8 Forest-based carbon credits are based on actions to support biological sequestration in different contexts (where biological sequestration absorbs carbon dioxide via the growth of vegetation and the ongoing storage of carbon in plant tissues, and organic material derived from them, ie. stored in the soil) and are labelled to represent the process put in place to achieve this. In general, there are two types of biological sequestration projects: 1) projects that avoid emissions via conservation of existing carbon stocks (including avoided deforestation, and avoiding the degradation of existing forests); and 2) those that increase carbon storage, such as converting land from non-forest cover to forest (afforestation and reforestation), increasing carbon stocks in forest land (forest management), and increasing soil carbon stocks via soil management techniques (eg. no-till agriculture). [See Carbon Offset Guide (online), *Avoiding low-quality offsets, ‘Forestry and Agriculture’* <<https://offsetguide.org/avoiding-low-quality-offsets/>> accessed 24 June 2024]
 - 9 Implementation options include a jurisdictional approach (where the accounting ‘jurisdiction’ in question is either at the national or subnational level), a project-level approach, or a multi-scale nested approach. Regarding a *jurisdictional approach*, (i) a national-level approach is likely to result at first instance in incentives flowing to the national government based on performance against a national reference level, or (ii) a sub-national approach means that at first instance the incentives flow to a sub-national governmental entity (eg. a state, municipality, province, or district) based on performance against a sub-national reference level (unless this is overruled by a national government). A *project-level approach* means that incentives flow directly to project developers based on performance against a project baseline, and a project will not necessarily coincide with a governmental jurisdiction (noting that a government could overrule this). Regarding a ‘nested approach’, incentives can flow directly to sub-national entities and/or project developers in addition to national governments, where project-level initiatives are established within a national REDD+ programme (in other words, a project is ‘nested’ within a jurisdictional approach. See, R Cortez and others, *A Nested Approach to REDD+ : Structuring Effective and Transparent Incentive Mechanisms for REDD+ Implementation at Multiple Scales* (The Nature Conservancy and Baker & McKenzie 2010) 7. There is debate about the appropriate scale of REDD+ implementation for many reasons, including concerns about national-level implementation due to difficulties implementing a national programme and whether project-level or sub-national accounting can adequately address the challenge of leakage, in addition to different views about appropriate incentive structures. The ‘nested approach’ has been proposed as a compromise between the jurisdictional and project-level approach to allow REDD+ to be implemented at multiple scales.
 - 10 Quantified to reflect conservation outcomes that are additional, which will be a percentage of the overall forest carbon stored in a given land area (as calculated using an applicable methodology); it is important to note that the challenges associated with measuring baselines are significant, and their accuracy is a key determinant of ultimate quality. The issues of leakage (displaced emissions) and permanence (or durability, which is the length of time carbon is expected to be stored or the likelihood that the storage will be reversed before that time) must also be addressed for quantification calculations to be accurate.
 - 11 See further PACT Tropical Moist Forest Accreditation Methodology v2.1, A Balmford, D Coomes, M Dales, P Ferris, J Hartup, S Jaffer, S Keshav, M Lam, A Madhavapeddy, R Message, E-Ping Rau, T Swinfield, C Wheeler, and A Williams, working paper on Cambridge Open Engage, August 2024; T Swinfield, S Shrikanth, JW Bull, A Madhavapeddy, SO zu Ermgassen, ‘Nature-based credits at a crossroads’ (2024) *Nature Sustainability*, August 2024; and E-Ping Rau, J Gross, D Coomes, T Swinfield, A Madhavapeddy, A Balmford, and S Keshav, ‘Mitigating risk of credit reversal in nature-based climate solutions by optimally anticipating carbon release’ (2024) *Carbon Management*, August 2024.

recognised methodologies offer different approaches to handling these complex issues). However, proper quantification of the climate benefit is not the only consideration – a forest carbon conservation initiative needs to be designed and implemented in a way that respects applicable laws and provides incentives for ongoing action. Given that trading requires the transfer of excludable property rights between parties, the carbon credit itself needs to take on a legal form that is capable of this. As a legal construct defined within a contract, a carbon credit therefore needs to represent an accurate quantification of conserved forest carbon and be “packaged” in a way that can be traded; in addition, the quality of the carbon credit can be assessed with respect to how an initiative is implemented, including whether applicable laws are being complied with and whether carbon revenue is being allocated appropriately.

This paper offers a legal perspective on the supply-side integrity issues associated with project-based avoided deforestation initiatives supplying the VCM with forest carbon credits, drawing on lessons learned from avoided deforestation projects that have issued carbon credits for sale on the VCM (noting that distinctions can be made between project-based credits and jurisdictional credits, and those traded privately under the VCM as opposed to those traded between countries under the REDD+ mechanism). It explores the legal nature of a forest carbon credit, outlining the concept of forest carbon property and the different rights and issues associated with it; it then discusses the concomitant obligations (or responsibilities) associated with holding these rights; and finally, explores how addressing these legal aspects of forest carbon property increases the integrity of credits produced and, consequently, has the potential to support confidence in the market.

II. The Legal Character of Forest Carbon Credits

To understand carbon credits as a legal construct (ie. what appears in a contract or, indeed, in legislation), it is important to recognise what they represent: in essence, a carbon credit is a symbolic representation of sequestered forest carbon that is protected by the operation of an intervention on forested land. It is possible to identify different types of proprietary interests¹² linked to the forest carbon credits, and different rights with respect to these forms of property. It is important to note that because initiatives to avoid the deforestation of subtropical rainforests are implemented in developing countries where systems of tenure and land administration¹³ might lack clarity and institutional robustness, a discussion of carbon as a new type of (complex) resource right must also recognise that not all existing land and resource rights are recognised by the State (ie. raising the issue of informal rights). Each point is explored further, in turn, below.

1. Conceptual Basis

a. Symbolic Representations

A nature-based carbon credit is a *symbolic representation* of a given quantity of sequestered carbon, in the form of a tradeable certificate (which is issued under a given scheme, following a defined process). As a symbolic representation of stored forest carbon, forest carbon credits are the result of successfully implemented actions to avoid deforestation within a given land area. It follows, then, that a forest carbon credit is an intangible, transferable form of property¹⁴ that is anchored in but separated from carbon sequestered in the relevant landscape.

b. Identifying the Asset

A carbon asset is what can be monetised – ie. the tradeable certificates, or carbon credits; acknowledging this has implications for how forest carbon projects are managed and regulated. The land area used for a project is sometimes referred to as the *asset*, rather than the title (a property right) to the carbon credit created by the successful implementation of a forest carbon conservation initiative *within* that

12 UNIDROIT Issues Paper (Study LXXXVI – W.G.3 – Doc. 2) for consideration by the UNIDROIT Working Group on the Legal Nature of Verified Carbon Credits, Third session (hybrid) in Rome, 4–6 September 2024 (UNIDROIT, August 2024).

13 See generally WD Sunderlin and MB Holland, ‘A Historical Perspective on Land Tenure Security’ in *Land Tenure Security and Sustainable Development* (Cham: Springer International Publishing, 2022) 15–41.

14 Due to space limitations, a comparison between common law and civil law approaches has not been undertaken here.

land area. Referring to the project area itself as the asset draws a parallel with an approach sometimes used by extractive industries, eg. where a mining company deems a mine to be an asset from which a commodity is extracted¹⁵. However, transactions based upon forest carbon conservation work can be distinguished from an extractive industry given that nothing is extracted – in fact, given that the overall purpose is conservation, the opposite is true. Therefore, referring to the land area itself as the ‘asset’ is not conceptually consistent with the legal character of a forest carbon credit as described above and can lead to inappropriate choices regarding how projects are structured.

For example, the carbon credits generated could be mistakenly compared to commodities that are physically separated from a landscape (ie. extracted) rather than being recognised as a symbolic representation of something that is being protected within it. Such a misconception could result in an inappropriate application of natural resource laws, or lead to an assumption that forest stewards accrue a right to benefit from carbon revenues by supplying the labour that protects against deforestation as an input to the process used to create a carbon credit, rather than on the basis of holding land and resource rights outright. Treating forest carbon credits like an extracted commodity also gives rise to an assumption that in the absence of regulation they can be ‘shipped offshore’ without regulatory oversight within the jurisdiction hosting the forested land, contrary to the principle of national sovereignty over natural resource management and environmental matters.

2. Forest Carbon Property

If it is accepted that forest carbon credits generated from avoided deforestation initiatives are (i) symbolic representations of conserved forest carbon in a landscape and (ii) capable of monetisation as assets held by their titleholder, then it follows that there are different types of proprietary interests linked to a forest carbon conservation project.

a. Carbon Rights v. Carbon Tenure

Given that a tradeable asset requires excludable property rights, the case of forest carbon conservation requires the separation of the tradeable, symbolic rep-

resentation of the sequestered forest carbon (duly quantified) and the property rights attached to the land, forest and resources contained therein. Therefore, it is necessary to distinguish between (i) the property rights linked to the sequestered carbon that exists within a landscape (this can be referred to as the tenure linked to the sequestered carbon, or “carbon tenure”¹⁶), and (ii) the legal title to the carbon credit, which is separated from the carbon tenure so it can be transferred between the seller and buyer within a carbon transaction. (Within a market context, the rights associated with the legal title to the credit are usually referred to as the “carbon rights” and conceptually speaking these are separated from, but nonetheless anchored in and tethered to, carbon tenure). In this way, there exists a relationship between real property (the forested land) and personal property (the tradeable certificate)¹⁷ within the ‘value chain’ of forest carbon.

b. Proprietary Interests and Associated Rights

An understanding of the legal character of forest carbon property, and the distinction between the rights linked to the title of the carbon credit (carbon rights) and the resource rights linked to the land to which the carbon credit is tethered (carbon tenure) is important for identifying other rights associated with forest carbon property. When ‘unbundled’, these rights indicate key issues that need to be addressed within an initiative and, as such, provide reference

15 Mining assets can be divided into two main categories, being 1) projects, and 2) operating mines; see further Corporate Finance Institute, ‘Mining Industry Primer’ <<https://corporatefinanceinstitute.com/resources/career/introduction-to-the-mining-industry/>> accessed 24 June 2024.

16 Land tenure refers to the rights that either a group or an individual has with respect to a given area of land; see Kate Hamilton, Unna Chokkalingam, and Maria Bendana, State of the Forest Carbon Markets 2009: Taking Root and Branching Out (Ecosystem Marketplace, January 2010) 21, para 5; land tenure should be considered with its land administration structure (e.g., land title registry, methods for demarcating boundaries, and dispute resolution processes); see FAO Land Tenure Series, Land Tenure and Rural Development (2002) 12, 37. Tenure can also refer to a particular resource or asset to which the right applies, for example, resource tenure (rights to land, water, trees, and other natural resources) or, more specifically, forest tenure, tree tenure, or carbon tenure; see John Bruce, Kelly Wendland, and Lisa Naughton-Treves, ‘Whom to pay? Key concepts and Terms Regarding Tenure and Property Rights in Payment-based Forest Ecosystem Conservation’ (Land Tenure Center, University of Wisconsin-Madison, No 15, 2010) 3.

17 The English common law makes a distinction between *real property*, referring to land and anything (immovable) attached to it, and *personal property* which refers to everything else.

points to consider the quality of the carbon credits generated. This approach is also helpful for separating different (although related) debates linked to avoided deforestation projects - for example, the potential impact of Article 6 of the Paris Agreement¹⁸ for national regulatory structures and any project-based initiatives affected by them (national climate law and policy) as distinct from the design of incentive structures at the project-level (benefit sharing arrangements). The challenges associated with area-specific drivers of deforestation can occupy much of the bandwidth of both project developers and regulators charged with forest governance issues, and carbon-specific matters can add a further layer of complexity; however, identifying who holds the following rights associated with forest carbon property can provide a starting point for addressing the difficulties and conflicts associated with key issues related to both project design and the regulation of forest carbon transactions.

Regarding the legal title to the *carbon credit*:

- *Right to Monetise*: Who has the Right to Monetise the carbon credit? In a market context, the holder of the title to the carbon credit has the right to monetise it (ie. sell it). This right could be qualified by the sale contract itself or by applicable regulation, eg. it cannot be sold without authorisation by a relevant authority, or cannot be sold to buyers who operate in particular industries or who do

not have a plan in place to reduce their overall emissions. Nonetheless, the owner of the title to the tradable certificate that can be used as a carbon credit has the right to transfer it subject to any qualifications;

- *Right to Tax*: What agency(s), if any, has a Right to Tax carbon revenue? The sale of carbon credits might be subject to a tax imposed by relevant authorities; existing rules might apply or indicate where existing frameworks need to be clarified in order to accommodate the specific case of carbon transactions. Taxes can also be imposed at different points in the value chain depending on how a jurisdiction treats carbon credits¹⁹; and
- *Right to Claim/Count*: Who has a Right to Claim or Count the carbon credit against a target? It is assumed that a right to use a carbon credit attaches to the right to monetise it, ie. a corporate buyer purchases a credit to offset their own internal targets. However, in the context of the Paris Agreement, countries can choose to count net emissions reductions credits created within their jurisdiction towards a national target - and so could claim a 'right to count' towards a Nationally Determined Contribution (NDC), negating the value of a credit to be counted towards another target (due to the operation of Article 6's prohibition of double counting). As a consequence, countries need to consider how to manage the allocation of internal net emissions reductions, including what can and cannot be traded on voluntary markets (and can regulate with respect to this issue).

18 Long-standing disagreement regarding the rules linked to Article 6 of the Paris Agreement were resolved at COP26, although their application in some contexts remains the subject of ongoing debate. Regarding the text and operation of Article 6, key points to note are: *Article 6.2* allows countries to trade emission reductions and removals via bilateral/multilateral agreements, noting that the traded credits are called *Internationally Transferred Mitigation Outcomes (ITMOs)*; *Article 6.4* will create a global carbon market overseen by a United Nations entity (the 'Supervisory Body'). Project developers will register their projects with the Supervisory Body, and a project must be approved by both the host country and the Supervisory Body before UN-recognised credits can be issued; with respect to both mechanisms, the need to avoid *double counting* must be noted. Article 6 of the Paris Agreement addresses double counting via 'corresponding adjustments', which is an accounting measure aiming to prevent two countries (or entities) from counting the same emissions reduction twice. When a credit is sold to another country (or company) internationally, the host country must subtract that unit from its own accounting while the buyer adds the same units to its commitments, ensuring that emissions reductions are counted only once and thereby preventing the overestimation of mitigation outcomes [See further Beatriz Granziera et al, 'Article 6 Explainer' (2024) <https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_Article_6_Explainer.pdf> accessed 24 June 2024.

19 For example, HMRC has imposed VAT on carbon credits 'supplied in the UK' from September 1st 2024 (See Policy paper, Revenue and Customs Brief - VAT treatment of voluntary carbon credits; Published 9 May 2024).

Further, regarding existing resource rights that attach to the sequestered carbon (*carbon tenure*):

- *Right to Control*: Who has the Right to Control the land area? The holder of land rights within the land area in question has the power to make decisions over how to manage that land, which is significant for the implementation of avoided deforestation activities over time. Therefore, it is important to check what existing tenure rights exist and for whom, the scope of those rights, and any time limitations imposed. How rights are administered is also relevant, for example, the agencies/authorities involved and the mechanisms of land administration (including how reliable and transparent it might be); and
- *Right to Benefit*: Who has a Right to Benefit from the implementation of an avoided deforestation

project? Existing holders of resource rights might imply or claim a Right to Benefit from the carbon sequestration project based on their status as rights holders; however, where no formal resource rights and/or land rights are held, participants in the initiative might nonetheless claim a Right to Benefit based on their inputs (for example, as land stewards) or because of an opportunity cost (as affected stakeholders). A Right to Benefit could be recognised in and conferred via a contractual benefit sharing arrangement. One of the controversies regarding avoided deforestation projects surrounds how to protect the interests of forest stewards and affected communities; a lack of formal land and/or resource ownership can present a barrier with respect to both financial and non-financial interests of forest communities (eg. ability to reside in a given landscape) and can create an imbalance of power between different stakeholders.²⁰ When considering who has a Right to Benefit from an avoided deforestation initiative, it is therefore essential to consider the position of stakeholders within informal tenure systems²¹ and whether informal rights can be used to estab-

lish a Right to Benefit. The issue of informal rights is explored further below.

c. Informal Interests

Legal frameworks establish the formal, State-endorsed law within a jurisdiction and can exist at the national and subnational levels. Nonetheless, it is important to realise that the relationship between the State and the wider society²² is usually more complex than an analysis of the formal law reveals. Such complexity can be seen when different levels of governance, both formal and informal, are acknowledged (for example, different levels of governance can be identified by applying constitutional theory²³ or institutional economic theory²⁴ in order to examine the State-society relationship), and also by recognising the importance of anthropological insights when understanding patterns of behaviour within (and between) communities.²⁵ Given this complexity, several of the starting assumptions used by lawyers trained in western traditions (eg. common law or civil law systems which were exported to many developing countries during colonialism) may not be

20 For a related discussion, see LS Saunders, R Hanbury-Tenison, and IR Swingland, 'Social capital from carbon property: creating equity for indigenous people' (2002) 360(1797) *Philosophical Transactions of the Royal Society of London. Series A: Mathematical, Physical and Engineering Sciences* 1763–1775.

21 See generally EF Nybo, MM de Gusmão Cunha, and JP Roveda, 'Legal design for indigenous communities: A case within the carbon credit market' (2023) *Journal of Strategic Contracting and Negotiation*.

22 The complex nature of the relationship between a State and the society it seeks to govern is explored in Joel S Migdal, *State and Society* (CUP, 2001). A straightforward legal analysis of the current rules of law issued by a given State has limited explanatory power (if any) regarding whether those rules are suitable to achieve the outcomes for which the rules are designed, or with respect to customary legal systems operating in parallel to formal law; the often problematic relationship between formal law and customary law is illustrated by Liz Alden Wily's work regarding land rights in developing countries, including "The Law is to Blame" Taking a Hard Look at the Vulnerable Status of Customary Land Rights in Africa' (2011) 42(3) *Development and Change* and 'Custom and Commonage in Africa - Rethinking the Orthodoxies' (2008) 25 *Land Use Policy Journal*. It is also important to note the variety of different legal traditions that have developed around the globe, as discussed in detail in HP Glenn, *Legal Traditions of the World: Sustainable Diversity in Law* (3rd edn, OUP 2007), which is significant when considering the globalisation of certain types of law or the 'transplanting' of a rule from one system to another; for example, it has been observed that a domestic interpretation of a foreign law will 'differ from its interpretation in its own legal milieu'; see Mattias Kumm, 'International Law in National Courts: The International Rule of Law and the Limits of the Internationalist Model' (2003/2004) 44 *Virginia Journal of International Law* 529, para 2. It has also been noted that a 'transplanted' law can perform a different function from that originally intended (Sir Bob Hepple, 'The Transformation of Labour Law in Europe

1945–2004', keynote lecture, Clare College Research Symposium, 12 March 2009); building on this point, S Fennel, *Rules, Rubrics and Riches: The Interrelations between Legal Reform and International Development* (Routledge, 2009) provides several practical examples of Hepple's observation regarding the unexpected and potentially problematic operation of legal 'transplants.'

23 As discussed in D Wood, R Hunter, and R Ingleby, 'Themes in Liberal Legal and Constitutional Theory' in *Thinking About Law: Perspectives on the History, Philosophy and Sociology of Law* (Allen & Unwin, 1995) ch 2, and also implicitly recognised by AE Orucu, 'Methodology of Comparative Law' in Jan M Smits (ed), *Elgar Encyclopaedia of Comparative Law* (Edward Elgar Publishing Limited, 2008) ch 41.

24 Institutional economics makes a distinction between formal and informal institutions. Formal institutions are defined as 'public rules of behaviour that are designed by a public authority with legislative power (parliament or senate) and enforced by (i) a public authority with executive power (the administration or government, making use of police, regulatory agencies and other enforcement agencies); and (ii) judiciary power (judges) that has the rights and the power to penalize an individual or organization for breaking the rule'; see J Groenewegen, A Spithoven, and A van den Berg, *Institutional Economics: An Introduction* (Palgrave Macmillan, 2010) 25, para 4. In contrast, informal institutions are defined as 'private rules of behaviour that have been developed gradually and spontaneously and do not need any legal enforcement because the rules are sanctioned by the private parties themselves or because it is in the self-interest of the actors to follow the rules of their own accord' (ibid 25, para 5).

25 Discussed at length in RW Nolan, *Development Anthropology: Encounters in the Real World* (Westview Press 2002) and also in J Ensminger, *Making a Market: The Institutional Transformation of an African Society* (CUP 1997).

RIGHTS LINKED TO FOREST CARBON PROPERTY		PRACTICAL ISSUES ARISING	
Carbon credit title (capable of monetisation)	Right to count (claim)		Will verified emissions reductions be used towards an NDC? If so, is there/will there be a mechanism to allow free trade?
	Right to tax		Is a carbon credit subject to taxation, at either point of origin and/or sale?
	Right to monetise		Who holds the legal title to the carbon credit?
Carbon tenure (as a new kind of resource tenure, building on existing structures)	Formal	Right to benefit (from the forest conservation initiative)	<p>Via participation (usually via a pre-determined contractual arrangement)</p> <p>Who is involved in the project, include existing holders of resource rights? Based on their inputs (and/or status as existing rights holders), what is their claim to benefit?</p>
	Informal	Right to control the land area	<p>From a valid assignment/conferral of resource rights (ownership and/or usufruct) related to the land, forest, and/or the resources within that land and forest</p> <p>Do existing resource rights give rise to a valid claim to benefit?</p> <p>What is the existing tenure system applicable to the area in question (land/forest/natural resources)? Who holds these rights? Are there any conflicts? How secure are these rights? What is the formal mechanism conferring rights, and how long do they last?</p>

effective when used to consider governance issues in developing countries.²⁶ Without appreciating the unique dynamics and complexity within a society of the apparatus of a State, it can be difficult to understand the context in which an avoided deforestation project is to be implemented.

In cases where tenure is unclear, or where there is no protection of indigenous rights or vulnerable

stakeholders irrespective of their status as an indigenous group, linking the carbon rights (narrowly defined as the title to the carbon credit) only to formal tenure arrangements can be problematic; arguably, a better approach is to widen the lens beyond the formal tenure system to acknowledge informal interests. This can then be used to inform the design of benefit sharing arrangements.

The table above summarises different rights that can be defined as a consequence of recognising the different proprietary interests associated with forest carbon. This is not intended to be an exhaustive list, but provides a way to organise key legal considerations related to forest carbon assets.

d. Concomitant Obligations

It could be argued that the rights identified above, each grounded in a proprietary interest linked to forest carbon projects, have concomitant obligations (or responsibilities) that exist even in the absence of for-

26 Institutional economics makes a distinction between formal and informal institutions. Formal institutions are defined as “public rules of behaviour that are designed by a public authority with legislative power (parliament or senate) and enforced by (i) a public authority with executive power (the administration or government, making use of police, regulatory agencies and other enforcement agencies); and (ii) judiciary power (judges) that has the rights and the power to penalize an individual or organization for breaking the rule”; see J Groenewegen, A Spithoven, and A van den Berg, *Institutional Economics: An Introduction* (Palgrave Macmillan 2010) 25, para 4. In contrast, informal institutions are defined as “private rules of behaviour that have been developed gradually and spontaneously and do not need any legal enforcement because the rules are sanctioned by the private parties themselves or because it is in the self-interest of the actors to follow the rules of their own accord” (ibid 25, para 5).

mal rules governing both the project's activities and the behaviour of stakeholders involved. For example, the issues of leakage (where the drivers of deforestation are pushed outside of a project's boundaries) and permanence (where there is assumed to be no risk of reversal) must be addressed by those leading a project in order for any credits issued to be durable (and high integrity). Project leaders need to ensure that emissions reductions are real, and not displaced or transient – which therefore becomes the concomitant obligation linked to a Right to Monetise and/or a Right to Benefit. Such obligations could be defined as part of the contractual duties agreed between stakeholders. The Right to Control the land area allows for the execution of this obligation, but in the absence of regulation it would not have a legal basis until contractually defined.

Where *ex ante* credits are issued without the possibility of *ex post* certification of results for a given interval of time, it could be argued that there is a further concomitant obligation linked to the Right to Monetise and/or Benefit. In the event that a project does not deliver the results promised, vulnerable stakeholders should not shoulder the risk of non-delivery or be asked to accept the opportunity cost of behavioural changes without adequate compensation. In such cases, an obligation on those holding a Right to Monetise could be implied to ensure that benefit-sharing arrangements adequately protect the interests of stakeholders whose livelihoods will be affected by project implementation. In the context of a recognised need for Free, Prior and Informed Consent (FPIC) as a precondition to involvement in an avoided deforestation initiative, an obligation to ensure that agreements between Project Proponents and local stakeholders are subject to ongoing review (and opportunities for amendment) could also be inferred as a concomitant obligation to a Right to Monetise/Benefit. Again, this could be established in contract if not required under national provisions.

A Right to Tax (held by a Government agency) could be associated with an obligation to ensure that revenues should be managed transparently and for the public's benefit. A Right to Count, held by a corporation, could be associated with an obligation to use a credit only for unavoidable emissions and not as a substitute for an internal carbon reduction plan. Considering the obligations, or responsibilities, incumbent on those holding a right derived from a pro-

prietary interest could inform regulatory structures seeking to promote fairness and equity.

III. Targeting Integrity Concerns

This section discusses how the issues identified above can be addressed in different ways to improve the overall integrity of the market for forest carbon credits generated from avoided deforestation initiatives and, insodoing, promote confidence in this critically important project-type. Forest carbon transactions can be regulated under formal structures, but in the absence of these, participants can self-regulate by ensuring that key issues have been addressed.

1. Informing Domestic Regulation

The international REDD+ mechanism offers a country-driven approach to creating REDD+ results, which may or may not take the form of tradeable carbon credits. The efforts of many countries to implement the REDD+ mechanism are ongoing, with different levels of international support and success; in parallel, existing avoided deforestation projects generate credits for sale in the VCM. Given the dual approaches, Governments must now consider how project-based actions to avoid deforestation will be treated within broader carbon accounting and REDD+ implementation frameworks. Regulatory frameworks require clarity regarding what is being produced (a forest carbon credit) and the legal issues that underpin the process of turning sequestered forest carbon into a tradeable asset (as linked to both carbon tenure and carbon rights). The concept of forest carbon property and the rights associated with it (summarised above in Table 1) provide a starting point, and framework, for working through key issues relevant to designing regulatory frameworks for forest carbon trading.

With respect to the regulation of forest carbon transactions, the conceptualisation of the end result (or product) of a successful forest carbon conservation initiative as a symbolic representation of conserved forest carbon *as opposed to* an extractable commodity has implications for taxation. Given that a carbon credit is (only) a symbolic representation of sequestered forest carbon within a landscape where that landscape is already subject to existing land and re-

source laws by the host State, it is the location of the sequestered carbon that should determine where a forest carbon asset is deemed to originate, rather than (for example) the location of a private standardisation agency that provides the administrative process linked to credit issuance or the country in which the buyer is domiciled. In this way, carbon credits can be taxed at the point of origin under the host nation's existing taxation regime or equivalent administrative apparatus under environmental frameworks, and the 'Right to Tax' might be inferred from existing frameworks or assigned a new categorisation.

2. Highlighting Due Diligence Considerations

For investors seeking to support new projects or buyers looking to purchase credits issued from existing projects, the rights set out in Table 1 provides a reference point for understanding key issues that need to be addressed within the design and implementation of an initiative. For example:

- Regarding carbon tenure: By understanding the tenure system applied to the land area hosting the project, arrangements to secure the use of the land area across time (the right to control) will become visible and will also allow consideration of whether the benefit sharing arrangement in place is appropriate (the right[s] to benefit). To examine this, it will be necessary to look at local land and resource law in addition to the administrative mechanisms used to confer land and resource rights; and
- Regarding carbon rights: By considering the basis of the seller's right to transact the carbon credits (the right to monetise), the validity of the transfer of title can be checked, probably leading to an examination of the integrity and robustness of the corporate entity selling the credits and how their business is structured. In addition, any qualifications to the unrestricted sale of carbon credits can be checked with respect to applicable taxation (the right to tax) and the intended use the carbon credit once transferred (the Right to Claim).

Requiring that these issues be addressed from the outset ensures that projects will generate credits that reflect appropriate structuring, and incorporating these considerations in buyer-side due diligence creates a demand signal to ensure the same.

3. Protecting Vulnerable Stakeholders

The separation of tradeable rights from existing land and resource rights has raised concern since carbon trading was first proposed as a way to fund forest conservation. Early commercial operators, sometimes dubbed 'carbon cowboys', approached avoided deforestation projects as 'mines' from which to extract carbon credits (rather than gold, or other precious materials) and entered into agreements with local communities that did not have access to the technical advice required to participate in such projects in an informed and self-protective way – in other words, power dynamics between actors resulted in exploitation. In part, treating the forested area as the 'asset' from which to 'mine' carbon credits (as per section II.a.ii above) drove this approach to community engagement, misunderstanding that the integrity of tradeable asset created (the carbon credit) relied on community participation and appropriate revenue allocation structures. For this reason, approaches to Free, Prior and Informed Consent (FPIC) have been developed by both voluntary market standards and under the UNFCCC's REDD+ mechanism; beyond FPIC, the Right to Benefit can be used to inform benefit-sharing arrangements, even in cases where no formal land rights are held by affected communities. A Right to Benefit can arise *either* from formal land rights (private title/leasehold/user rights) that are recognised by the local land tenure framework and/or by converting informal interests into legally enforceable benefits via a contractual arrangement. In this way, understanding carbon as a new form of resource tenure *combined* with an appreciation of the complexities of tenure arrangements in developing countries provides an entry point for protecting the interests of vulnerable stakeholders where it is not mandated by law, but can nonetheless be seen as a key consideration to ensure the sustainability of initiatives.

From a legal perspective, benefit sharing is a way to identify the outcomes from an activity (whether financial or non-financial) and then distribute these outcomes among stakeholders.²⁷ In the context of

27 Sophie Chapman, Rowena Maguire, Mona Doshi, Caroline Wanjiku Kago, Nelly Kamunde-Aquino, Leah Kiguatha, Elizabeth Dooley, and Gretchen Engbring, 'The Elements of Benefit-sharing for REDD+ in Kenya: A Legal Perspective' (2015) 4 Carbon and Climate Law Review 287.

avoided deforestation projects, benefit sharing²⁸ is usually discussed in terms of the formal mechanism for sharing carbon-based payments between different stakeholders, whether as cash or ‘in kind’ benefits.²⁹ Claims that otherwise have no formal basis can be accommodated via a contractual arrangement (such as a right to benefit arising from participation in the conservation actions undertaken by a project, rather than any interest linked to land or resource tenure). In this way, it is possible to recognise the ‘Right to Benefit’ held by stakeholders who would otherwise be vulnerable due to a lack of land rights or exclusion from decision-making. Once recognised, practical issues regarding what type of benefits will be conferred (and how) can be addressed, and a formal mechanism for delivering the benefits in a transparent way can be designed.³⁰

Given that the equitable allocation of incentives and the protection of the interests of vulnerable stakeholders are essential to the integrity of market-based approaches to climate change mitigation, it is essential to consider how appropriate incentive structures can be designed and delivered in the absence of formal legislative protections. It is not the intention here to downplay the importance of the formal recognition of indigenous rights or of tenure reform where it is required; rather, it is the goal to highlight a practical means to ensure that the interests of otherwise marginalised stakeholders can be captured within benefit sharing arrangements where legislative frameworks cannot be utilised for this purpose.

IV. Conclusion

The world’s sub-tropical rainforests are vital carbon sinks and protecting them is a global priority.³¹ However, the drivers of deforestation in these geographies are complex and the actions required to successfully achieve conservation outcomes require substantial funding. The extent to which the VCM can help to deliver that funding is currently uncertain, due in part to recent controversies regarding how the carbon benefits underscoring tradeable assets are calculated but also due to the complexity of regulatory issues associated with avoided deforestation projects. However worthy the goal of avoiding deforestation, uncertainty redirects investment capital into other project types - therefore, improving the quality of projects and thereby bolstering investor confidence in them is essential.³²

The process of transforming the tangible, biological substance sequestered in forested land (as a result of forest conservation work) into an intangible, legal construct (written into contracts and/or legislation) that is at the heart of forest carbon transactions requires an understanding of the legal character of forest carbon credits, the process/scheme used to create it, and the different legal issues associated with the ‘bundle’ of rights and obligations that attach to the carbon property. The issues arising include how well land and resource tenure has been secured, the arrangements in place to share carbon revenues between different stakeholders (including whether the interests of vulnerable participants have been re-

28 Specifically in the context of recent work by the UN-REDD Programme, see UN-REDD, ‘Innovations in Equity: How Countries Are Approaching REDD+ Benefit Sharing Plans’ (2 September 2021) <https://www.un-redd.org/news/innovations-equity-how-countries-are-approaching-redd-benefit-sharing-plans> accessed 22 June 2024. For a discussion of the legal basis for benefit sharing in the specific context of REDD+, see Sophie Chapman and others, ‘A Legal Perspective of Carbon Rights and Benefit Sharing under REDD+: A Conceptual Framework and Examples from Cambodia and Kenya’ (2015) 2 Carbon and Climate Law Review 143–145; for a discussion of the meaning of ‘fair and equitable benefit sharing’ more generally, see Elisa Morgera, ‘The Need for an International Legal Concept of Fair and Equitable Benefit Sharing’ (2016) 27(2) The European Journal of International Law 353–383.

29 (n 27).

30 The legal elements of benefit sharing arrangements reflect key components of benefit sharing arrangements: (1) *Definition of the benefit*: The benefits that will be shared need to be defined before they can be allocated or monetised/financed. Benefits could be financial or non-financial (for example, cash or ‘in kind’), and could be linked to either the carbon outcomes (for

example, the quantity of carbon emissions avoided) or non-carbon outcomes (for example, protection of water sources or habitat conservation, achieved as the result of successful project implementation); (2) *Allocation of the benefits between stakeholders*: the legal basis for benefit claims needs to be established (for example, based on existing tenure arrangements or other criteria), and the beneficiaries identified (for example, governments and/or local communities); (3) *Distribution of the benefits*: The practical vehicle for distributing benefits to different beneficiaries needs to be identified (for example, a fund structure or contractual arrangement), and (4) *Accountability of the benefit sharing system*: In order to ensure that benefit sharing is managed in a fair and equitable manner, measures for supporting public participation in project implementation and also transparency of the financial administration need to be established. See, (n 27).

31 UNFCCC Article 4(d) referenced by Paris Agreement Article 5(1); and, the Kunming-Montreal Protocol Section F regarding the urgency of halting biodiversity loss globally.

32 T Swinfield, S Shrikanth, JW Bull, A Madhavapeddy, and SO zu Ermgassen, ‘Nature-based credit markets at a crossroads’ (2024) Nature Sustainability 1–4.

spected), and how forest carbon transactions are treated by taxation law and other specific climate regulations.

From a legal perspective, a high-quality carbon credit is one generated from an initiative that deals with the key issues outlined above. Greater clarity with respect to these issues informs how projects are structured, how due diligence processes are managed

and how regulatory structures can be designed, providing helpful reference points for quality assurance by different actors within the forest carbon market. Empowering financiers, project developers and regulators with this knowledge can support the flow of carbon finance towards the forest conservation action urgently needed to address the global climate and biodiversity crises.