

November 2023

White Paper

NEW GUIDELINES FOR CARBON CREDITS SET TO RESHAPE THE BRAZILIAN VOLUNTARY CARBON MARKET LANDSCAPE



Brazilian
Initiative
for the Voluntary
Carbon Market



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KEY HIGHLIGHTS

The Voluntary Carbon Market (VCM) has the potential to play a significant role in facilitating global decarbonization by supporting the filling of gaps in financing for climate mitigation, enhancing corporate efforts to transition to net-zero and supporting the achievement of countries' nationally-determined contributions and sustainable development objectives.¹ However, to fulfill this role, the Voluntary Carbon Market is expected to become large, transparent, verifiable and robust – one that promotes genuine climate action of high environmental integrity.²

Various initiatives and protocols, including the Greenhouse Gas Protocol, Science Based Targets initiative (SBTi), Voluntary Carbon Markets Integrity initiative (VCMI) and Integrity Council for Voluntary Carbon Markets (IC-VCM), are working on new/ updated guidelines for the role and the accounting of carbon credits in the decarbonization targets for the net-zero journey by 2050, in line with the Paris Agreement objective of limiting the average global temperature increase to 1.5 degrees above pre-industrial levels.

The implementation and evolution of these new guidelines are expected to significantly impact the global Voluntary Carbon Market (VCM) landscape, potentially leading to a more transparent and credible market. However, their full effects on VCM and its key players are yet to be confirmed, including their impact on the Brazilian VCM landscape and its participants.

The Greenhouse Gas Protocol's guidance proposal for the land sector and removals provides guidelines for land-use emissions and removals, as well as how to account for the transfer and sales of carbon credits, avoiding the double-counting of mitigation outputs and improving accountability and reporting by corporate buyers and project developers.³

SBTi's new guidance on Beyond Value Chain Mitigation (BVCM) will be built on its previously-launched Net-zero Corporate Standard, aiming to support companies in providing best practices for designing BVCM claims, including claims related to the use and retirement of carbon credits.⁴

IC-VCM's Core Carbon Principles (CCPs) focus on ensuring the quality of carbon credit supply. In contrast, the VCMI Claims Code of Practice focuses on market integrity for buyers by providing three tiers for climate contribution (i.e., Silver, Gold and Platinum) aligned with the SBTi's guidelines.

Initiatives and standards are making efforts to align their guidances and there is a strong indication of a shift in the role of carbon credits. Instead of being primarily used as an offset mechanism for compensating companies' emissions, carbon credits will play an essential role in signaling the immediate/short-term commitment to climate action by companies, both in the financing of emissions-reduction projects outside their value chains and in the funding of projects and technologies that make it possible to generate carbon credits for emissions removal on a large scale in the future.

Beyond the potential effects that these new guidelines will have on VCM and its participants, additional mechanisms to recognize BVCM actions and VCMI climate contribution claims could promote an increase in demand for high-integrity carbon credits, as companies would have additional incentives to participate more actively in the VCM. Regarding Brazil's VCM supply potential, the recognition and valuation of co-benefits associated with Nature-Based Solutions (NBS) projects could increase the demand for this type of credit, which could spark the scaling-up of new NBS projects in the country.

¹ More information on the VCMI Claims Code of Practice.

² More information on the Taskforce on Scaling Voluntary Carbon Markets - Phase 1 - Final Report.

³ Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1.

⁴ More information on SBTi Beyond Value Chain Mitigation.

GLOSSARY

Additionality: greenhouse gas emissions reductions and/or removals are considered additional if they would not have occurred without revenue from the sale of carbon credits. To address this aspect, carbon-crediting programs have specific criteria and approaches for assessing additionality, such as investment analysis, barrier analysis, and common practice analysis.

Afforestation: is the process of establishing a forest or stand of trees in an area without a previous forest.

Agriculture soil carbon sequestration: capturing and storing carbon in soil through low-carbon agricultural practices such as reduced tillage, cover cropping, and/or crop rotation.

ARR: abbreviation for Afforestation, Reforestation, and Revegetation activities.

BECCS: abbreviation for BioEnergy with Carbon Capture and Storage, which involves the capturing and permanently storing of carbon dioxide emissions from biomass and/or biomass-based fuel burning to generate energy.

Biogenic emissions: refer to emissions of greenhouse gases from biogenic sources, such as plants and animals, or from the use of biomass fuels. These emissions are considered part of the natural carbon cycle and are not included in a company's inventory of direct emissions. However, biogenic emissions associated with land use change, such as deforestation or conversion of grasslands to croplands, are considered as part of a company's inventory of indirect emissions.

BVCM: abbreviation for Beyond Value Chain Mitigation. According to the Science Based Targets initiative, it refers to mitigation actions or investments outside a company's chain.⁵ This could include, but is not limited to, the purchase and use of carbon credits.

Carbon credit: a unit of measurement representing one metric ton of carbon dioxide equivalent that has been reduced, avoided, or removed from the atmosphere through a verified emissions mitigation project. Carbon credits can be bought and sold on voluntary carbon markets and are often used by companies to meet their voluntary climate targets.

Carbon-negative: a claim made by companies that removed more carbon dioxide and other greenhouse gases from the atmosphere than emitted. This can be achieved through emissions reductions and negative emissions technologies, such as direct air capture and storage, and/or afforestation, reforestation, and revegetation activities.

Carbon-neutral: is a type of claim made by companies when they are counterbalancing CO₂ emissions with carbon credits without necessarily having reduced emissions by an amount consistent with reaching net-zero at the global or sector level.

Carbon sink: a pool or reservoir that absorbs more carbon than it releases, thereby removing carbon dioxide from the atmosphere. Examples of carbon sinks include forests, mangroves, soils, and oceans.

CCP: abbreviation for Core Carbon Principles, a set of 10 criteria established by the Integrity Council for Voluntary Carbon Markets (IC-VCM) as a global benchmark for high-integrity carbon credits.⁶

CCS: abbreviation for Carbon Capture and Storage, which involves capturing carbon dioxide emissions from industrial processes or power generation and storing them underground or in other long-term storage facilities/pools.

CDP: formerly named the Carbon Disclosure Project, a nonprofit organization that runs one of the leading global environmental disclosure platforms companies use to disclose their environmental impact, including carbon emissions.

Corresponding adjustment: mechanism under the Paris Agreement that ensures that emissions reductions achieved through international cooperation are not double-counted by exporting and importing countries.

DACCS: abbreviation for Direct Air Carbon Capture and Storage, which represents a set of technologies able to remove CO₂ directly from the atmosphere and permanently store it.

Double-counting: counting the same emissions reductions or carbon credits more than once, leading to overestimation of climate change mitigation efforts.

EACs: abbreviation for Energy Attribute Certificates, tradable certificates representing the environmental attributes of renewable energy, such as wind or solar power.

FLAG: abbreviation for Forest Land and Agriculture, a category for key land use activities that include forests, croplands, and grazing lands.

Forestry sequestration: capturing and storing carbon in forests through sustainable forest management practices, such as reducing deforestation and promoting reforestation, including afforestation, reforestation, revegetation, improved forest management and agroforestry.

GHG: abbreviation for greenhouse gas, a gas that contributes to the greenhouse effect and, consequently, to climate change, including carbon dioxide, methane and nitrogen oxides.

GHG inventory: a comprehensive record of an organization's greenhouse gas emissions, typically broken down by source and sector.

GHG Protocol: short term for Greenhouse Gas Protocol, a widely used standard for measuring and reporting greenhouse gas emissions, developed by the World Resources Institute and the World Business Council for Sustainable Development.

GOs: abbreviation for Guarantees of Origin, tradable certificates that certify the origin of renewable energy, such as wind or solar power.

GRI: abbreviation for the Global Reporting Initiative, an international organization that provides guidelines for sustainability reporting.

Hard-to-abate: refers to sectors or activities that are difficult to decarbonize, such as heavy industry or aviation.

IC-VCM: abbreviation for the Integrity Council for Voluntary Carbon Markets, an independent governance body focused on supply-side integrity for Voluntary Carbon Markets.

⁵ More information on SBTi Beyond Value Chain Mitigation.

⁶ More information on The Core Carbon Principles from IC-VCM.

Integrity: refers to the credibility and quality of the credits themselves, as well as the processes and standards used to verify and validate them. This includes ensuring that carbon credits are real, additional, permanent, and accurately quantified and are not subject to double-counting or other forms of fraud or manipulation. It also involves establishing and adhering to rigorous standards and principles for issuing, tracking, and retiring carbon credits, as well as ensuring transparency and accountability throughout the value chain.

IPCC: abbreviation for the Intergovernmental Panel on Climate Change, an international scientific body established by the United Nations to assess the science, impacts, and policy options related to climate change.

ISSB: abbreviation for the International Sustainability Standards Board, a proposed standard-setting body for sustainability reporting.

Land-tracking: a metric used in the Land Use Sector and Removals Draft from the Greenhouse Gas Protocol to account for emissions and removals associated with land use change and forestry activities.⁷ It includes indirect land use change, carbon opportunity costs, and land occupation. The approach involves applying emissions factors based on CO₂eq and using statistical land use change estimates to calculate emissions per kgCO₂eq/kg of product.

Land-use emissions: greenhouse gas emissions associated with land use and land cover change, such as deforestation or conversion of grasslands to croplands.

LULUCF: abbreviation for Land Use, Land-Use Change, and Forestry, a category of greenhouse gas emissions and removals that includes deforestation, reforestation, afforestation, and forest management.

MRA: abbreviation for Monitoring, Reporting & Assurance. It is a framework from the Voluntary Carbon Markets Integrity initiative (VCMI) that provides essential, process-driven guidance on how companies can obtain a VCMI Claim.⁸

NBS: abbreviation for Nature-Based Solutions, which are climate change mitigation or adaptation strategies/activities that rely on natural ecosystems, such as reforestation or wetland restoration.

Net-zero: state in which anthropogenic removals balance anthropogenic greenhouse gas (GHG) emissions to the atmosphere over a specified period. According to the SBTi Net-zero Corporate Standard, corporate net-zero targets in line with keeping global warming to 1.5°C require rapid and deep emissions reductions.⁹

Paris Agreement: an international treaty signed in 2015 that aims to limit global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit warming to 1.5°C.

PCAF: abbreviation for Partnership for Carbon Accounting Financials, an international initiative that aims to develop a standardized methodology for measuring and reporting the carbon footprints of financial institutions.

RECs: abbreviation for Renewable Energy Certificates, tradable certificates that represent the environmental attributes of renewable energy, such as wind or solar power.

REDD+: abbreviation for Reducing Emissions from Deforestation and Forest Degradation, a set of forest conservation activities that aims to reduce greenhouse gas emissions from deforestation and promote sustainable forest management.

Reforestation: the process of planting trees in an area where there was previously forest cover.

Removal credit: a type of carbon credit earned by removing carbon dioxide from the atmosphere through natural or technological means.

Retirement: the process of retiring or canceling carbon credits or other carbon offsets to ensure that they are not double-counted or used by multiple parties.

SASB: abbreviation for Sustainability Accounting Standards Board, an international organization that provides guidelines for sustainability reporting.

SBTi: abbreviation for Science Based Targets initiative, an international initiative that helps companies set science-based targets for reducing greenhouse gas emissions.

Scope 1, 2, 3: categories of greenhouse gas emissions corresponding to different sources or activities. Scope 1 emissions are direct emissions from a company's operations; scope 2 emissions are indirect emissions from purchased electricity, steam, heat, or cooling; and scope 3 emissions are indirect emissions from the company's value chain, such as suppliers and/or customers.¹⁰

United Nations Global Compact: an international initiative that encourages companies to adopt sustainable and socially responsible policies and practices.

United Nations Sustainability Development Goals (UN SDGs): a set of 17 goals adopted by the United Nations in 2015 to end poverty, protect the planet, and ensure prosperity for all.

VCMI: abbreviation for Voluntary Carbon Markets Integrity initiative, a multi-stakeholder platform that works to realize the full potential of high-integrity voluntary carbon markets.

Vintage: the year the carbon project avoided/reduced or removed greenhouse gas emissions from the atmosphere, and in which the carbon credit was subsequently verified.

Voluntary Carbon Market (VCM): a market where companies, institutions, and/or individuals can voluntarily purchase and retire carbon credits to offset their carbon emissions and/or to achieve voluntary climate claims. These carbon credits are used to finance projects that reduce, avoid or remove emissions from the atmosphere.

WRI: abbreviation for the World Resources Institute, an international research organization that works on environmental and sustainability issues.

WWF: abbreviation for the Worldwide Fund for Nature, a global organization focused on conservation and sustainability efforts.

⁷ More information on the Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1.

⁸ More information on the VCMI Claims Code of Practice.

⁹ More information on the SBTi Corporate Net-Zero Standard.

¹⁰ More information on the GHG Protocol Corporate Accounting and Reporting Standard.

DISCLAIMER

The information contained herein is based on our best understanding and knowledge at the time of publication¹¹ and is subject to change without notice. Significant changes may occur as the discussion unfolds and international and/or national standards, initiatives and/or 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 rests solely and exclusively with the recipient.

This work aims 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 regarding approaches, strategies and/or legislative measures.

¹¹ Status as of early November 2023.

INTRODUCTION

The Voluntary Carbon Market (VCM) is a market where companies, institutions, and/or individuals can voluntarily purchase and retire carbon credits to offset their carbon emissions and/or to achieve voluntary climate claims. A carbon credit is a unit of measurement representing one metric ton of carbon dioxide equivalent that has been reduced, avoided, or removed from the atmosphere through a verified emissions mitigation project —these carbon credits direct private financing to climate-action projects that would not otherwise get off the ground.

The Voluntary Carbon Market has the potential to play a significant role in facilitating global decarbonization by supporting the filling of gaps in financing for climate mitigation, enhancing corporate efforts to transition to net-zero and supporting the achievement of countries' nationally-determined contributions and sustainable development objectives.¹² However, to fulfill this role, the Voluntary Carbon Market is expected to face various challenges in order to become large, transparent, verifiable and robust – one that promotes genuine climate action of high environmental integrity.¹³

One of these challenges lies in the need to strengthen the positive impact and minimum integrity criteria of voluntary carbon credits, thus ensuring their legitimacy as part of climate change mitigation strategies. The absence of clear and consistent guidelines for accounting and reporting these credits in greenhouse gas (GHG) emissions inventories also represents a challenge, making it difficult to assess and determine their climate benefits.

In this context, various initiatives and protocols have been working on new guidelines for the

role of carbon credits in the global effort to become net-zero by 2050, in line with the Paris Agreement's objective of limiting the average global temperature increase to 1.5 degrees above pre-industrial levels over the long term.¹⁴ These guidelines are focused on:

- Developing clear and consistent standards for the accounting and reporting of carbon credits and emissions
- Ensuring that carbon credits are high-integrity and deliver accurate and additional climate benefits
- Providing guidance on how companies can set their climate targets, use carbon credits and make credible claims

The implementation and evolution of these new guidelines are expected to impact the global VCM landscape significantly. While they will likely lead to a more transparent and credible market, their full effects on VCM and its key players have yet to be confirmed.

The effects of these new guidelines on the Brazilian VCM landscape, its participants and its potential are also being determined. Brazil has a unique opportunity to become a significant provider of voluntary carbon credits worldwide, accounting for 15% of the total global supply potential for credits from nature-based solutions (up to 1.9 GtCO₂eq per year),¹⁵ in addition to the potential for generating technology-based credits. Beyond climate benefits, nature-based credits promote environmental (e.g., strengthening biodiversity) and socioeconomic benefits.

As such, this white paper aims to assess how these new guidelines for carbon credits could impact the

¹² More information on the VCM Claims Code of Practice.

¹³ More information on the Taskforce on Scaling Voluntary Carbon Markets - Phase 1 - Final Report.

¹⁴ More information on the Science-Based Targets initiative (SBTi) article "Lead the way to a low-carbon future".

¹⁵ Brazilian Initiative for the Voluntary Carbon Market analysis, drawing on inputs provided by the IBGE, Mapbiomas, Network for Greening the Financial System and The Nature Conservancy, considering a carbon credit price of USD 35 per ton of CO₂eq, which is in line with conservative estimates for 2030 and beyond.

Brazilian VCM landscape and its key participants. In addition, the present work also intends to explore how alternative approaches/measures could increase the demand for high-integrity carbon credits towards a global net-zero emissions pathway by 2050.

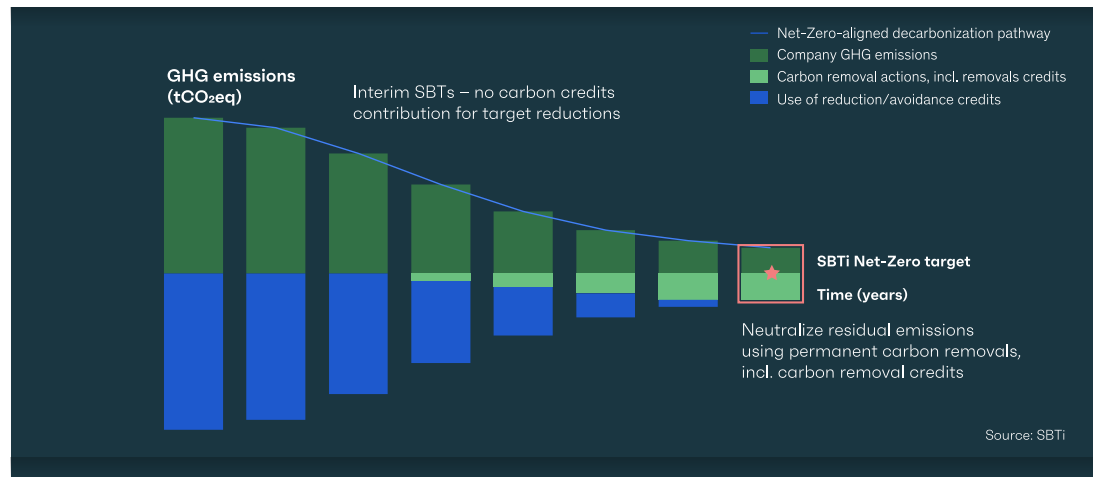
Overview of key initiatives and protocols addressing the role of carbon credits and measurement of GHG emissions

Companies have used carbon credits in different ways to pursue a set of voluntary claims, such as carbon-neutral, zero-carbon, carbon-negative and net-zero. However, there has been increasing concern over potentially misleading environmental/climate claims,¹⁶ partially due to the need for more clarity about what these claims mean.¹⁷

The Corporate Net-Zero Standard¹⁸ from the Science Based Targets initiative (SBTi) has proposed a set of best practices for corporate net-zero claims. This standard recommends that companies should set near-term emissions reduction targets, as well as long-term reduction targets.

EXHIBIT 1

Graphical representation of SBTi net-zero pathway



For most companies, this represents cutting at least 90% of emissions by no later than 2050, specified by sector.¹⁹ Despite SBTi's good coverage, it is still only available to some sectors of the economy. The remaining hard-to-abate emissions (i.e., 10% or less) should be neutralized with permanent carbon removals, including the use of high-integrity GHG removal credits (see Exhibit 1).

SBTi's Corporate Net-Zero Standard states that companies' use of carbon credits to neutralize emissions is restricted since only carbon removal credits would be eligible for this purpose, limited to neutralizing hard-to-abate residual emissions.²⁰ Despite this restriction, the use of carbon credits is encouraged by the SBTi through the concept of Beyond Value Chain Mitigation – BVCM. The guidance regarding BVCM activities and claims is still under development by SBTi.²¹

Beyond SBTi, the GHG Protocol and initiatives such as the Voluntary Carbon Markets Integrity Initiative (VCMI) and the Integrity Council for Voluntary Carbon Markets (IC-VCM) are also tackling these challenges to give more transparency and increase integrity for participants in the Voluntary Carbon Markets. Exhibit 2 shows how they relate and provide guidance for the key steps of a net-zero journey.

¹⁶ More information in the Forbes article “Carbon Neutral Claims Under Investigation In Greenwashing Probe” and in the EU Parliament’s Press Release “EU to ban greenwashing and improve consumer information on product durability”.

¹⁷ More information on the VCMI Claims Code of Practice.

¹⁸ More information on the SBTi Corporate Net-Zero Standard.

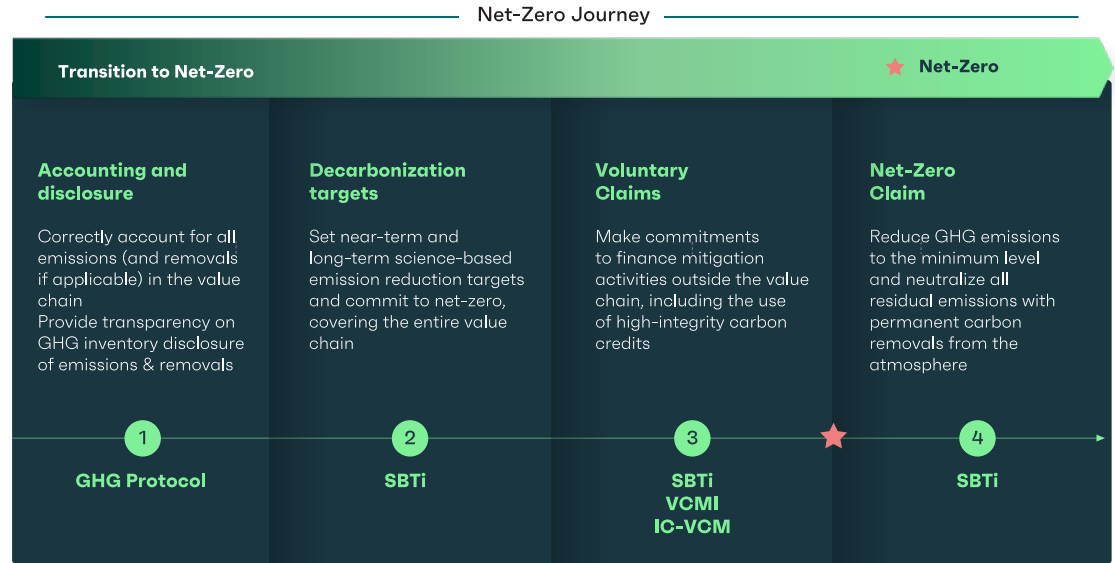
¹⁹ More information on the SBTi Corporate Net-Zero Standard.

²⁰ According to the SBTi, for most companies, such neutralization would be limited to up to 10% of base-year emissions from the net-zero plan.

²¹ Status as of October 2023.

EXHIBIT 2

GHG Protocol, SBTi, VCMi and IC-VCM guidance along a company’s Net-zero journey



These initiatives/protocols also seek to maximize convergence among their guidelines and increase consistency throughout the entire ecosystem, building up an end-to-end integrity perspective for the VCM. The following section provides a deep dive into the new guidelines for carbon credits from these initiatives/protocols.

DEEP-DIVE INTO THE NEW GUIDELINES FOR CARBON CREDITS

GHG Protocol
Land Sector and Removals Guidance

The Greenhouse Gas Protocol (GHG Protocol) establishes comprehensive global and standardized frameworks for measuring and managing greenhouse gas emissions, covering emissions from corporations’ operations, electricity consumption, processes along the value chains and mitigation actions. It was developed by the World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) over 20 years ago and has been used by

companies, governments, and other organizations worldwide that are serious about addressing climate change.

Since 2020,²² the Protocol has been working on developing new guidelines known as the Land Sector and Removals Guidance,^{23,24} for companies and other organizations that have land sector activities or removals in their value chains – e.g., agriculture, forestry, bioplastics, biofuels, emerging technological carbon-dioxide (CO₂) storage or nature-based carbon solutions. This guidance aims to support corporations in properly accounting and reporting their emissions related to LULUCF,²⁵ carbon removal, storage and biogenic products, providing key guidelines for companies regarding:

- how to account for the impacts of GHG emissions and removals resulting from land use, land use change, bioenergy, and carbon removal activities

²² More information on the GHG Protocol Land Sector and Removals Guidance - Project Overview document.

²³ Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1.

²⁴ Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 2.

²⁵ Land-Use, Land-Use Change and Forestry.

- how to set targets and monitor their performance by incorporating the above activities into their GHG targets
- how to frame GHG reporting by encompassing both emissions and carbon removals and monitoring progress toward GHG mitigation objectives

The GHG Protocol Land Sector and Removals Guidance will allow²⁶ companies to include all carbon removals occurring in their operations in their inventories. To do this, companies would account for removals within their originating scope and present them alongside their gross emissions data. In practical terms, organizations wishing to incorporate carbon removals will need to be able to measure and quantify them accurately. As an example of how these changes may affect inventories, agricultural companies will be able to account for the carbon stored in soil and biomass during the reported year and disclose it as their scope 1 removals. Furthermore, a business that integrates an agricultural company's value chain will also be able to report removals in their inventory, but as part of their scope 3 removals.

Another potential implication for companies concerns the accounting and disclosure of carbon credits in their emissions inventories. Unlike what happens with Energy Attribute Certificates (EACs),²⁷ which can be used as a mitigation verification mechanism for scope 2, the preliminary version of the guide does not establish carbon credits as an emissions mitigation mechanism within the scopes.

A key point in this differentiation is the GHG Protocol's focus on prioritizing GHG emissions, reductions, and removals from within companies' value chains.

In this sense, since EACs are certificates that attest to the renewable and low-carbon origin of the electricity used by the company (Scope 2), they can be used as a mitigation verification mechanism within the GHG Protocol framework.

Carbon credits, on the other hand, would represent mitigation outside the company's value chain and, therefore, would not be eligible as a mechanism for mitigating emissions within the scopes.

Even so, the preliminary version of the guide states that these credits can be used to achieve additional and external mitigations to a company's inventory, acting in a complementary (but not substitutive) way to the efforts and goals of reducing GHG emissions in scopes 1, 2 and 3.

In this sense, these credits would be reported separately from scope 1, 2 and 3 emissions data and discriminated according to:

- end-use (compensation targets vs. contribution/financing targets)²⁸
- type (removal vs. reduction)

Additionally, companies would be required to detail their carbon credit quality criteria, crediting program, vintage and serial numbers of credits purchased, sold and/or retired.

The upcoming reporting requirements for carbon credits are expected to increase the need for transparency and scrutiny of companies buying and selling carbon credits.²⁹ They are also expected to minimize the risks of double-counting.

The guidance will allow a pathway to account for removals within inventories, an important shift in

²⁶ Until October 2023, the GHG Protocol Land Sector and Removals Guidance document was still a draft version under final revision by a Technical Working Group and an Advisory Committee. The revised version is expected to be published by mid-2024 and might contain potential changes in scope and requirements.

²⁷ Such as Renewable Energy Certificates (RECs), International Renewable Energy Certificates (i-RECs), and Guarantees of Origin (GOs).

²⁸ Compensation targets are those used for achieving mitigations external to the target boundary through purchasing and retiring credits (also called offsets or carbon credits) to compensate for annual or cumulative unabated emissions in the target boundary, if allowed under the relevant target-setting program or target-setting policy, whereas contribution/financing targets are those used for contributing to financing GHG mitigation outside the company's target boundary, through financing or purchasing and retiring carbon credits applied against contribution targets (without using carbon credits as offsets or against compensation targets).

²⁹ Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1.

the emissions-accounting processes that have been available so far. It will also significantly increase the information related to carbon credit trading and use and the creditability of net-zero claims.

The lack of guidance tailored to high-intensive land-use sectors has resulted in emissions being inconsistently considered or even excluded from inventories. The new guidance will allow companies to account for land-related emissions comprehensively, including land-use changes (e.g., deforestation), land-management emissions (e.g., tillage and fertilizer usage) and land-tracking metrics (e.g., land occupation).

Given that forest, land and agricultural industries are responsible for almost 22% of all greenhouse gases emitted into the atmosphere,³⁰ changes in accounting and disclosures are expected to significantly impact the demand and supply of carbon credits. In Brazil, the effects of these changes will be even more representative since 74% of the country's emissions come from these sectors.³¹

Successful interpretation and implementation of this guidance will be essential for setting accurate GHG reduction targets and mitigating emissions with carbon removals. Additionally, the adoption of this guidance by diverse industries will increase the consistency and transparency of their inventories.

The updated accounting requirements of the GHG Protocol will also serve as a reference for target-setting methodologies from SBTi. The implementation timeline for SBTi's Forest, Land and Agriculture (FLAG)³² Science Based Target Setting Guidance was updated to align with the publication of the GHG Protocol Land Sector and Removals Guidance.³³ In addition, the GHG Protocol's new guidelines for carbon credits might also be considered as a reference for SBTi's developing Guidance on Beyond Value Chain Mitigation (BVCM).

SBTi Beyond Value Chain Mitigation (BVCM)

The Science-Based Targets initiative – SBTi is a partnership between CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, the World Resources Institute (WRI) and the Worldwide Fund for Nature (WWF). The main goal of this initiative is to drive ambitious climate action in the private sector using a credible and science-based framework set up via the Intergovernmental Panel on Climate Change (IPCC) reports and decarbonization pathways.

SBTi aims to incentivize companies to engage in public and ambitious climate commitments by providing a framework aligned with global climate scenarios to limit the global warming to 1.5°C above pre-industrial levels over the long term. To achieve this goal, drastically reducing emissions and reaching a Net-zero stage will be necessary by mid-century.

To translate the effort needed into tangible targets, SBTi developed its Corporate Net-Zero Standard and a series of guidelines at the sectoral level, with minimum criteria and requirements to be considered and validated by the initiative. Currently, SBTi's targets are the most disseminated among the corporate sector, with more than 6,200 companies taking action to reduce GHG emissions.³⁴

SBTi's Corporate Net-Zero Standard³⁵ framework divides companies' decarbonization targets into four different steps:

- 1. Near-term science-based targets:** For the near term (5–10 years), companies should pursue progressive reductions in their value-chain emissions in line with the 1.5°C pathway.

³⁰ More information on SBTi Forest, Land and Agriculture (FLAG).

³¹ More information on Plataforma SEEG Brasil – Total Emissions.

³² SBTi FLAG (Forest, Land and Agriculture) provides the world's first standard method for companies in land-intensive sectors to set science-based targets that include land-based emission reductions and removals.

³³ More information on SBTi FLAG Project: New Implementation Timelines Announced.

³⁴ Status as of October 2023.

³⁵ More information on the SBTi Corporate Net-Zero Standard.

- 2. Long-term science-based targets:** By no later than 2050, most companies will be required to cut emissions along their value chain by at least 90%.
- 3. Neutralization:** Measures companies should take to remove carbon from the atmosphere and permanently store it, counterbalancing the impact of unabated emissions (i.e., the 10% or less remaining hard-to-abate emissions).
- 4. Beyond Value Chain Mitigation activities (BVCM):** Voluntary/complementary mitigation actions or investments outside a company's value chain. According to SBTi, additional steps/investments like these could help increase the likelihood that the global community stays within a 1.5°C carbon budget. However, they should not be considered substitutes for the rapid and profound reduction of a company's value-chain emissions.

To address this issue, in June 2023, SBTi launched a public consultation³⁶ on BVCM activities to collect the perspectives of different stakeholders in order to develop new guidance to support companies in channeling climate finance towards mitigation activities outside their value chains.

Among the key items to be addressed, the new BVCM guidance intends to clarify the difference between Neutralization and BVCM within the SBTi context to avoid misleading claims/statements from consumers and investors – especially those related to carbon credits. Exhibit 3 shows three key differences between them, as introduced by SBTi's BVCM Public Consultation Document.³⁷

Also, in relation to carbon credits, some aspects regarding BVCM definitions still need to be addressed and may impact the use of carbon credits. For example, whether the mitigation action's outcome will be quantifiable has yet to be decided. Quantifiable outcomes would focus investments on carbon credits, while expected (non-quantified) outcomes would be less bureaucratic and could expand investments in Research and Development.

While defined as a key element of SBTi's Corporate Net-Zero Standard, the BVCM is still developing guidelines regarding its definition and scope.

EXHIBIT 3

Key differences between BVCM and neutralization concepts

	Neutralization	Beyond Value Chain Mitigation
Type of carbon credit	Only GHG removals	GHG reductions & removals
Deployment	Required	Recommended
Timeframe	Mid-term, once the Net-Zero emissions reduction target has been achieved	Immediate, after the Net-Zero target has been set

Source: SBTi

³⁶ More information on SBTi Beyond Value Chain Mitigation.
³⁷ More information on the SBTi's BVCM Public Consultation Document.

Another question that has been raised concerns additionality. As BVCM activities are voluntary, SBTi has yet to decide whether quality criteria will be the same as carbon credits or less strict. Less strict additionality criteria could allow investments into sustainable agriculture practices and renewable energy projects under BVCM.







There are also discussions about double-claiming risks and permanence aspects for mitigation outcomes. Regarding the latter, a high criteria bar may represent a barrier to developing NBS carbon projects, as they are often³⁸ perceived as mitigation activities with a higher risk of reversal/ lower level of permanency.

The scale and nature of BVCM commitments are also under consultation. SBTi is considering three

different methods (see Box 1), which differ in the basis used to represent/calculate investments in BVCM. Among the other methods, the “ton-for-ton” approach focuses on quantifiable mitigation outcomes (represented mainly by carbon credits). In contrast, the two remaining methods (i.e., “money-for-ton” and “money-for-money”) are more open types of climate investments, including Research & Development and adaptation.

Even after the conclusion and publication of the BVCM guidance for corporates, which is expected to occur by the end of 2023,³⁹ SBTi intends to refrain from validating BVCM claims at this moment. While SBTi releases no further update on this topic, companies that use carbon credits as voluntary mitigation efforts may be eligible to validate their claim under VCMI’s Claims Code of Practice.

Box 1 - Methods for determining the nature and scale of a company’s BVCM commitment

Method	Base for calculation	BVCM Implications	Example
Ton-for-Ton  → 	Share of emissions (at least 100% of yearly scopes 1, 2 & 3 unabated emissions)	Deliver mitigation outcomes proportional to the yearly calculation base for emissions	Company commits to purchase and retire carbon credits equivalent to 100% of its annual emissions using only forestry-based credits
Money-for-Ton  → 	Social Cost of Carbon ^{1,2} x Unabated emissions	Channel finance into mitigation & adaptation activities corresponding to GHG emissions’ economic impact	Invest \$100 M into mitigation & adaptation activities, accounting for the impact of 5 MtCO ₂ eq emitted this year
Money-for-Money  → 	Share of revenue or profit	Channels finance into mitigation & adaptation activities aligned with the company’s economic results	Channel 2% of gross profit from the calendar year into mitigation & adaptation activities, incl. Research & Development

¹ Social Cost of Carbon is an estimate, in dollars, of the economic damages that would result from emitting one additional tCO₂eq into the atmosphere

² From credible academic sources
Source: SBTi

1. Ton-for-ton: This approach is similar to what companies currently do under carbon-neutral or similar claims. It would consist of delivering quantifiable mitigation outcomes at the same proportion (or even higher) of remaining annual emissions. Historically, it represents the most widely-used approach, based on using reduction/avoidance or removal carbon credits.

2. Money-for-ton: This approach uses the social cost of carbon as the basis. The social cost of carbon is an estimate, in dollars, of the economic damages that would result for society from emitting one additional ton of CO₂eq into the atmosphere. This method uses credible academic sources to reinforce a scientific foundation for the calculation. The equivalence refers only indirectly to unabated emissions

that, when multiplied by the social cost of carbon, result in the amount of money that should be invested in BVCM.

3. Money-for-money: This approach’s guiding principle is that companies allocate a share of revenue or profit towards financing climate mitigation beyond the value chain.

³⁸ According to The Oxford Principles for Net-zero Aligned Carbon Offsetting.

³⁹ More information on SBTi Beyond Value Chain Mitigation.

VCMI Claims Code of Practice

The Voluntary Carbon Markets Integrity Initiative (VCMI) is a multi-stakeholder platform that works to realize the full potential of high-integrity voluntary carbon markets (VCMs). It collaborates with stakeholders from civil society, the private sector, indigenous peoples, local communities, and governments to foster a shared vision for VCMs that make a meaningful contribution to climate action and support the achievement of the UN Sustainable Development Goals (SDGs).

VCMI connects, aligns with and amplifies initiatives that share this vision, supporting the development of both the supply and demand sides.

On the supply side, VCMI provides guidance to countries on how to engage in high-integrity VCMs in support of national climate targets and economic prosperity. The VCM Access Strategy Toolkit⁴⁰ is a resource that helps countries develop and implement effective VCM strategies, setting out key considerations for host countries to aid decisions on whether, why, how and when to engage with VCMs.

On the demand side, VCMI provides guidance to companies on how to make voluntary use of carbon credits as part of credible, science-aligned net-zero decarbonization pathways. Based on a four-step process (see Box 2), the VCMI Claims Code of

Practice is a rulebook that seeks to support companies in building trust and confidence in engaging with VCMs and making credible climate claims.

It is worth highlighting that VCMI Claims Code of Practice requirements were built over the GHG Protocol and SBTi guidelines and constructed to align with the Paris Agreement's long-term mitigation goals. They also enhance VCM integrity and reduce the risk of greenwashing for the demand side by providing companies with a set of labels for different credible and verified climate claims (i.e., VCMI Silver, Gold and Platinum labels).

In addition, the requirements indicate that carbon credits will likely be a complement to, not a substitute for, the decarbonization of companies' value chains. In other words, VCMI understands that carbon credits could be used towards climate contributions instead of offsetting emissions – which is in line with the GHG Protocol⁴¹ and SBTi's⁴² current perspectives on the role of carbon credits.

By providing companies with guidelines for high-integrity voluntary use of carbon credits and associated claims on the pathway to net-zero, the Claims Code of Practice intends to bring high integrity to the demand side of VCMs.

Complementary to the work developed by VCMI, the IC-VCM focuses on bringing high integrity to the supply of carbon credits.

⁴⁰ More information on the VCM Access Strategy Toolkit from VCMI.

⁴¹ Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1 states that carbon credits can be used to meet external compensation or contribution targets as a supplement to meeting scopes 1, 2 and 3 GHG emissions targets.

⁴² SBTi understands that BVCM activities are voluntary/complementary mitigation actions or investments that fall outside of a company's value chain.

Box 2 - Four-step process for the VCMI Claims Code of Practice

<p>Comply with four Foundational Criteria</p>	<p>1. Maintain & publicly disclose an annual GHG emissions inventory 2. Set near-term science-based target & commit to Net-Zero by 2050 3. Demonstrate progress towards the target & minimize cumulative emissions 4. Demonstrate alignment with Paris Agreement goals & possible climate regulations</p>
<p>Select a VCMI Claim to make</p>	<p>Platinum – purchase and retire ≥ 100% of annual remaining emissions with high-integrity credits¹ Gold – purchase and retire ≥ 60% and < 100% of annual remaining emissions with high-integrity credits¹ Silver – purchase and retire ≥ 20% and < 60% of annual remaining emissions with high-integrity credits¹</p>
<p>Meet required carbon credit use & quality thresholds</p>	<p>High-quality credits are those which meet the Integrity Council for the Voluntary Carbon Market (IC-VCM) Core Carbon Principles and qualify under its Assessment Framework</p>
<p>Obtain third-party assurance following the VCMI MRA² Framework</p>	<p>Provide information regarding the four Foundational Criteria & VCMI Claim-specific requirements, including key information on the retirement of high-quality carbon credits Obtain assurance/validation by an independent third-party assurance company</p>

¹Once the company has demonstrated progress towards its near-term reduction emission targets

²Monitoring, Reporting & Assurance

Source: VCMI (2023) Claims Code of Practice: Building integrity in voluntary carbon markets

1. Comply with four Foundational Criteria:

VCMI Foundational Criteria draw on best practice guidelines developed by leading global protocols/initiatives such as GHG Protocol and SBTi and are designed to be aligned with the Paris Agreement’s long-term mitigation goals. They serve as the backbone for a robust climate strategy and are therefore addressed first.

2. Select a VCMI Claim to make:

Once a company has met the VCMI Foundational Criteria, it would review whether it is able to meet VCMI Claim requirements, with specific consideration for expenditures relating to the purchase and retirement of high-quality carbon credits. To consider the various constraints faced by companies with different emissions profiles, three tiers of VCMI Claims were created: Silver, Gold and Platinum.

3. Meet the required carbon credit use & quality thresholds:

Irrespective of the type of claim being made, companies would seek out and use carbon credits of the highest quality to underpin their claims’ credibility and help drive integrity across the market.

To this end, VCMI establishes that:

- Carbon credits with or without the associated corresponding adjustments⁴³ can be used to underpin VCMI Claims
- Carbon credits underpinning VCMI Claims are not counted as internal emissions reductions that a company uses to meet decarbonization targets. Instead, the purchase and retirement of these carbon credits represent a contribution

to both the company’s climate goals and global mitigation

- When available, carbon credits purchased and retired under VCMI Claims shall be “CCP-Approved”.⁴⁴

4. Obtain third-party assurance based on the VCMI Monitoring, Reporting & Assurance (MRA) framework:

To substantiate a VCMI Claim, companies would be required to report information regarding their Foundational Criteria requirements, VCMI Claim-specific requirements and key information related to the carbon credits used to meet the claim. The reporting would be publicly available to stakeholders and subject to independent, third-party limited assurance.

⁴³ More information in the World Bank’s article “What You Need to Know About Article 6 of the Paris Agreement” and UNFCCC’s Decision -/CMA.3.

⁴⁴ “CCP-Approved” credits consist of carbon credits that comply with and have been validated under the Core Carbon Principles developed by the Integrity Council for Voluntary Carbon Markets.

IC-VCM Core Carbon Principles (CCPs)

The Integrity Council for the Voluntary Carbon Market (IC-VCM) is an independent governance body that sets and enforces a global threshold standard for carbon credit quality. The IC-VCM's mission is to ensure that the VCM accelerates progress towards combating climate change.

The IC-VCM's threshold standard is based on its Core Carbon Principles (CCPs), a set of 10 rigorous criteria that carbon-crediting programs would need to meet to be considered "CCP-Eligible" (see Exhibit 4). The CCPs are a global benchmark for high-integrity carbon credits and set rigid thresholds on disclosure and sustainable development, ensuring that carbon credits create a real and verifiable climate impact.

In addition to the CCPs, IC-VCM also designed a CCP Assessment Framework that sets out detailed criteria to assess whether carbon-crediting programs and categories of carbon credits meet the CCPs. Carbon-crediting programs considered CCP-eligible will be allowed to use the "CCP-Approved" label on carbon credits from approved categories.

The Integrity Council's CCPs and Assessment Framework aim to help VCM participants identify high-integrity carbon credits and establish and progressively raise a threshold for quality and integrity across the VCM that builds confidence and comparability.

In July 2023, a full version of the Category-Level Assessment Framework was published and incorporated into CCP's Assessment Framework.⁴⁵

After this publication, carbon-crediting programs can now apply to the Integrity Council for assessment against the CCPs. Applications will be assessed in accordance with the process set out in the Assessment Procedure, with the accompanying Terms and Conditions specifying how the relationship between the IC-VCM and eligible carbon-crediting programs will be managed.

The IC-VCM will consider the existing inventory of carbon credits issued by CCP-Eligible programs and assess which active categories meet the CCP requirements. Where a program elects to exclude specific methodologies from IC-VCM assessment, the IC-VCM will not assess those methodologies and will publish the exclusion on the IC-VCM website. Decisions on the approval of categories will also apply to future issuances of carbon credits that fall into categories approved by the IC-VCM, making it apparent whether they are CCP-Approved prior to issuance.

For certain NBS categories identified in the Assessment Framework, an approach has been developed to monitor and compensate for reversals, including:

- Conservation and avoided conversion, including REDD+⁴⁶ and grassland/shrublands management
- Agriculture soil carbon sequestration
- Forestry sequestration, including ARR,⁴⁷ improved forest management and agroforestry
- Wetland and marine ecosystem restoration/management, including seagrasses, saltmarshes, mangroves and peatlands

⁴⁵ More information in the "Core Carbon Principles, assessment Framework and Assessment Procedure" document.

⁴⁶ Reducing Emissions from Deforestation and forest Degradation.

⁴⁷ Afforestation, Reforestation and Revegetation.

EXHIBIT 4

The 10 Core Carbon Principles – CCPs



¹Corporate Social Responsibility
Source: IC-VCM

The IC-VCM sets out rules that require compensation for reversals, which includes a pooled buffer reserve with at least 20% of carbon credit issuances. For these categories above, a 40-year minimum commitment to monitor, report and compensate for avoidable reversals from the start date of the mitigation activity is required.

For project-based REDD+ methodologies, IC-VCM is awaiting the final publication of Verra’s new REDD+ consolidated methodology⁴⁸ to start assessing methodologies from this category to ensure an orderly and consistent assessment

process. On the other hand, IC-VCM has already defined specific requirements for Jurisdictional REDD+ programs.

These new CCP requirements regarding NBS methodologies will likely impact the development of high-integrity carbon projects in Brazil. To better evaluate the potential implications for Brazilian VCM from these requirements and those from the new GHG Protocol, SBTi and VCMi guidelines, the following chapter assesses how these new standards/guidelines could impact the Brazilian VCM landscape and its participants.

⁴⁸ More information on Verra’s Consolidated REDD Methodology.

Box 3 - Integrity and potential of Jurisdictional Programs

In the context of VCM, Jurisdictional Programs is a strategic approach to addressing climate change by focusing on mitigation activities within a specific geographical region, typically at the national or sub-national level, from different sources, including REDD+ and ARR.

One prominent example of Jurisdictional Programs in VCM is the Jurisdictional REDD+ approach (JREDD). JREDD programs incentivize countries or regions to conserve and sustainably manage their forests, generating carbon credits that can be sold in VCMs.

There is a growing momentum around JREDD development, with several standards focused on jurisdictional credits already in existence or under development (e.g., ART TREES,⁴⁹ VCS Jurisdictional & Nested Redd+ Framework – JNR⁵⁰), as well as some initiatives to provide financial support for national and sub-national governments to develop their programs (e.g.,

LEAF Coalition,⁵¹ Forest Carbon Partnership Facility – FCPF⁵²).

JREDD programs can help to address some of the challenges of the VCM, such as the lack of transparency and the risk of double-counting. By having a single national entity responsible for monitoring and verifying emissions reductions, Jurisdictional Programs can help ensure the integrity of credits by certifying that the credits are genuine and are not being counted multiple times.

The requirements of effective JREDD programs include robust monitoring, reporting, and verification procedures in order to uphold the integrity of carbon credits. In addition, assessment procedures for additionality (ensuring that reductions are additional to business-as-usual emissions) and leakage (emissions displacement to other areas) will also be key. Because of the complexity and high costs involved, JREDD programs may be challenging to implement and manage.

Within the Jurisdictional Programs context, nesting systems emerge as a key concept. A nesting system is an accounting/regulatory framework to reconcile REDD+ projects with jurisdictional boundaries, maintaining consistent registries to avoid double counting. By providing a jurisdictional integrity mechanism for private/project-based REDD+ activities, nesting systems create a flexible framework that can cater to various scales of emission reduction activities.

When well-established and operational, JREDD programs offer the potential for large-scale emissions reduction activities en bloc with the generation of high-quality carbon credits. Considering Brazil's context, in which ~300 million hectares of its territory is constituted by public-owned forests,⁵³ the mitigation potential from a well-established national JREDD program is significant and crucial to achieving Brazil's pledge to halt deforestation by 2030.⁵⁴

⁴⁹ More information on ART TREES 2.0.

⁵⁰ More information on VCS Jurisdictional and Nested REDD+ (JNR).

⁵¹ More information on the LEAF Coalition website.

⁵² More information on the FCPF website.

⁵³ More information on Cadastro Nacional de Florestas Públicas.

⁵⁴ More information on the Glasgow Leaders' Declaration on Forests and Land Use.

Assessment of the potential implications for Brazilian VCM

Implementing these new guidelines on carbon credits' accounting and role in decarbonization targets for the net-zero journey will impact the whole VCM landscape, including in Brazil, with potential implications for buyer companies, financial institutions and project developers (see Exhibit 5).

Potential implications for Corporate Buyers

a) Clearer guidance on the role of carbon credits regarding net-zero & carbon neutral claims

Recent corporate guidance initiatives are converging on the view that companies would stop using carbon credits to replace their internal climate mitigation efforts.⁵⁵ Instead, they argue for a shift towards a model where carbon credit purchases/retirements complement science-based measures to reduce emissions in a company's value chain rather than replacing them.

The Science Based Target Initiative (SBTi) has proposed specific terminology to describe the use of carbon credits. "Compensation" refers to a company's efforts to prevent, reduce or eliminate emissions outside its value chain.⁵⁶ Companies from all sectors can participate in the voluntary carbon market to compensate for their emissions as they work towards achieving net-zero emissions.

However, these efforts would not be counted as part of a company's net-zero claims. "Neutralization" refers to a company's efforts to remove carbon from the atmosphere to offset any remaining emissions that cannot be feasibly reduced within the value chain. These neutralization efforts can occur within or outside the company's value chain, aligned to its defined trajectory towards net-zero.

These new guidelines have made the role of carbon credits in companies' net-zero pathways clearer:

- For most industries, abatement activities will be prioritized as the main mechanism for reducing GHG emissions towards their targets
- Companies may still purchase carbon credits to engage in "beyond value chain mitigation" activities or "to demonstrate contributions in addition to their net-zero efforts." This may involve the purchase and retirement of carbon credits, including emissions reduction and/or removal, as an additional climate contribution measure or investment in removals beyond the required amount to achieve the status of "carbon negative." In this sense, the broad acceptance of recognition mechanisms for companies participating in the VCM, such as the VCM climate contribution claims (Silver, Gold, and Platinum), can act as levers on demand for carbon credits and, consequently, for the expansion of the VCM, both nationally and internationally
- Removal carbon credits will still play an important role in the net-zero corporate journey over the medium to long term. Companies that have already implemented decarbonization initiatives and still have residual hard-to-abate emissions can use removal carbon credits as a mechanism to neutralize these emissions. In this respect, to have a sufficient supply of removal credits to meet this demand in the medium to long term, it is essential that there be incentives for corporate buyers to finance, in the short term, the development of projects and technologies that make it possible to generate removal credits on a large scale

Potential implications for Financial Institutions

a) Assistance in identifying companies committed to decarbonization in their value chains

Companies will be encouraged to adopt robust abatement initiatives to achieve and claim net-zero targets. The new guidance provides financial institutions with directives for assessing the credibility of invested/prospective companies' climate ambitions and actions, including using

⁵⁵ More information on Land Sector and Removals Guidance, Draft for Pilot Testing and Review, Part 1; SBTi Corporate Net-Zero Standard; SBTi's BVCM Public Consultation Document; and VCM Climate Claims Code of Practice.

⁵⁶ More information on the SBTi Corporate Net-Zero Standard.

EXHIBIT 5

Overview of the potential implications of new carbon credit guidelines for Brazilian VCM key players

Voluntary Carbon Market			
	Corporate buyers (demand-side)	Financial Institutions	Developers (supply-side)
GHG Protocol	Provides guidance & requirements on how carbon credits can be accounted for in companies' GHG inventories	Provides guidance on whether to include carbon credits in metrics to assess a company's carbon footprint (portfolio emissions) Provides guiding principles for the PCAF ¹ Global GHG Standard	Provides guidance on emissions-accounting adjustments for carbon credit issuances and selling, in order to avoid double-counting of mitigation results
SBTI	Sets minimum criteria to design decarbonization targets and guidelines to structure beyond value chain mitigation (BVCM) commitments	Sets criteria to define decarbonization targets for financed emissions	Indicates thresholds to the offsetting of Net-Zero targets and to incentivize the use of carbon credits as a mechanism to promote voluntary climate actions
VCMi	Provides integrity criteria for corporate claims on purchasing & using carbon credits Developed three tiers for climate contribution (i.e., Silver, Gold & Platinum) that can be validated according to VCMi's Claims Code of Practice	Provides criteria to judge the credibility of invested/prospective companies' climate ambitions and actions, including the use of carbon credits alongside broader decarbonization efforts	Provides integrity criteria for carbon credits, including the need to comply with integrity criteria from IC-VCM's CCPs, and be assured by an independent third-party
IC-VCM	Helps build trust and increase confidence on the demand side by indicating Core Carbon Principles (CCP) to guarantee the quality & integrity of carbon credits	Contributes to increasing confidence for the entire market	Sets new threshold standards for high-integrity carbon credits Provides guidance on how to apply the CCPs and defines which types of carbon credits are eligible

¹Partnership for Carbon Accounting Financials

high-integrity carbon credits alongside broader decarbonization efforts.

As investors seek to de-risk portfolios, companies that rapidly adapt to new guidelines will likely be targeted as safer investments, more protected from governmental sanctions, reputational risk, and market disruptions.

b) Potential updates on the PCAF Global Standard

The Partnership for Carbon Accounting Financials (PCAF) has released the second version of its Global GHG Accounting and Reporting Standard for Financed Emissions.⁵⁷ This version includes new guidelines for measuring carbon removals

and a methodology for accounting emissions from sovereign debt.

Financial institutions' impact on climate change is primarily driven by their financing activities, which often generate hundreds of times more emissions than their respective operations. These financed emissions, a significant portion of their scope 3 or value-chain emissions, are a focus of PCAF's ongoing efforts to develop standards for accounting and reporting "Facilitated Emissions" – emissions associated with capital markets transactions. This commitment to continuously enhance and broaden the scope of their emissions accounting and reporting standards reflects the PCAF's commitment to addressing the full range of climate impacts from financial activities.

⁵⁷ More information in PCAF's Global GHG Accounting and Reporting Standard for Financed Emissions, 2nd edition (2022).

Although financial institutions do not directly emit many greenhouse gases, they can support the reduction of emissions from other businesses and organizations. For example, investments in renewable energy or energy efficiency can displace emissions that would have occurred otherwise. These avoided emissions represent a quantifiable positive contribution to decarbonization and reporting them showcases tangible efforts to reduce emissions.

Similarly, financial activities in the forestry and land-use sector, for instance, or investments in carbon capture and storage, can result in CO₂ being removed from the atmosphere, effectively eliminating its harmful global warming impact. These removals can also be quantified and reported by PCAF signatories, demonstrating another positive contribution to decarbonization.

Where necessary, the PCAF Global Standard will likely be updated in line with the final version of the new GHG Protocol Land Sector and Removals Guidance.⁵⁸

Finally, developing visibility/recognition mechanisms for voluntary climate contributions within the PCAF's scope would enable financial institutions to differentiate companies committed to such activities when making financing/investment decisions. Such mechanisms would have the potential to generate an extra signal of demand for projects and carbon credits, boosting the development of the VCM in the short to medium term.

Potential implications for developers

a) Adjusted inventories for GHG emissions and removals

To prevent double-counting of carbon credits used as compensation and/or climate contributions, the latest guidelines address the need to use adjusted emissions values that consider the issuing and selling of credits. Companies will need to deduct GHG reductions or removals associated with credit trading from their Net-zero target accounting and emissions inventory. This involves calculating and reporting:

- Inventory emissions and removals: Including scopes 1, 2 and 3 emissions and scopes 1 and 3 removals, independently of carbon credit purchases/sales
- Emissions and removals adjusted for sold credits: Representing scopes 1, 2 and 3 emissions values and scopes 1 and 3 removal values that are adjusted for the issuance and/or selling of carbon credits generated within the inventory boundary

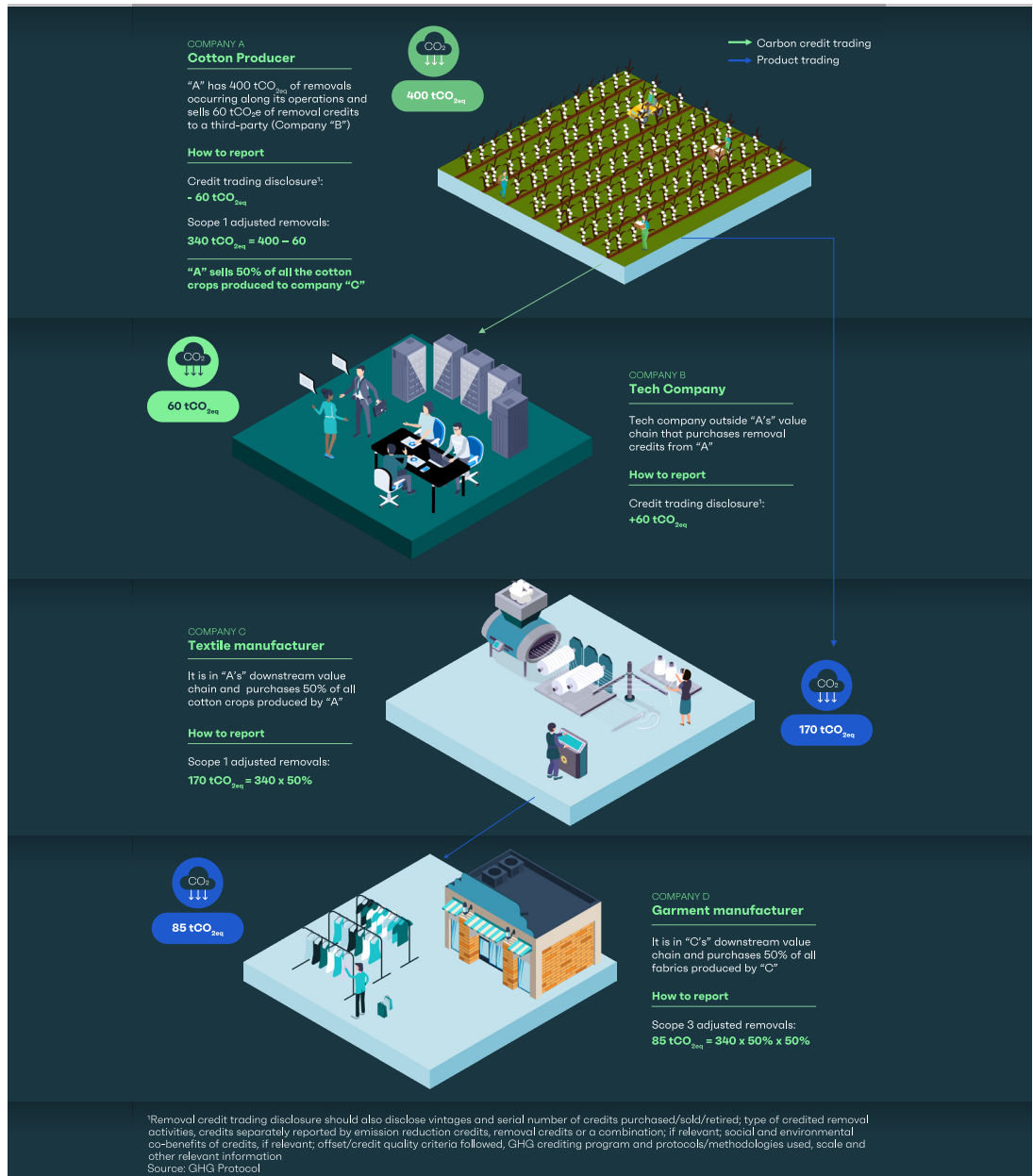
Companies will be required to adjust their emissions and removals for issued/sold credits when measuring progress towards a climate/ decarbonization target.

Reporting adjusted scope 1 emissions and removals allows other companies in the value chain to report their scope 3 emissions and removals while avoiding double-counting. Adjusted values eliminate the double-counting of emissions reductions and removals between buyers and sellers of carbon credits. Exhibit 6 provides an example of how this would work.

⁵⁸ As stated on PCAF's Global GHG Accounting and Reporting Standard for Financed Emissions, 2nd edition (2022).

EXHIBIT 6

Example of GHG inventory adjusted with carbon credit transactions



b) Increased relevance for the development of carbon sink projects and removal carbon credits

As corporate buyers progress through their decarbonization journey, they will need removal credits to neutralize residual emissions. By 2050, it is estimated that a cumulative total of 165 billion tonnes of carbon removal will be required, equivalent to about 10 billion tonnes per year.⁵⁹

This capacity will be divided between two main approaches:

- Nature-Based Solutions removal: represents nature-based activities that remove and store CO₂ from the atmosphere, transforming it into biomass and/or biomass-based products. It includes afforestation, reforestation, revegetation activities (aka ARR), and some sustainable agriculture practices, such as agroforestry

⁵⁹ More information in "Mind the Gap: How Carbon Dioxide Removal Must Complement Deep Decarbonisation to Keep 1.5°C Alive", from Energy Transitions Commission.

- Engineered Carbon Dioxide removal: represents technological solutions that remove and store CO₂ from the atmosphere. It includes biochar production, CCS (Carbon Capture and Storage), BECCS (BioEnergy with Carbon Capture and Storage) and DACCS (Direct Air Carbon Capture and Storage)







of the value chain. These are crucial steps to ensure that the generation of removal carbon credits grows to the required levels.

In this context, Brazil stands out with a potential to generate up to 2.0 GtCO₂eq per year of carbon credits, of which 75% (~1.5 GtCO₂eq)⁶⁰ are from reforestation and afforestation, and 5% (~0.1 GtCO₂eq) are from BECCS and CCS, all carbon removal activities. For Brazilian developers, beyond the opportunity to explore this untapped potential, there is a set of benefits related to implementing carbon sink projects that could be considered (see Exhibit 7).

Both methods will play a critical role in neutralizing hard-to-abate emissions. However, the number of carbon removal and sink projects is expected to increase to meet climate targets. This shows the urgent need for significant carbon removal and storage capacity scaling. New guidelines are expected to mature the market for removals, drive demand, attract investments, foster incentivizing policies, and enable the development and scaling

EXHIBIT 7

How developers can benefit from implementing carbon sink projects

New business opportunity	First-mover advantages	Reduced risk exposure	Framework alignment	Climate leadership	Project expertise
					
Diversify product portfolios by exploring adjacent carbon sink opportunities	Better opportunities for capturing a high market share, premium prices and financing	Lower exposure and losses due to regulatory and reputational risks	Removals recognized as the main tool for neutralizing residual emissions	Perform as a leading supplier for high-quality carbon sink and capturing projects	Unique knowledge and skilled teams built for removal projects

Alternatives to incentivize and scale up high-integrity VCMs

Voluntary Carbon Markets (VCMs) are rapidly expanding, driven by corporations' demand for high-quality carbon credits. In 2022, VCMs issued approximately 290 MtCO₂eq⁶¹ with a market value of around USD 2 billion.⁶² However, they are still small compared to compliance markets, which boasted a market size of USD 950 billion in

the same year.^{63,64} The new guidelines introduced and discussed in the present work aim to drive international standardization and increase demand for carbon credits.

This is because end-to-end integrity is essential to sustaining the expansion of VCMs. As VCMi and IC-VCM focus on building confidence in the VCMs as a whole, creating a solid signal of risk reduction for buyers, other incentives can increase demand for high-integrity carbon credits.

⁶⁰ Brazilian Initiative for the Voluntary Carbon Market analysis, drawing on inputs provided by the IBGE, Mapbiomas, Network for Greening the Financial System and The Nature Conservancy, considering a carbon credit price of USD 35 per ton of CO₂eq, which is in line with conservative estimates for 2030 and beyond

⁶¹ Extracted from Verified Carbon Standard, Gold Standard, American Carbon Registry and Climate Action Reserve registries.

⁶² More information in "State and Trends of Carbon Pricing 2023" from the World Bank and at "The State of the Voluntary Carbon Markets 2022 Q3" from Ecosystem Marketplace.

⁶³ More information in Trading Insights - Global carbon market value hits new record from Refinitiv.

⁶⁴ Considering a conversion rate of 1 EUR = 1.1 USD.

Corporate climate targets drive the demand side. Therefore, recognizing and rewarding mechanisms can be relevant incentives for companies to engage in VCMs. This could be done through public recognition, such as developing a certification program for companies that meet specific BVCM criteria.

Highlighting the co-benefits from nature-based solutions (NBS) projects could trigger the demand for and development of large-scale mitigation outcomes en bloc with a large generation of extra positive externalities/impacts. Considering the Brazilian context, this could represent a key incentive to unlock Brazil's supplier potential on VCMs.

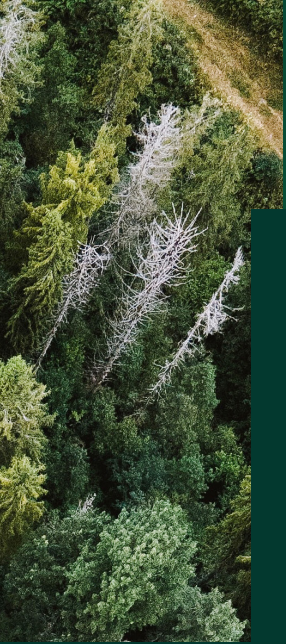
Aligning the incentives and interests of companies "truly committed" to climate action with the methodologies and guidelines related to the recognition and reporting of practical mitigation actions, including broad participation in the VCMs, will be essential to increasing the perception of credibility and value of these companies by stakeholders, such as investors and consumers. Exhibit 8 presents alternative approaches/measures that could increase the demand for high-integrity carbon credits towards a global net-zero emissions pathway by 2050.

EXHIBIT 8

Alternative approaches/measures that could increase demand for high-integrity voluntary carbon credits

Incentives	Alternatives
Recognizing & Rewarding	<ul style="list-style-type: none"> • Incorporate recognition criteria for BVCM actions taken by companies in CDP scores or other rating mechanisms, including carbon credit acquisitions and retirement • Integrate BVCM reporting requirements into sustainable frameworks such as SASB,¹ GRI² and/or ISSB³ • Implement a share of emissions that could be compensated by carbon/offset credits during a transition phase associated with a specific claim
NBS Co-benefits	<ul style="list-style-type: none"> • Highlight the importance of co-benefits from BVCM activities, especially NBS co-benefits located in developing countries. This could push investments to mitigation projects that provide positive impacts beyond mitigation, aligned with the UN SDGs⁴ (e.g., life on land, decent work & economic growth) • This could trigger demand for and the development of large-scale mitigation outcomes en bloc, with a large generation of co-benefits
Investor & consumer demand	<ul style="list-style-type: none"> • Disseminate new standards/guidelines in a simpler manner to the broader public as a way to increase consumers'/investors' education about carbon credits and climate claims • Incentivize inclusion of the set of guidelines and criteria of voluntary claims as a part of the social license to operate & to spotlight high-ambition companies

¹ Sustainability Accounting Standards Board
² Global Reporting Initiative
³ International Sustainability Standards Board
⁴ Sustainable Development Goals



CONCLUSION

Current global discussions on voluntary carbon markets are focused on building market integrity to increase demand for credits. The IC-VCM's Carbon Core Principles concentrate on guaranteeing the quality of carbon credit supply. At the same time, the VCM's Claims Code of Practice focuses on market integrity for buyers by providing three tiers for climate contribution (i.e., Silver, Gold and Platinum). VCM's Claims Code of Practice also aligns with the SBTi's guidelines, as a key criterion to get a VCM claim is a previously-approved SBTi net-zero target.

The SBTi's new guidance on Beyond Value Chain Mitigation will be built on its previously-launched Net-zero Corporate Standard. The guidance is still under development and its main objective is to support companies in providing best practices for designing beyond value chain mitigation commitments. "BVCM" refers to a broad concept in which carbon credits represent a relevant mechanism to channel finance into mitigation outside companies' value chains. The initiative regards such commitments as complementary and additional to decarbonization targets and recommends their adoption as a best practice. The size of its ambition is still under consideration and the SBTi is investigating whether it is possible to include science-based metrics. Parameters considered include the amount of unabated emissions, earnings (e.g., revenue or profit) and other factors.

Initiatives and standards are making efforts to align their guidelines. There is a strong indication of a shift in perspectives on the role of carbon credits. Instead of being primarily used as an offset mechanism for compensating companies' emissions, carbon credits will play an essential role in signaling the immediate/short-term commitment to climate action by companies, both in the financing of emissions reduction projects outside their value chains and in the funding of projects and technologies that make it

possible to generate carbon credits for emissions removal on a large scale in the future.

Under the guiding principle of increasing confidence in the market, transparency in reporting emissions and removals is a key pillar of market integrity. This is being addressed by the GHG Protocol's new standards, which provide guidance on land-use emissions and removals, as well as how to account for the transfer and sale of carbon credits. This can help avoid the double-counting of mitigation outputs and will represent an improvement in corporate buyers' and project developers' accountability and reporting.

The present work shows that potential implications for corporate buyers include greater clarity and guidance on how carbon credits and associated claims could be used in order to be recognized as credible and with high integrity. For financial institutions, the potential implications will be related to more clarity and criteria to support investment decisions in companies that are genuinely committed to climate action. For developers, there will be a tendency to originate removal credits over the long term and stricter quality and integrity criteria for carbon credit origination.

Beyond the potential effects that these new guidelines will have on VCMs and their participants, additional mechanisms to recognize BVCM actions and VCM climate contribution claims could promote an increase in demand for high-integrity carbon credits, as companies would have additional incentives to participate more actively in the VCM. Regarding Brazil's VCM supply potential, the recognition and valuation of co-benefits associated with Nature-Based Solutions (NBS) projects could increase the demand for this type of credit, which could spark the scaling up of new NBS projects in the country.

