Brazilian Initiative for the Voluntary Carbon Market

How can the definition of the legal nature of offset credits in Brazil impact the scalability of the voluntary carbon market?

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Key Highlights

The World Meteorological Organization – WMO recently reported a significant likelihood (98%) that at least one of the next five years will be the warmest on record. It also reported a high probability (+65%) that the annual average near-surface global temperature between 2023 and 2027 will be more than 1.5°C above pre-industrial levels for at least one year.

While direct emissions reduction is the first priority to decarbonize the global economy and to limit the average global temperature increase to 1.5 degrees above pre-industrial levels in the long term, Voluntary Carbon Markets are also relevant to promote mitigation activities that contribute to the maintenance of global carbon budget during the economic transition to a greener low-carbon economy.

Brazil has a unique opportunity to become a significant provider of voluntary carbon offsets worldwide, accounting for 15% of the total global supply potential for credits from nature-based credits (1.2–1.9 $GtCO_{2eq}$ per year), in addition to the potential for generating energy and other technology-based credits. Beyond climate benefits, nature-based credits also promote environmental (e.g., strengthening biodiversity) and socioeconomic benefits.

This could represent the creation of 550–880 thousand jobs per year, of which approximately 60% would be located near (socioeconomic challenged) regions where most carbon projects will be developed, and an economic impact of up to USD 26 billion in gross value added per year[1].

Brazil's voluntary carbon market still represents just a fraction of its total capacity (less than 2%). One of the different roadblocks that hinder the achievement of its full potential is the lack of a unified national legal and regulatory framework that addresses the legal nature, accounting, and tax treatment of voluntary offset credits, as well as indicating the market competent authority (even if it would be only for market supervision). With regard to the legal nature of the voluntary market offset credit, four key definitions are being debated: intangible asset, financial asset, securities, and commodity.

Defining offset credits as intangible assets would lead financial institutions to likely encounter rigorous regulatory capital requirements (with exposure up to 100% of the value from their position in offset credits or loans)[2] not only for funding carbon projects but also for facilitating intermediary transactions. The accounting treatment of intangible assets could potentially be less favorable for investors in the market as offset credits may not be consistently recognized and measured at fair value, limiting market transparency and comparability between financial statements. These factors combined might slow down voluntary carbon market growth and prevent it from achieving its fullest.

Treating offset credits as commodities, financial assets, or securities may enhance liquidity within the market, as financial institutions may potentially be required to allocate less regulatory capital to these assets, which could, in theory, promote greater participation and investment in carbon markets[3], need to

[1] More details in Box 3.
[2] More details in Exhibit 5.
[3] More details in Page 12.

unlock its potential. Regarding the accounting treatment, commodities, financial assets, and/or securities would have to be measured at fair value, providing more transparent and consistent information to potential investors[4].

Nevertheless, conducting a comprehensive analysis of the potential impacts from each of the potential scenarios is essential to understanding the implications of potential alternatives and effectively tackling any potential challenges or risks that could emerge.

This document is intended to provide an initial and preliminary overview of the legal nature of offset credits and their implications. The information contained herein is based on our best understanding and knowledge at the time of publication, and it is subject to change without notice. Significant changes may occur as the discussion unfolds and global and/or national regulators adopt more definitive positions. Therefore, this analysis should not be considered a comprehensive assessment but rather a starting point for understanding the subject matter.

The information provided in this document is solely for informational purposes and does not constitute policy, regulatory, legal, accounting, or financial advice. The responsibility for making any decisions based on the information provided herein will rest solely and exclusively with the recipient.

The objective of this work is to elaborate a study of the facts based on objective data and to carry out an independent analysis. Thus, this document should not be interpreted as a recommendation on approaches, strategies, or legislative measures.

An Introduction to Voluntary Carbon Markets

Carbon markets are market-based mechanisms that allow capital allocation to mitigation projects that reduce, avoid and/or remove greenhouse gas (GHG) emissions from the atmosphere, limiting their adverse climate effects. To facilitate the measurement of activities carried out in the carbon market (and to assess its benefits), a reference measure was adopted, that is, the metric tonne of carbon dioxide equivalent (tCO_{2eq}) that allows greenhouse gases to be analyzed and compared among them, according to the same basis.

Carbon markets have become a key mechanism for Paris Agreement signatory countries to be able to achieve their emission reduction targets in a potentially cost-effective manner. By establishing, in Paris Agreement's Article 6, a framework for carbon credit trading among countries, the signatory countries commit to facilitate international collaboration and foster global efforts to combat climate change. However, effective implementation of carbon markets under Article 6 still requires robust regulations to ensure transparency, accountability, and climate/environmental integrity.

Carbon markets are classified into two main types: (i) compliance carbon markets and (ii) voluntary carbon markets.

(i) Compliance carbon markets

Compliance carbon markets are markets that normally operate at the national or regional level and that result from government-ruled greenhouse gas (GHG) emission-reduction schemes aimed to accelerate the decarbonization of a country, region, or sector. For this purpose, a regulatory authority defines GHG

[4] More details in Exhibit 7.

emission limits and/or financial charges that are applied to regulated entities, aiming to promote the decarbonization of the economy.

Currently, countries adopt two main approaches for compliance markets: carbon tax (e.g., Canada, Colombia) and cap-and-trade systems (e.g., European Union Emission Trading System – EU ETS, California's ETS, and China's ETS).

The carbon tax is a fixed fee defined by the government and charged on every tonne of carbon equivalent emissions required to produce goods and services within sectors and/or by agents who are subject to such taxation.

In cap-and-trade systems, in turn, the government establishes an emissions cap aligned to the fulfillment of its national decarbonization targets. Thereupon, the government distributes emission allowances to the regulated entities, following specific guidelines that have been established (e.g., installed capacity or production). Companies that emit less than the allowances they received have a surplus that can be negotiated with companies that are in deficit, thus enabling trade between regulated entities. These allowances can be bought and/or sold bilaterally, and through exchanges and/or auctions, and in these cases the dynamics of supply and demand define their price.

Beyond establishing compliance markets in their own jurisdictions, some countries/regions are currently setting import barriers for companies/products from countries with less stringent climate policies to promote fair competition and prevent carbon leakage[5]. One example is the European Carbon Border Adjustment Mechanism (CBAM), which will impose a carbon price on certain imported goods based on their embedded carbon emissions, ensuring that the EU's stricter climate policies do not disadvantage domestic European industries. This mechanism aims to protect the integrity of the EU ETS while encouraging other countries to adopt ambitious emission reduction measures.

Compliance markets allow governments to plan a gradual transition to a low-carbon economy by targeting high-carbon footprint sectors to achieve their committed National Determined Contributions (NDCs) under Paris Agreement. However, not all signatory countries have established compliance schemes yet, nor do compliance markets promote mitigation initiatives beyond regulated sectors – thus, the need to discuss the possibility of using offset credits from the voluntary carbon market to support regulated entities in the regulated market in achieving their goals.

(ii) Voluntary carbon markets - VCM

In voluntary carbon markets, differently from compliance markets, there is no legal obligation to reduce emissions. Thus, VCM demand comes from voluntary commitments of companies, institutions, and/or individuals that aim to incentivize the development of climate change mitigation projects, either through offsetting part of their emissions, achieving carbon neutrality (compensating the emissions using carbon offsets), through actions to become net zero (promoting emissions reduction and neutralizing residual emissions using carbon sequestration/removal offsets) and/or through voluntary contributions for the development of mitigation projects beyond their value chain. Demand can also

[5] Carbon leakage occurs when companies move their carbon-intensive production abroad to countries where less-stringent climate policies are in place or when national products get replaced by imports with higher carbon-intensity.

come from compliance markets that allow certain offset credits to be purchased when companies exceed their allowances.

Voluntary carbon credits (offset credits) are generated from carbon projects implemented in accordance with certain crediting programs (which are recognized by the market) and can be used by buyers to offset their emissions (companies, governments, private individuals, etc.) and/or to contribute to the development of climate change mitigation activities outside their value chain.

Currently, there is a variety of types of offset credits available in voluntary carbon markets, which can be analyzed from two different perspectives: the perspective of the generated mitigation and the perspective of the proposed solution.

From the perspective of the generated mitigation, offsets credits can be characterized as:

- **Avoidance/reduction credits:** are credits resulting from projects/initiatives that reduce and/or avoid new GHG emissions to the atmosphere, such as stopping deforestation or using biofuels instead of fossil fuels
- **Removal credits:** are credits resulting from projects/initiatives that remove emissions from the atmosphere, such as reforestation projects or using Direct Air Capture – DAC technology to capture CO_2 from the atmosphere to inject it into geological reservoirs

From the perspective of the proposed solution, there are two main groups:

- **Nature-based solutions (NBS) credits**: are credits resulting from nature-based solutions projects, such as forest conservation (aka REDD+), afforestation/reforestation/revegetation (aka ARR), and/or sustainable land management practices (e.g., precision agriculture, no-tillage systems, biofertilization, Integrated Crop-Livestock-Forestry (ICLF) Systems). From the development of NBS projects, credits are generated due to GHG emissions avoidance (e.g., by preventing deforestation through REDD+ projects) or removal (e.g., from the transformation of atmospheric CO_2 into forest biomass in ARR projects)
- **Technology-based solution credits**: are credits resulting from the reduction or removal of GHG emissions through technology solutions, including from carbon capture, utilization, and/or storage (CCUS), BECCS (BioEnergy with Carbon Capture and Storage), and DACCS (Direct Air Carbon Capture and Storage)

Voluntary carbon market integrity and crediting programs

To achieve their intended effect, voluntary offsets credits need to be of high integrity and come from projects that follow a set of integrity drivers that are defined, validated, and accepted by market participants (see Exhibit 1) to ensure they represent the proposed GHG emission reduction, avoidance, or removal.

Exhibit 1. Integrity drivers for voluntary offset credits

1. **Additionality**
   Emission avoidance/reductions and/or removals would not happen without the carbon offset project
2. **Permanence**
   Emission reductions and/or removals cannot be reversed in the future
3. **No leakage**
   Emissions should not be displaced outside the project boundary
4. **Accuracy of monitoring, reporting and verification (MRV)**
   Offset credits are issued based on actual and accurately measured emission reductions and/or removals
5. **Baselines**
   The counterfactual is accurate and credible and avoids overestimation to avoid over-crediting
6. **No net harm**
   No unintended negative impacts on biodiversity, local communities, or sustainable development more generally
7. **Sustainable development benefits**
   Mitigation activities should be conformed with or go beyond best practices on social and environmental safeguards while delivering positive sustainable development impacts
8. **Only counted once**
   No double counting of emissions reductions and/or removals from double issuance, double sale and/or double claiming

In addition to following the guidelines described above and/or defined by international entities, such as the Core Carbon Principles developed by the Integrity Council for the Voluntary Carbon Market, voluntary offset credits are often attributed to well-established and recognized crediting programs, including:

- **Verified Carbon Standard – VCS**: formed in 2005 and since 2018 maintained by Verra, this program accounts for ~70% of the global voluntary market[6]
- **Gold Standard – GS**: accounting for ~15% of the global voluntary market[6], this program aims to set high standards for environmental and social sustainability and requires projects to meet specific criteria to receive certification
- **UN Clean Development Mechanism – CDM:** under the Kyoto Protocol[7], CDM is the first global, environmental investment and project-based crediting scheme/program of its kind. It was initially developed as a carbon credit trading mechanism among countries – i.e., emission-reduction projects in developing countries are allowed to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO_2. These CERs can be traded, sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol[8]. However, in the absence of a new commitment for the Kyoto Protocol Second Phase (2013-2020)[9], offsets generated from CDM projects were primarily used by voluntary agents. During the COP26[10], held in

[6] Considering the total voluntary offset credits issued in 2022 by VCS, GS, ACR and CAR
[7] The Kyoto Protocol was the first international treaty to set legally-binding targets to cut greenhouse gas emissions. Adopted on December 11, 1997, in Kyoto – Japan, and entered into force in 2005 (with the ratification of 192 Parties from the United Nations Framework Convention on Climate Change – UNFCCC), it has since been superseded by the Paris Agreement, but remains a historic landmark in the international fight against climate change.
[8] Read more at What is the CDM
[9] Aka "the Doha Amendment"
[10] The 26th United Nations Climate Change Conference, more commonly referred to as COP26, was held in Glasgow, Scotland, from 31st October to 13th November 2021

2021 in the Scottish city of Glasgow, it was decided that the CDM would be replaced by the mechanism proposed by Article 6.4 of the Paris Agreement, which is still under development[11]

- **Puro Earth:** a niche crediting program focused on technology-based carbon removal credits, including biochar burial, woody biomass burial, and carbon capture and storage
- **Global Carbon Council – GCC:** headquartered in Qatar and with global scope, it is the first crediting program that was originated in the Middle East and North Africa
- **American Carbon Registry – ACR** and **Climate Action Reserve – CAR**: these are two other well-known VCM programs mainly focused on the North American market

Different certification bodies manage each of these crediting programs and play an essential role in voluntary carbon markets, developing the standards that aim to guarantee the market's integrity and to build a transparent and reliable system for issuing offset credits. These certification bodies and crediting programs are self-regulated by the International Carbon Reduction and Offset Alliance (ICROA), a non-profit organization that promotes best practices across voluntary carbon markets.

In addition to ICROA, other organizations/initiatives were created to support the development of high-integrity VCMs worldwide, including the Integrity Council for the Voluntary Carbon Market (ICVCM) – which aims to set and enforce the highest standards of ethics, integrity, sustainability, and transparency for the global voluntary carbon markets – and the Voluntary Carbon Markets Integrity Initiative (VCMI) – which aims to enable high integrity voluntary carbon markets that deliver real and additional benefits to the atmosphere, contribute to protecting the environment and accelerate the transition to regulation and ambitious climate policies for all sectors of the economy.

Voluntary carbon markets ecosystem and offset credit issuance process

Voluntary carbon markets are constituted by different players working on various fronts along the offset credit value chain, from the issuance process, trading until its final retirement, both for offsetting and for voluntary contribution to the climate (see Exhibit 2).

A carbon offset project must go through a series of steps to ensure that its credits are accurately and transparently measured, validated, verified, registered, and emitted (see Exhibit 3) – irrespective of the offset crediting program.

[11] As of July 2023

Exhibit 2. Different key players from the voluntary carbon markets

Grouped by market actors – Not fully linear flow

Supply

Landowners

For NBS carbon projects, landowners are key players as they **rent/lease their land for the development of the carbon projects** by project developers

In many cases**, they also are responsible for the on-the-ground operation** of the project

Project developers

Developers **design projects** including their estimated potential to avoid emissions or remove carbon from the atmosphere vs. a base case, plan for quantifying and monitoring the delivery of benefits, and demonstrate that the project

Validation/ Verification Bodies (VVBs)

Independent third parties audit firms (so-called Validation and Verification Bodies, or: VVBs) **validate the project design**; the report is submitted to a crediting program, and if approved, a developer can implement the project

Once implemented, a project's **realized reductions and removals are verified** – again by a VVB

Developers can choose which VBB to work with from a list approved by their crediting program of choice

Certification Bodies

Certification bodies (typically nonprofits) **define standards/crediting programs, methodologies, and requirements** against which projects can be certified, **approve projects** based on validation reports, and manage/partner with a registry in which, upon the successful verification of a project's impact, credits can be issued to a developer's account, which can then be transferred to buyers and/or traders

Marketplace

Financial/Funding institutions & Sponsors

Developers typically cover upfront **project financing** themselves, with support from traditional investors/ lenders, or via donor/ impact fund financing

Built-in risk management setup currently includes **buffers** (e.g., 10% on top of credits required) and **insurance** (e.g., fire protection)

Sponsors increasingly engage in long-term offtake agreements as a natural hedge

Traders

Credits are **traded by retailers and wholesalers Retailers** contract with project developers to take ownership of the portfolio of offsets They may offer additional services (e.g., consulting)

Wholesalers (brokers) do not take ownership of the offsets but facilitate transactions between project developers and end buyers for a fee

Registries, settlement & retirement platforms

Whereas some certification bodies host their own registries, some **platforms** provide registry services for multiple crediting programs (e.g., IHS Markit)

Credits can be traded indefinitely until retired. Registries do not monitor **commercial transactions** when credits are traded, but only transfer credits between accounts

Retailers and suppliers (in wholesale) serve as **custodians** for buyers that do not have an account and retire credits –on the registry– in their name

Once retired, the Standard/crediting program (or other entity managing the registry) provides a **retirement certificate** which can be provided to the end buyer

Market, reference data & rating agencies

Agencies that provide **market data** (e.g., pricing, volumes traded) and **reference data/credit rating** (e.g., offset identifiers, quality, integrity) are still nascent

Demand

Buyers

End buyers are those who wish to **voluntarily compensate/neutralize (part of) their carbon footprint, contribute to company's broader climate strategy and further global climate change mitigation and/or use credit for compliance reasons**

Once the end buyer wants to claim the impact of an offset, they need to ensure the credit is **retired in the official registry so that it cannot be traded** onwards anymore (e.g., by requesting their retailer to do so)

Sources: Ecosystem Marketplace, Conte and Kotchen 2010, Gold Standard

Exhibit 3. Project development pathway for offset credits issuance

	1. Project design	2. Validation Audit	3. Development & operation	4. Measurement, reporting & verification (MRV)	5. Project registration & offset credits issuance
Description	Build a Project Design Document (PDD) which describes the proposed project in detail (e.g., methodology and requirements, baseline, project activities and quantification of impact, management plan incl., monitoring, reporting, and verification procedures)	An independent third-party auditor validates the PDD according to the chosen methodology as defined by the selected standard/crediting program (e.g., VCS, Gold Standard); the validation report is submitted to the crediting program which can then approve the project	Start the project's implementation and on-the-ground operations according to the description in the PDD, with specific activities dependent on the project type	Once the project is operational, the realized reductions and/or removals are monitored by the developer and periodically verified by an independent third-party auditor. The auditor will review the project's monitoring reports (MRs) to verify and validate the actual emissions reductions and/or removals	Submit/update project documents to the crediting program for registration. Once the project is registered, request the offset credits issuance based on the emission reductions and/or removals certified during the verification step. Once an offset credit is issued, it can be traded as a performed credit, and it is already eligible for contribution, compensation and/or retirement
Case example: Conservation project (REDD+)	A developer designs a conservation project, chooses a specific location, gathers baseline data, secures land rights, engages with local stakeholders, creates an implementation plan, and builds a PDD	An independent auditor is hired to validate the PDD in accordance with a chosen methodology (e.g., VM007 from Verra) and submits the report to VCS	Upon validation, the developer sets up a local project team and starts the conservation activities (e.g., construction of fences around the land, setting a fire control team), as described in the PDD	Once implemented, the local project team will continue to manage the project. After the first verification is undertaken, the project can be registered at the crediting system, enabling the first offset credit issuance (from then on, the MRV process will repeat annually)	The verified emission reductions are issued as performed offset credits and become available for trading

Only credits from projects that go through all these steps and are duly registered and issued can be considered as “fully performed”. Credits that have not yet gone through all the steps and are in the process of being measured, originated, validated, verified, registered, and/or issued are, therefore, considered “credits to be performed”. Although both “performed” and “to be performed” credits can be traded in the voluntary market, only “performed credits” (which have gone through all the steps above) can be used for retirement, allowing their buyers to actually offset their emissions and/or voluntarily contribute to a broader global climate change mitigation strategy.

After issuance, the final step for a "performed offset credit" that is sold to an end buyer is its "retirement" – both for the purpose of voluntary contribution to the climate and for offsetting emissions. In this case, the buyer will be removing the offset credit from circulation and ensuring that it cannot be traded or used again.

Due to the high demand for high-integrity offset credits on the market, some buyer companies/institutions negotiate the purchase of “credits to be performed” as a measure to guarantee future supply. This type of purchasing is often represented by deferred purchases, sales, and/or offtake agreements and represents an attractive mechanism for project owners/developers to access early financing/monetization. In addition, it also means a promising enabler for scaling projects with high upfront CAPEX requirements, such as Afforestation, Reforestation, and Revegetation (ARR) projects.

Despite its voluntary nature, the VCM has experienced significant expansion in recent years, driven by the growing global recognition of the urgent need to address climate change. The World Meteorological Organization – WMO recently reported[12] that there is a major likelihood (98%) that at least one of the next five years will be the warmest on record. WMO also reported a high likelihood (66%) that the annual average near-surface global temperature between 2023 and 2027 will be more than 1.5°C above pre-industrial levels for at least one year.

As individuals and organizations increasingly understand the environmental impact of greenhouse gas emissions, they seek ways to reduce their carbon footprint beyond regulatory requirements, as demonstrated by initiatives such as the SBTi[13] (which accounts for more than 5,700 companies taking action to reduce greenhouse gas emissions[14]). While direct emissions reduction is the most important action to decarbonize the global economy and to limit the average global temperature increase to 1.5 degrees above pre-industrial levels (as reaffirmed during COP27[15]) in the long term, Voluntary Carbon Markets are also relevant to promote mitigation activities that contribute to not exceed global carbon budget until 2050 (which cap total global GHG emissions to 420 – 580 $GtCO_{2eq}$, from 2018 to 2050[16]).

[12] Read more at WMO Global Annual to Decadal Climate Update for 2023–2027

[13] Science Based Targets initiative provides companies with a clearly-defined path to reduce emissions in line with the Paris Agreement goals

[14] Status as of July 2023

[15] 27th United Nations Climate Change Conference of the Parties, held in Sharm El Sheikh, Egypt, in 2022

[16] According to IPCC Report’s Chapter 2- Mitigation pathways compatible with 1.5°C in the context of sustainable development

In this context, Brazil has a unique opportunity to become a major provider of offset credits globally, as it concentrates 15% of the total global supply potential for NBS offset credits (from 1.2 to 1.9 $GtCO_{2eq}$ per year)[17] and has several opportunities on the technology front, both for reduction and/or removal and for waste management and reuse. Today, Brazil's voluntary carbon market still represents a small fraction of its full potential (less than 2%).

The fact is that today there are still several roadblocks that prevent the full development of Brazil's voluntary carbon market. Some of these roadblocks are country-specific – such as the land ownership framework: 36% of the Brazilian territory is public land[18], while another 17% consists of unclaimed land[19] – and some market-specific – such as the lack of a clearer definition of offset credits' legal nature. On the latter, a more transparent legal/regulatory landscape regarding voluntary offset credits' legal nature, tax treatment, international trading/selling, and accountability into a future national carbon inventory system and/or NDCs[20] would reduce the market's level of uncertainty and could enable broader participation of developers, investors and/or financial institutions.

The definition of the legal nature of offset credits[21] in Brazil and their potential impacts on the scalability of the voluntary market

Unlocking the untapped potential of Brazil's VCM will be a significant task that will call for a multipronged approach and substantial stakeholder commitment. Consider, for instance, the issue of funding. Landowners, corporates, and developers will likely need between USD 200-500 billion to finance reforestation and afforestation projects in Brazil to reach its full potential[22].

Such level of investment/financing would be a function of both higher (I) volume of carbon projects, given the country's untapped potential, and (ii) implementation costs, given that 80% of the country's potential is in reforestation and afforestation, requiring significantly higher CAPEX and OPEX (while REDD+ marginal costs are around USD 5 – 7 per tonne of CO_2 on average, marginal costs for ARR credits starts at USD 20 per tonne of CO_2). Raising such a significant amount of resources will require a stable market environment, with clearer regulatory and legal guidelines, high-integrity methodologies specific to offset credits, and established private and public players that invest in and promote market development.

Today, one of the main roadblocks preventing local and international voluntary carbon markets from further developing is the uncertainty around the legal nature of offset credits. The lack of a clear definition leads to challenges across multiple dimensions[23], such as the bankability of projects, in addition to tax and accounting treatment uncertainties. These challenges are felt across the voluntary carbon value chain,

[17] Analysis based on data from McKinsey Nature Analytics (2022), IBGE, Mapbiomas, Network for Greening the Financial System and The Nature Conservancy, considering an offset credit price range of USD 25-35 per ton of CO_{2eq}, which is in line with conservative estimates for 2030 and beyond

[18] Read more at Sparovek *et al.*, 2019. Who owns Brazilian lands? Land Use Policy 87 (2019) 104062

[19] "Terras devolutas", in Portuguese

[20] Paris Agreement's Nationally Determined Contributions (NDCs) embody efforts by each country to reduce national emissions and adapt to the impacts of climate change

[21] From this section onwards, offset credits should be understood as voluntary offset credits that allow organizations to compensate for or neutralize emissions that have not yet been eliminated.

[22] Estimative from Brazilian Initiative for the Voluntary Carbon Market

[23] Read more about the uncertainty around the legal nature and associated challenges at ISDA, Mattos Filho, and Ferrari Machado & Gomes de Moraes

deterring stakeholders such as project developers, financial institutions, and offset credit buyers from further escalating their participation in this market.

Three definitions are commonly discussed worldwide: intangible assets, financial assets, and commodities[24]. An additional definition – securities – is also under discussion in the Brazilian context. However, there is still no consensus or unique legal treatment for offset credits in Brazil or international markets. To contribute to this discussion, the Brazilian Initiative for the Voluntary Carbon Market conducted a fact-based assessment comparing the potential implications from each of the four legal nature definitions, according to four key dimensions: (1) tradability of offset credits, (2) tax treatment, (3) accounting treatment, and (4) legal aspects.

Tradability of offset credits

The tradability dimension was assessed through two sub-dimensions: (a) compatibility of the local market with international markets and (b) development of financial instruments.

(a) Compatibility of the local market with international markets

Although several countries have committed to the Paris Agreement, there is currently no consensus among them on the legal treatment of offset credits. As in Brazil, the discussion about the legal nature of offset credits is happening all over the world (Exhibit 4).

Exhibit 4. Legal nature of credits around the world as of March 2023

(x) World rank by CO_2 emissions

Country	CO_2 emissions % of world		Legal nature of carbon credits
China	32,93%	(1)	**Undefined** – considered "other current assets" for accounting purposes
USA	12,55%	(2)	**Commodity** – based on CEA's broad definition
EU*	7,33%	(-)	**Undefined** – member states need to guarantee the transferability of allowances/credits and the legal certainty of these transfers
India	7,00%	(3)	**Undefined** – The Institute of Chartered Accountants of India understands credits as intangible assets
Russia	5,13%	(4)	**Undefined** – currently traded on the National Commodity Exchange
Japan	2,87%	(5)	**Undefined** – prevailing view that they should be intangible assets
Germany	1,76%	(7)	**Undefined** – discussions around ownership or contractual rights
Indonesia	1,59%	(9)	**Undefined**
Australia	0,97%	(16)	**Personal property** – as defined by Australia's Clean Energy Regulator

* Accounting for the 27 country members of the European Union in 2022

[24] Instruments can be built/issued on top of offset credits, leading to a scenario where the former assumes one legal nature and the latter another (e.g., a financial asset with an intangible or commodity as underlying). In this case, offset credits could be viewed as having more than one nature at the same time, depending on whether the credit itself or the instrument that represents it is analyzed. For the purposes of this paper, we will take the perspective of the credit itself (unless stated otherwise)

The definition of the legal nature of offset credits is expected to have asymmetrical effects around the world. For major developed economies, in particular those in the northern hemisphere (e.g., USA, EU, and Japan), the definition will have the most impact on unlocking demand for these credits, as companies and organizations from these economies are expected to become major consumers of offset credits. For developing countries, especially those in the southern hemisphere (e.g., Brazil, Indonesia), the definition will be critical to unlocking the supply of these credits, as increased regulatory and legal certainty about the nature of credits should facilitate the development of offset projects in these countries.

Instead of providing a standard definition for all member states[25], the European Union – EU focused on ensuring that the definitions adopted by each member state guarantee the transferability of allowances/credits and the legal certainty of these transfers. In addition, the EU also understands that voluntary offset credits used inside the compliance/regulated markets should be treated as equivalents from a legal point of view to ensure that they would be entirely fungible to emission allowances. Recently, the EU placed allowances under the MiFID II[26] rule, which grants credits the same treatment as financial assets, promoting price transparency.

(b) Development of financial instruments

Financial instruments can be pivotal in unlocking voluntary carbon market potential for countries that, likewise Brazil, have a great potential to generate offset credits. Thus, it is critical to understand how the development of this market could happen and which are the factors that could contribute to turning feasible, from an economic perspective, potential projects.

From a pricing and trading perspective, financial instruments such as spot contracts (performed credits), futures (credits to be performed), and options (rights to receive or pay at a specific price) could facilitate price discovery, improve market liquidity and transparency, and attract more investors to the voluntary carbon market.

These instruments can also be used for risk management, allowing stakeholders to secure credits to cover their future needs, reduce exposure to price volatility, dilute project-specific risk, and transfer risk. Direct financing by financial institutions and capital market agents can play a key role for those that need capital to invest in their offset projects. Thus, given the relevance of financial instruments for the Brazilian carbon market, it is critical to understand how their development and economic viability could be affected by the legal nature of offset credits.

Regarding the development of derivative products, it is possible to say that the definition of offset credits' legal nature (i.e., commodities, intangible assets, financial assets, or securities) would not represent a theoretical barrier to their ongoing development[27]– in a similar dynamic to what happens with other underlying assets (e.g., grains, cryptocurrency, and bonds). This is evidenced by the fact that, though in an incipient stage, financial products based on offset credits have already been developed worldwide.

[25] Read more at Commission Regulation (EU) No 389/2013 of 2 May 2013

[26] Markets in Financial Instruments Directive 2014, commonly known as MiFID II

[27] Although the legal nature itself would not be a deterrent, the economic viability of financial instruments is affected by the legal nature of offset credits, as explained in the subsequent paragraphs. This would make financial instruments less or more appealing to stakeholders and could represent a practical barrier for the development of financial products.

Examples include the World Bank and IFC's emission reduction-linked bonds and offset credit futures traded at the CBL exchange[28].

When financial institutions keep offset credits on their balance sheets, they are required to maintain a certain level of regulatory capital to act as a buffer against unexpected losses, protecting depositors and other stakeholders in times of economic stress[29]. This is relevant when we consider the role of financial institutions as intermediaries and financiers of voluntary carbon markets. As the voluntary carbon market ecosystem gains scale and trading volume increase, banks will likely become market-makers to provide liquidity and facilitate the smooth functioning of the market. Landowners, project developers, and corporates that would require financing from their banks might, for instance, offer offset credits as guarantees for these operations. Consequently, banks would hold substantial quantities of offset credits and would have to keep adequate capital reserves to mitigate risk.

In this context, the legal nature of offset credits becomes a critical variable, as the Basel regulatory framework defines capital requirements for financial institutions based on asset types and their underlying risk (see Exhibit 5 for an overview). For instance, if offset credits were defined as commodities (60% risk weight[30]), banks would be required to maintain approximately USD 7 in capital for every USD 100 in offset credits that they would have on their balance sheet. Requirements would increase if offset credits were considered financial assets without a specific determination (USD 11 in capital for every USD 100 in credits, given 100% risk weight) and reach their peak if credits were understood as intangible assets (USD 100 for every USD 100 in credits, given 100% deduction[31]). Risk weights for securities would depend on the type of security offset credits would constitute[32], with risk weights likely ranging between 100% (low-rating debt securities) and 250% (general equity holdings). The same logic applies to the products built on top of offset credits (e.g., financial instruments with offset credits as underlying assets) which would have regulatory capital requirements based on their legal natures.

[28] Read more at World Bank, Acorn, and CBL

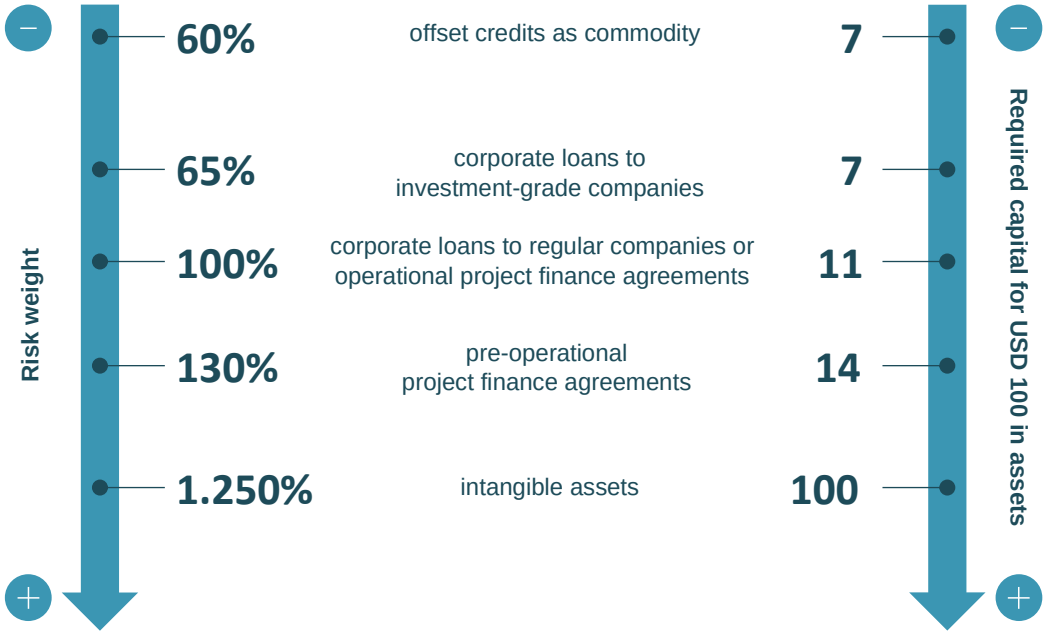
[29] In accordance with the Basel framework and Brazil's Central Bank rules. Regulatory capital is divided into two tiers. Tier 1 includes Common Equity Tier 1 Capital (CET1) and Additional Tier 1 (AT1) instruments, while Tier 2 is composed of selected instruments that absorb losses in the case of a bank failure.

[30] See BIS's minimum capital requirements for market risk, item 21.82

[31] See BIS's definition of capital, CAP 30.7; and Prudential's treatment of crypto asset exposures, item 3. In the case of intangible assets, a 100% deduction from regulatory capital is equivalent to having a 1,250% risk weight.

[32] Risk weights for securities depend on the type and rating of such securities. For instance, debt securities such as mortgage-backed securities (MBS) rated AAA would have a minimum risk weight of 0.9% times the time to maturity (in years) and a maximum of 100%, while all MBS rated at or below BB would have a risk weight of 100%. In the case of equity securities, national supervisors might allow banks to assign a risk weight of 100% in specific cases (CRE 20.59). If the equity security does not fall under a nationally legislated programme, then it should either have a risk weight of 250% ("all other equity holdings") or 400% (speculative unlisted equity exposure) according to CRE 20.57.

Exhibit 5. Risk weights for different assets



Source: Created based on information from the Bank for International Settlements

We estimate that Brazilian landowners, corporates, and developers will demand between USD 205 and USD 525 billion in investments between 2024 and 2050[33] to develop reforestation and afforestation projects, which represents a substantial sum. To provide a contextual frame of reference, it represents between 25% and 65% of the capitalization of all companies listed on the B3 stock exchange[34], which reached USD 773 billion[35] in May 2023, demonstrating that it will be necessary to attract new capital in order to promote this market– it is unlikely that equity will be a sufficient source of funding, highlighting debt as an essential enabler to unlock the country's potential. We estimate that financial institutions could potentially provide landowners, corporates, and developers with debt worth up to USD 400 billion, covering a relevant part of this market. In addition to financial institutions, multilateral development agencies (e.g., Green Climate Fund, New Development Bank), could also play a role in the financing efforts, providing, for example, subsidized credit and/or non-refundable resources.

Regulatory capital requirements would be significant if offset credits were defined as intangible assets, given that Basel regulations do not accept intangibles as risk mitigants for credit exposures, i.e., intangibles cannot be used as collateral to reduce capital requirements imposed to banks. Consequently, banks would be exposed to 100% of the value from their position in offset credits or loans and would be required to maintain up to USD 58 billion in regulatory capital[36], according to our estimation, to finance offset projects. This could pose a challenge for debt financing of projects, as banks would provide higher funding costs for landowners, corporates, and developers to compensate for the increased risk associated

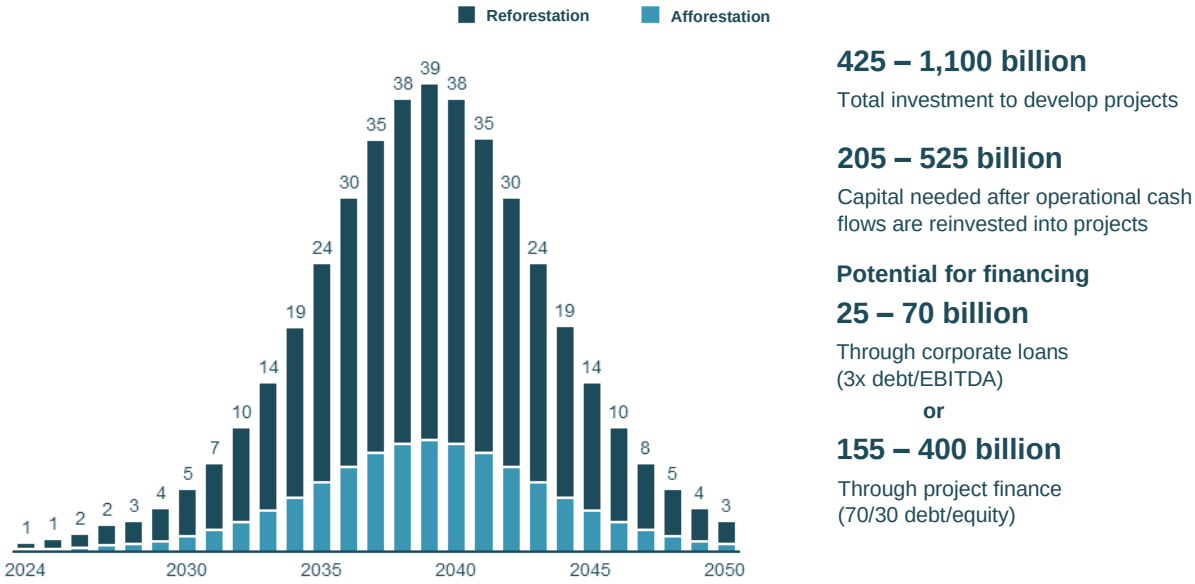
[33] Assumes that 100% of operational cash flows from projects would be reinvested into new projects
[34] B3 (ticker: B3SA3) is one of the world's largest financial-market infrastructure companies, providing trading services in an exchange and OTC environment.
[35] Status as of May 4, 2023
[36] Assuming that banks provided USD 400 billion in debt through project finance agreements. Risk weights vary from 80% to 130% for project finance depending on the stage of the project (operational vs. pre-operational).

with long-term uncertain projects and the high cost of capital incurred due to regulatory capital requirements. A similar situation may happen if offset credits were classified as commodities, given that these assets do not reduce credit exposures on long-term loans.

In contrast, defining offset credits as financial assets or securities could reduce regulatory capital requirements by up to five-fold[37], increasing the likelihood that financial institutions would fund projects and promote market development. The Basel Framework recognizes financial assets as effective risk mitigants, reducing credit exposures and lowering the required regulatory capital for loans. This reduction is applied to any financial asset listed as an "eligible financial collateral[38]," such as cash and equivalents, gold, selected debt securities, equities, and UCITS/mutual funds. Currently, offset credits are not part of the list and thus do not count as risk mitigants for credit exposures. However, as voluntary carbon markets evolve and offset credits acquire similar characteristics to those of eligible assets (e.g., high liquidity, low risk, transparent pricing, standardized valuation), they might be considered as eligible financial collateral in the future.

Exhibit 6. Capital required to develop reforestation and afforestation projects between 2024 & 2050

Annual investment in reforestation/afforestation projects, USD billions



425 – 1,100 billion
Total investment to develop projects

205 – 525 billion
Capital needed after operational cash flows are reinvested into projects

Potential for financing

25 – 70 billion
Through corporate loans (3x debt/EBITDA)

or

155 – 400 billion
Through project finance (70/30 debt/equity)

Box 1 – Methodology to estimate the potential of debt financing

The distribution of financially viable projects followed a logistic distribution function between 2024 and 2050, with the peak of investment in the year 2037 and with a logistic growth rate of 5%. Capital requirements for offset projects are funded through equity (paid-in capital and reinvestment of earnings) and debt (corporate loans or project finance). For corporate loans, assumed developers could reach a 3x leverage ratio (debt-to-EBITDA), leading to a capital structure with approximately 88% equity and 12% debt. Assumed for project finance, a capital structure with 70% debt and 30% equity was assumed.

[37] Based on the Simple Approach, where the counterparty risk is replaced by the risk weight of the collateral instrument collateralizing the exposure. Reduction is limited by a 20% floor (5 times lower than a full exposure).
[38] Read more at "CRE22 - Standardised approach: credit risk mitigation", by BIS

Accounting treatment

We evaluated four potential accounting treatments for offset credits in Brazil: (i) inventory[39], (ii) intangible asset[40], (iii) inventory with characteristics of commodity[41], and (iv) financial asset[42]. Overall, options (i) and (ii) would require market participants to measure offset credits at acquisition cost, while options (iii) and (iv) would demand participants to use fair value. As a result, these potential accounting treatments would lead to different levels of transparency, comparability[43], and operational complexity (Exhibit 7).

Exhibit 7. Accounting treatment and high-level implications

Impact on selected dimensions

Dimension	Inventory and intangible asset	Inventory (commodity) and financial
Transparency	The impact of current **market forces is not reflected** on financial statements (e.g., items not marked-to-market)	**Market forces are reflected on financial statements on a timely manner**
Comparability	Values remain virtually **unchanged over time** (e.g., fixed at acquisition costs)	Assets valued based on market information, resulting in **similarities across reporting entities**
Complexity	Initial **measurement based on transactions** (e.g., acquisition costs), with subsequent changes based on realizable values	Initial and subsequent **measurement based on valuation methods** detailed in the **Fair Value Hierarchy**

[39] Inventories include assets held for sale in the ordinary course of business (finished goods), assets in the production process for sale in the ordinary course of business (work in process), and materials and supplies that are consumed in production (raw materials).
[40] An intangible asset is an identifiable non-monetary asset without physical substance. Such an asset is identifiable when it is separable, or when it arises from contractual or other legal rights. Separable assets can be sold, transferred, licensed, etc. Examples of intangible assets include computer software, licenses, trademarks, patents, films, copyrights, and import quotas.
[41] When inventories are held by commodity brokers and dealers, they can take the characteristics of commodities and may be measured at fair value less cost to sell. Changes in fair value less costs to sell are recognized in profit or loss in the period of the change.
[42] Financial assets are any asset that is (i) cash, or (ii) an equity instrument of another entity, or (iii) a contractual right to receive cash or another financial asset from another entity; or to exchange financial assets or financial liabilities with another entity under conditions that are potentially favorable to the entity; or (iv) a contract that will or may be settled in the entity's own equity instruments and is: a non-derivative for which the entity is or may be obliged to receive a variable number of the entity's own equity instruments; a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments. For this purpose, the entity's own equity instruments do not include instruments that are themselves contracts for the future receipt or delivery of the entity's own equity instruments
[43] Comparability is an accounting principle of disclosure set by IFRS. The term is understood as the qualitative characteristic that enables users to identify and understand similarities in, and differences among, items. A higher level of comparability allows investors and other stakeholders to understand an organization’s financial statements in light of comparable peer data.

Measuring offset credits at fair value – a situation that could happen if they were defined as commodities, financial assets, or securities[44] – would benefit investors and indirectly contribute to market development. If companies in the carbon value chain marked credits to market (fair value), they would provide investors with more transparent, consistent, and accurate information, facilitating comparisons between peers, allowing for more accurate valuations, and contributing to increased investments in the carbon ecosystem.

From the buyer's perspective, fair value measurement would have a limited impact. Although there is a concern that marking offset credits to market could increase balance sheet and income statement volatility, most buyers would likely purchase credits to retire them – that is, they would buy credits to voluntarily contribute to the climate, compensate for and/or neutralize their emissions. In that case, changes in value due to fair value measurement would not be reflected immediately on their income statements.

It is worth noting that the accounting treatments described herein would not be indiscriminately applied across all market situations – they would depend on the legal nature of offset credits and the stakeholder's intention with such credits. As treatment for developers and buyers has not been established by Brazilian regulations, an assessment was performed by evaluating four potential accounting treatments for the two stakeholders.

If offset credits were classified as commodities, buyers who hold credits to compensate for or neutralize their emissions and project owners[45] who generate and sell credits in the ordinary course of business could treat credits as inventory in their balance sheets. The treatment would differ if buyers were commodity brokers or dealers, as they would be required to recognize and measure offset credits at fair value, less cost to sell.

If offset credits were defined as intangible assets, project owners could potentially choose between two accounting treatments depending on their intentions with credits. Assets held for sale in the ordinary business course could be considered inventory. In contrast, credits held to voluntarily contribute to the climate, compensate for or neutralize emissions would be treated as intangible assets on balance sheets. The treatment for buyers would be less flexible, with credits being recognized as intangible assets.

Finally, both project owners and buyers would treat offset credits equally if they were understood as financial assets: credits would be initially and subsequently measured at fair value, figuring on balance sheets as financial assets.

Regarding financial institutions, Brazil's Central Bank has already provided guidance through Normative Instruction BCB 325, which establishes that financial institutions should treat offset credits as inventory or inventory with characteristics of commodities.

According to this Instruction, offset credits should be understood as non-financial, sustainability assets. Accounting treatment depends on the intention of the financial institution. Suppose credits are held for

[44] Excluding securities held to maturity, which are recorded at the cost of acquisition.

[45] In this context, project owners mean developers, landowners, and corporates who develop offset credit projects. For the purposes of this analysis, we did not consider landowners who do not develop projects themselves (e.g., rent the land to a project developer) or corporates who provide project-related services without developing the project themselves (e.g., sustainability consultancy).

sale and/or are principally acquired to be sold shortly. In that case, they are treated as inventory with characteristics of commodities (i.e., recognized at fair value). However, if credits are held to voluntarily contribute to the climate, compensate for or neutralize emissions (retirement of credits at a future date), they are treated as inventory (i.e., recognized at acquisition cost).

Box 2. Accounting aspects of voluntary emission compensation and/or climate action contribution commitments

A relevant discussion topic regarding offset credits accounting is whether institutions/companies' voluntary commitments to offset emissions and/or to contribute to climate action could be recognized as obligations (accounting liabilities).

This topic was recently discussed during a meeting of the International Accounting Standards Board (IASB) held in April 2023[46], and has been discussed in Brazil by Brazil's Accounting Pronunciations Committee – CPC[47] and by Brazil's Federal Accounting Council – CFC[4849].

The principle that would support the recognition of these liabilities lies in the possibility that, by publicly stating a commitment to offset emissions and/or to contribute to climate action, a company/institution could generate a valid expectation among other parties that it will adhere to its commitment[50] - as a constructive obligation[51]. In this case, it would be evaluated whether such voluntary commitment fulfills the basic characteristics of liabilities (i.e., a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits[52]) and, if so, whether liabilities on the balance sheet should be recognized according to the stated commitment.

Although there is still no specific definition and/or guidance on the topic[53], the recognition of such hypothesis could represent a clear and quantifiable demand sign for VCM's offset credits from companies/institutions.

[46] More information in "IASB Staff paper - Liability definition and 'present obligation' recognition criteria"
[47] "Comitê de Pronunciamentos Contábeis" in Portuguese
[48] "Conselho Federal de Contabilidade" in Portuguese
[49] Topic addressed during the Circuito Técnico: 34ª edição aborda Crédito de Carbono – impactos nos negócios
[50] According to Brazil's CPC, possible evidence that a valid expectation has been created includes the capacity of the public commitment to direct the allocation of capital from third parties and/or movements in the *market share* of the company that made the commitment (CPC)
[51] The Pronunciamento Técnico CPC 25 defines a constructed obligation ("Obrigação Não Formalizada", in Portuguese) as an obligation arising from the actions of the entity in which (a) an established pattern of past practice, published policies or a sufficiently specific current statement, the entity has indicated to other parties that it will accept certain responsibilities; and (b) as a result, the entity has created a valid expectation on the part of those other parties that it will discharge those responsibilities
[52] Read more at Pronunciamento Técnico CPC 25 and IAS 37
[53] Situation on August 9, 2023

Tax treatment

Lower tax uncertainty for carbon stakeholders – project owners, financial institutions, traders, corporate buyers, and legal firms – would promote a favorable environment for the scaling up of carbon markets, by facilitating compliance and allowing participants to understand the implications of joining the market and reducing their perception of risk (e.g., unexpected tax exposure from participating in the market).

Lower tax uncertainty would also provide stakeholders with tools to better forecast cashflows from carbon reduction and/or removal activities, providing them a more transparent view of the projects' financial data and facilitating decision-making on investments in these projects.

Currently, the tax treatment for offset credits in Brazil remains under discussion, with Brazilian legislators setting forth proposals to exempt offset credit transactions from most federal taxes[54]. This would promote the voluntary carbon market's development (similar to what authorities did with the solar and wind power industries in the past[55]) and provide substantial socio-economic benefits for the country.

These benefits would accrue by mainly creating value chains that currently do not exist at scale (e.g., value chains for ARR projects such as seed farms and nurseries). As tax exemptions reduce development costs for offset projects, especially for higher-cost projects such as reforestation and afforestation, more projects become financially viable and operational. This leads to an increased track record of large-scale projects and contributes to creating the socioeconomic benefits mentioned in Box 3.

This would not be the first time that Brazil employed tax incentives to foster market development. Since the early 2000s, the country has successfully implemented multiple tax-incentive mechanisms for the renewable energy industry, encouraging more investment in this source of energy. Examples include countrywide exemption of PIS and COFINS for parts used in wind turbines, reduced income tax for priority energy sources in the North and Northeast regions, and ICMS exemption for solar and wind power products in the state of São Paulo.

However, tax exemption proposals for offset credits have yet to be passed into law. As of July 2023, uncertainty around the tax treatment for offset credits remains, with multiple stakeholders taking a conservative view and considering that federal taxes, such as PIS, COFINS, IRPJ, and CSLL[56,57] are applied in full to offset credit transactions. Given how sensitive offset projects are to multiple market variables[58], the resulting tax burden from employing these taxes in full might represent a relevant challenge to Brazil's voluntary carbon market development.

[54] Bills 528/2020, 412/2022, and 3,100/2022 propose that offset credit transactions be exempted from PIS, COFINS, and CSLL. No state or municipal tax treatment proposals for offset credit transactions were identified

[55] There are multiple federal and state tax incentives to foster the renewable energy market (e.g., PIS and COFINS exemptions on imported parts used in wind turbines, ICMS exemptions on equipment and components used in solar energy generation, among others)

[56] PIS: Program of Social Integration; COFINS: Contribution for the Financing of Social Security; IRPJ: Corporate Income Tax; CSLL: Social Contribution on Net Corporate Profits

[57] In general, PIS and COFINS are calculated based on an organization's total revenue, while IRPJ and CSLL are based on the organization's actual or presumed profit

[58] For example, REDD+ projects in Brazil can become economically unviable if the average annual offset credit emission falls from 3 to 2 credits per hectare

Considering that the taxation on the voluntary carbon market would still allow the achievement of its maturity (offset credit yearly generation of 1.2–1.9 $GtCO_{2eq}$), we estimate offset credit transactions could reach a tax revenue of USD 5 billion per year from 2050 onwards (based on the scenario in which offset credits are defined as financial assets).

Box 3. Socioeconomic benefits of a developed voluntary carbon market in Brazil

It is estimated that between 550 and 880 thousand jobs per year could be created if Brazil unlocked its voluntary carbon market potential[59]. Notably, around 60% of these jobs would be located near regions where projects are developed, given the need to prepare the land, plant seedlings, and manage the growing forest areas. Communities around the Caatinga biome (e.g., Northeastern states such as Piauí, Bahia, and Paraíba) are expected to benefit the most, as projects could generate between 210 and 240 thousand new jobs annually. Communities around the Cerrado biome come in a close second place with a range of 150 to 240 thousand new jobs, followed by the Amazon and Mata Atlântica biomes.

Job creation would come in tandem with increased economic activity in these regions. It is estimated that the voluntary carbon market could have an impact of up to USD 26 billion in gross value added per year, with the most considerable benefits for communities around the Caatinga and Cerrado biomes[60]. It is worth noting that most of this potential comes from reforestation and afforestation projects, as they demand more labor and involve higher implementation costs.

Legal aspects

The applicable legal aspects to the voluntary carbon market were evaluated in two sub-dimensions: (a) potential legal definitions for offset credits and (b) implications for international trade.

(a) Potential legal definitions for offset credits

The lack of alignment between offset credit's inherent characteristics and legal definitions generates uncertainty and risks for market stakeholders, posing compliance challenges, creating market confusion, and exposing businesses to regulatory and legal risks.

Defining offset credits as commodities, intangible assets, financial assets, or securities would lead to different levels of alignment with the inherent characteristics of offset credits and the existing legal/paralegal framework in Brazil.

Offset credit characteristics conform with the definition of intangible assets[61] to the extent that credits can be registered with unique identification numbers, are not money, and lack physical substance. Furthermore, the Brazilian legal/paralegal framework supports the definition of offset credits as intangible assets. Brazil's Forestry Code defines offset credits as a "title of right over an *intangible* and tradable asset"[62].

[59] Read more at BR VCM White Paper "How carbon markets can save Brazil's forests"
[60] Vivid Economics
[61] CPC 04 defines intangible assets as identifiable, non-monetary assets without physical substance
[62] Law 12,165/12, art. 3º, XXVII.

On the other hand, credits can be understood as commodities since, despite being intangible, they are quantifiable and measurable[63]. At their core, offset credits represent the reduction or removal of one tonne of carbon dioxide equivalents from the atmosphere, demonstrating a high degree of fungibility. However, buyers currently value underlying attributes associated with the projects (e.g., social benefits, biodiversity protection) differently, giving the perception that the offset credit is not a fungible asset, but in fact, what is not necessarily fungible is the project, the tonne of carbon avoided or captured is measurable and fungible. Consequently, offset credit pricing diverges according to their additional attributes, leading to their widespread recognition as heterogeneous assets[64] (again, projects are heterogeneous, and "pure" offset credits are fungible).

Currently, according to Resolution CMN 4,966[65], for an asset to be considered a financial asset (for the purposes of accounting regulation of financial instruments), it must be cash, an equity instrument from another entity, a contractual right to receive cash/financial assets from other entities, or a contract that may be settled in the entity's own equity instrument and is a financial instrument.

Thus, for offset credits to be considered financial assets, they would need to either be included in the above list (for instance, legislators could pass a new law adjusting Resolution CMN 4,966 and have offset credits in the list of financial assets) or adapt their characteristics to comply with one of the definitions[66].

Finally, according to law 6,385/76[67], assets are considered securities in Brazil if they are (I) shares, debentures, or subscription bonuses, (II) coupons, rights, subscription receipts and split certificates relating to the securities indicated in item II, (III) certificates of deposit securities, (IV) debentures certificates, (V) shares of mutual funds investing in securities and shares of investment clubs investing in any type of assets, (VI) commercial papers, (VII), futures, options and other derivatives agreements whose underlying assets are securities, (VIII) other derivatives agreements regardless of the respective underlying assets, and (IX) when publicly offered, any other collective investment instrument or agreement that creates the right of participation on profits or remuneration, including as a result of the rendering of services, and whose profits derive from the efforts of the entrepreneur or from the efforts of third parties. Therefore, for offset credits to be considered securities, they would need to either be included in the above list (for instance, legislators could pass a new law adjusting law 6,385/76 and have offset credits in the list of securities) or adapt their characteristics to comply with one of the current definitions.

[63] There is no legal definition for commodity. FIA defines commodities as goods that are traded at global markets, can be stocked while preserving their characteristics, have little to no industrialization before being sold, and have homogeneous characteristics.
[64] Read more at "A blueprint for scaling voluntary carbon markets to meet the climate challenge", by McKinsey
[65] Resolution 4,966 of the Brazilian National Monetary Council, which contemplates the concepts and accounting criteria applicable to financial instruments, as well as for the designation and recognition of hedging relationships by financial institutions and other institutions authorized to operate by the Brazil's Central Bank
[66] It is worth noting that the alignment of offset credit characteristics with potential legal nature definitions may change due to (i) a new understanding of offset credit characteristics and/or (ii) changes to the Brazilian legal/paralegal framework.
[67] Law 6,385/76 legislates on the securities market and creates Brazil's Securities and Exchange Commission (Comissão de Valores Mobiliários or CVM)

(b) Implications for international trade

As mentioned, voluntary carbon markets are a global endeavor, in which Brazil could play a central role as potentially the world's largest supplier of NBS offset credits. Given that local demand will be only a fraction of local supply, Brazil is expected to become a significant exporter of offset credits, leading to numerous cross-border transactions. In this context, it is relevant to understand the appropriate jurisdiction and applicable laws in the case of international litigation.

Based on our assessment, we have not identified implications of the legal nature of offset credits on jurisdiction and applicable laws, as the Law of Introduction to the Norms of Brazilian Law (LINDB) and the Brazilian Civil Procedure Code does not list an asset's nature as one of the criteria to determine jurisdiction[68] or applicable law[69]. Therefore, defining credits as commodities, financial assets, securities, or intangible assets should not have significant repercussions on international trade. Tax treatment, on the other hand, could act as a deterrent for foreign investors.

Conclusion

The legal nature of offset credits is currently the subject of ongoing global debate, carrying significant implications for all stakeholders involved in voluntary carbon markets worldwide. Recognizing the relevance and uncertainty surrounding this topic, the Brazilian Initiative for the Voluntary Carbon Market has undertaken an assessment to provide additional information on selected dimensions. While this exercise is not exhaustive, we anticipate that this white paper will illuminate the subject and foster further discussions, aiding the development of a voluntary carbon market. This document should serve as an initial and preliminary source of information regarding the legal nature of offset credits and its implications. It is important to note that as the discussion progresses and regulators worldwide adopt more definitive stances, the current situation may undergo substantial changes.

[68] Assessment based on Law 13,105/2015, articles 21-23. Art. 21. Brazilian courts have jurisdiction to try cases in which: (I) the defendant, regardless of nationality, is domiciled in Brazil; (II) the obligation must be performed in Brazil; (III) the grounds are facts that occurred, or acts that were performed, in Brazil. Sole paragraph. For the purposes of item I, it is deemed that a foreign legal entity that has a branch, subsidiary or affiliate in Brazil is domiciled in the country; Art. 22. Brazilian courts also have jurisdiction to preside over and try cases: (I) for support orders, when (a) the creditor is domiciled or resident in Brazil; (b) the defendant maintains a connection with Brazil, such as the possession or ownership of property, the receipt of income or attainment of economic benefits; (II) arising from consumer transactions, when the consumer is domiciled or resident in Brazil; (III) in which the parties, expressly or tacitly subjecting themselves to Brazilian jurisdiction, refer their dispute to Brazilian jurisdiction; Art. 23. It is for Brazilian judicial authorities, to the exclusion of all others, to: (I) hear cases dealing with real property located in Brazil; (II) in matters of succession, proceed with the probate of a holographic will and the sharing of an estate located in Brazil, even if the deceased has a foreign nationality or domicile outside Brazil; (III) proceed with the sharing of property located in Brazil in cases of divorce, legal separation and dissolution of a civil union, even if the owner has a foreign nationality or domicile outside Brazil.

[69] Assessment based on Law 4,657/1942, article 9. Art. 9. To qualify and govern the obligations, the law of the country in which they are constituted shall apply. §1 If the obligation is intended to be performed in Brazil and depending on its essential form, it will be observed, admitting the peculiarities of foreign law regarding the extrinsic requirements of the act. §2 The obligation resulting from the contract is considered constituted in the place where the proposer resides.

Based on the information available, our assessment reveals that the legal nature of offset credits could have significant implications for developing the voluntary carbon market in Brazil. For instance, the market could face funding and liquidity challenges if offset credits were defined as intangible assets, given that financial institutions would face high regulatory capital requirements not only to fund offset projects but also for intermediate transactions (in the role of market makers). Besides, the accounting treatment could be less favorable for market investors, given that offset credits would not necessarily be recognized and measured at fair value, limiting market transparency and comparability between financial statements. Consequently, it could take longer for the voluntary carbon market to develop in Brazil, postponing or even limiting the positive social, economic, and environmental impacts of this market.

On the other hand, defining offset credits as commodities, financial assets, or securities could result in a higher level of liquidity, as financial institutions need to allocate less regulatory capital to carry those types of assets on their balance sheets. In the case of financial assets, there is also a more straightforward path toward their use as eligible financial collateral, which could reduce regulatory capital needs five-fold and facilitate debt funding for offset projects. In addition, commodities, financial assets, and securities would have to be measured at fair value, providing more transparent and consistent information for potential investors. As a result, the market could have a more favorable environment to grow, moving it towards the positive socioeconomic and environmental impacts described above (e.g., up to 880 thousand jobs per year, USD 26 billion in annual gross added value).

Brazilian Initiative for the Voluntary Carbon Market
Developing the Brazilian voluntary carbon market with high integrity

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