



Brazilian
Initiative

**for the Voluntary
Carbon Market**

**Public Consultation about
proposed mechanisms to
develop the Brazilian voluntary
carbon market with high integrity**

November 2022

Objectives of the Public Consultation

- Introduce and explain in detail the **proposed actions** of the Brazilian Initiative for the VCM to **scale a high-integrity market**
- **Collect inputs** from all stakeholders on the **design of the prioritized mechanisms** prior to implementation



Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

Mechanism #1: BR VCM Council

Mechanism #2: Brazilian Voluntary Project Repository

Mechanism #3: Reference Dataset

Mechanism #4: Project Finance with Risk Mitigators

Mechanism #5: Reference Contracts

Mechanism #6: Carbon Credit Issuance Methodology Review

Public Consultation - Disclaimer

Disclaimer

This document offers general information only and is not intended to provide policy, regulatory, legal, accounting, or financial advice, but only to collect inputs and feedbacks from the general public about the mechanisms proposed by the Brazilian Initiative for the Voluntary Carbon Market.

The highest levels of transparency will be ensured: all answers will be published at the end of the public consultation period (January 17, 2023), along with the identity of each respondent.

We reserve the right to disregard any answers that are unrelated to the scope of this consultation, or that use inadequate language.

The legal framework of the carbon market in Brazil is based on several pieces of legislations:

- Federal Decree No.9073/2017 - It ratified the Paris Agreement
- Brazilian NDC
- Warsaw Framework for REDD+ UNFCCC
- Brazilian National Strategy for REDD+ Projects
- National Policy on Climate Change (Federal Law No. 12,187/2009) and Decree No.9,578/2018 that regulates the Law
- Forestry Code (Federal Law No. 12,651/2012)
- Federal Decree No. 10,144/2019 (Institutes the National Commission for the REDD+ - CONAREDD+)
- CONAREDD+ Resolutions No. 01,02 and 03 / 2020
- Programs Floresta+ and Floresta+ Carbono
- National Policy of Payments for Environmental Services (Federal Law No. 14,119/2021)
- Federal Decree No. 11,075/2022 - Creates the National System for Reduction of Emissions of GHG (SINARE) and the Sectoral Plans for Climate Change Mitigation

How to Participate in the Public Consultation

- Read through the reference material first in order to get all the details on what the Initiative is proposing for each mechanism



On specific content pages you will find a green box at the top right corner indicating how this topic will be tested in the public consultation

- To access the public consultation and give your feedback on the mechanisms, visit the [Initiative's website](#) or scan the QR code below



- ! You are not required to give feedback on all the mechanisms - feel free to manifest only on the topics that are most relevant to you
- ! The proposals in these documents will be updated/revised in response to the feedback obtained from the public consultation

Public Consultation - Instructions

Instructions

This public consultation is designed to collect inputs and feedback from the general public regarding the mechanisms proposed by the Brazilian Initiative for the Voluntary Carbon Market. These mechanisms are intended to unlock Brazilian potential for high-integrity carbon credits supply as well as provide access and knowledge to intermediaries and the demand.

The public consultation contains the proposed design of 6 mechanisms:

1. Brazilian VCM Council
2. BR Voluntary Project Repository
3. Reference Dataset
4. Project Finance with Risk Mitigators
5. Reference Contracts
6. Carbon Credit Issuance Methodology Review

We welcome feedback on all mechanisms before the Initiative moves on to its implementation. Please substantiate your answers with as much detail as possible.

Those who wish to give feedback only on specific mechanisms can do so by selecting which mechanisms they would like to give feedback on at the beginning of the survey.

Table of Contents

Disclaimer and general instructions

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Mechanism #1: BR VCM Council

Mechanism #2: Brazilian Voluntary Project Repository

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The “Brazilian Initiative for the VCM” aims to increase the Brazilian contribution to a global VCM with high-integrity credits

Initiative Mission



Unlock Brazil’s potential to support the world in achieving the net zero target



Develop a **high-integrity Voluntary Carbon Market (VCM)** as an instrument to attract **substantial financial flows** to unravel Brazil’s climate finance potential and its co-benefits (e.g., biodiversity protection, water security, socioeconomic development)



Recognize the **primary need to decarbonize value chains/operations**, leveraging carbon credits to **compensate emissions on the journey to net zero** and then neutralize hard-to-abate emissions at the point of net zero and subsequently

Guiding Principles



Seek a **dual ambition goal**: **scale** the Brazilian voluntary carbon market with **high-integrity carbon credits**



Promote a **collective agenda** that can **unlock the market** by creating a **common powerful voice** (versus individual interests)



Build a **fact-based perspective** that reflects the multiple views of participants and other entities



Develop **action-driven and tactical actions** (the diagnosis is done, it’s time for action!)

Executive summary

The BR Initiative mapped the **main journeys and pain points** throughout the VCM value chain and proposed several mechanisms to address them. Of the proposed mechanisms, six were prioritized based on their impact and implementability and were designed in detail:

- **BR VCM Council:** Umbrella organization to support the BR VCM in scaling with high integrity
- **Project repository:** National voluntary project repository with key BR-specific information to optimize diligence processes
- **Reference dataset:** Reference dataset to streamline the baseline process for project approvals
- **Financial solutions:** Project finance with risk mitigators based on VCM-specific risk taxonomy
- **Reference contracts:** Reference contracts based on Brazilian potential and specificities
- **Methodology review:** Review of key methodologies to unlock credit supply

Our Approach: We mapped the VCM value chain and identified key pain points that preclude the scaling of the market



Project Developer



Financial Institution



Buyer



Legal and Accreditation Entities

Pain points were mapped and prioritized for each type of stakeholder

The Initiative prioritized six mechanisms for blueprint design during this first wave

Parking Lot
(next implementation wave)

Prioritized Mechanisms

1. Governance Body [BR VCM Council]
2. BR Voluntary Project Repository
3. Reference Dataset
4. Project Finance with Risk Mitigators
5. Reference Contracts
6. Methodology Review
7. Implications of the legal nature of carbon credits
8. VCM Capability Building (Training, etc)
9. Scaling the use of MRV tech
10. Community Impact Framework



During the current phase, the BR Initiative prioritized mechanisms that address key pain points of the carbon market ecosystem

01

BR VCM Council



Proposed mechanism

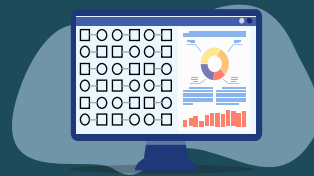
Umbrella organization to support the BR VCM in scaling with high integrity

Pain points addressed

No clear voice to independently represent BR VCM in international and local conversations

02

Project Repository



National voluntary project repository with key BR-specific information to optimize diligence processes

Lengthy due diligence for projects due to lack of relevant information

03

Reference Dataset



Reference dataset to streamline the baseline process for project approvals

Complexity and length of validation processes
Conflicting databases without references

04

Financial Solutions



Project finance with risk mitigators based on VCM-specific risk taxonomy

Insufficient funding for capex-intensive projects
Lack of VCM-specific financial products

05

Reference Contracts



Reference contracts based on Brazilian potential and specificities

Lack of liquidity, fungibility
Lack of price transparency

06

Methodology Review



Review of key methodologies to unlock credit supply

Methodologies that do not reflect the Brazilian context

Table of Contents

Disclaimer and general instructions

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Brazilian
Initiative

for the Voluntary
Carbon Market

Mechanism #1: Brazilian VCM Council

Public Consultation



Brazilian Voluntary Carbon Market Council

Executive Summary

Context

Many international agencies focused on carbon credits have been doing outstanding work in setting the ground rules for scaling the voluntary carbon market with integrity, helping both supply and demand stakeholders and facilitating important discussions while validating it with all stakeholders through public assessments

Furthermore, certifiers and validators work with a set of methodologies that are currently validated and internationally recognized

When looking at the Brazilian potential, Brazil still need to improve its representation in local and international discussions of the carbon market as well as increase the credibility of high-integrity credits generated nationally

One of the biggest challenges facing Brazilian carbon projects is the lack of methodologies that adequately represent tropical biomes and the Brazilian context

In this context, the planning of the Brazilian Voluntary Carbon Market (VCM) Council as a non-for-profit organization is intended to address these pain points and enable the VCM to scale with high integrity in Brazil. It will act as an independent body connected to international organizations. The planned structure is based on decision-making by a Board of Directors supported by market and technical inputs from consultation groups and expert panels, respectively. The representation of different stakeholders and frequent rotation of chairs are reinforced by regular elections in all groups

The Brazilian VCM Council can accelerate the establishment of a high-integrity VCM by...



Fundamentally increasing the **quality and coverage** of carbon credits in Brazil



Facilitating market **access and knowledge** for new buyers



Making the **issuance and retirement** processes for carbon credits **more robust and simpler**



Understanding the impact of **emerging Brazilian regulations** for the VCM



Providing fact-bases to enable the **active participation** of Brazil in **international discussions** involving carbon credits



Host the proposed mechanism to unlock the market (e.g., project repository, reference dataset, methodology review)

The Brazilian VCM Council aims to be the key interlocutor with global entities to help overcome local challenges



Challenges to be addressed:

- How to adapt and implement international guidelines to the Brazilian context?
- How to create methodologies that reflect Brazilian peculiarities (e.g., carbon storage roots)?
- How to facilitate access to and understanding of the market for potential project developers?
- How to increase international market clarity and accreditation for the Brazilian VCM?
- How to address demand needs beyond certification (e.g., optimize diligence processes)?
- How to move more entities to action in Brazil?
- How to establish/structure a Brazilian VCM in the light of emerging Brazilian regulations?

Brazilian VCM Council

Proposal and call for action

■ Detailed next

1 Review proposal for the Brazilian VCM Council's structure

1A Overall structure

1B Mandate

1C Composition

1D Funding

1D Implementation plan

2 Call for engagement

2A Institutional sponsorship

2B Expert Panel

2C Consultation group

2D Funding

The Brazilian VCM Council aims to be a national reference and the main interlocutor with international and local entities across the entire chain

Illustrative

Non exhaustive



1A The planning of the Brazilian VCM Council considered the following points to ensure integrity and efficiency

Mandate



- Have a **clear mandate** that cultivates **connections** with international reference bodies in the VCM landscape
- Ensure there is **no overlap of scope** with existing bodies

Representativeness



- Ensure the **representativeness** of all market agents with different points of view
- Have a channel to receive constructive criticism from the public and provide **visibility and transparency regarding methods**
- Have a **unified message** from participants (versus individual interests)

Independence



- **Ensure independence from regulatory institutions/bodies and/or other agendas**
- Ensure **speed in decision-making** and actions

Legitimacy



- Be supported by institutions with **credibility and reputation**
- Have the **required capabilities** to act as an authority in the market
- Ensure **ethics and transparency** in processes and actions, **avoiding conflicts of interest**



1B The Brazilian VCM Council's mandate is...

Foster the Brazilian high-integrity voluntary carbon market to enable Brazil and the world to achieve net zero

- 1 Focus on increasing the **quality and coverage** of carbon credits in Brazil
- 2 Promote actions to **unlock the supply** of high-integrity carbon credits in Brazil
- 3 Facilitate market **access and knowledge** for buyers
- 4 Become a **think tank** that actively contributes to **international discussions** and supports the **establishment of local regulations**



1B Each of the subtopics have specific goals and out-of-scope actions

What other topics should be prioritized by the Brazilian VCM Council?
 What other topics should be out of scope?

- 1 Focus on increasing the **quality and coverage** of carbon credits standards in Brazil
- 2 Promote actions to **unlock the supply** of high-integrity carbon credits in Brazil
- 3 Facilitate market **access and knowledge** for buyers
- 4 Become a **think tank** that actively contributes to **international discussions** and supports the **establishment of local regulations**

Action-driven goals



- | | | | |
|---|---|--|---|
| <ul style="list-style-type: none"> • Adhere to VCMI and IC high-integrity guidelines • Convene workgroups to develop and/or localize methodologies to the Brazilian context • Work with international efforts to foster quantification/qualification of co-benefits (e.g. water, biodiversity) • Focus on nature-based solutions and technology offsets | <ul style="list-style-type: none"> • Curate databases to enable common baselines necessary for project verification/certification (e.g. land usage, GHG emission factors) • Foster technologies that increase quality and streamline the certification/verification process • Foster the development of funding mechanisms to finance projects | <ul style="list-style-type: none"> • Foster the development of reference financial instruments to simplify credit purchases and retirement processes • Curate a repository of projects with information on Brazilian offsets (e.g. start dates, volume, certification/verification data) | <ul style="list-style-type: none"> • Establish a strong communication channel with the main VCM entities globally and locally (e.g. certifiers, IC, VCMI, SBTi, Chapter 6) • Increase awareness on high-integrity BR-issued carbon credits (e.g. co-benefits, trade-offs between food security and NBS) • Provide facts and information to enable regulatory discussions around VCM (e.g. balance sheets and tax implications) |
|---|---|--|---|

Out of scope



- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none"> • Will NOT create a certification standard | <ul style="list-style-type: none"> • Will NOT convene financing for projects • Registry and databases will be integrated, but not compete with those of standards | <ul style="list-style-type: none"> • Will NOT become a trading/commercial platform for carbon credits in Brazil | <ul style="list-style-type: none"> • Will NOT propose new regulation and/or public policies |
|--|---|--|--|

1C Key pillars of the Brazilian VCM Council - Composition

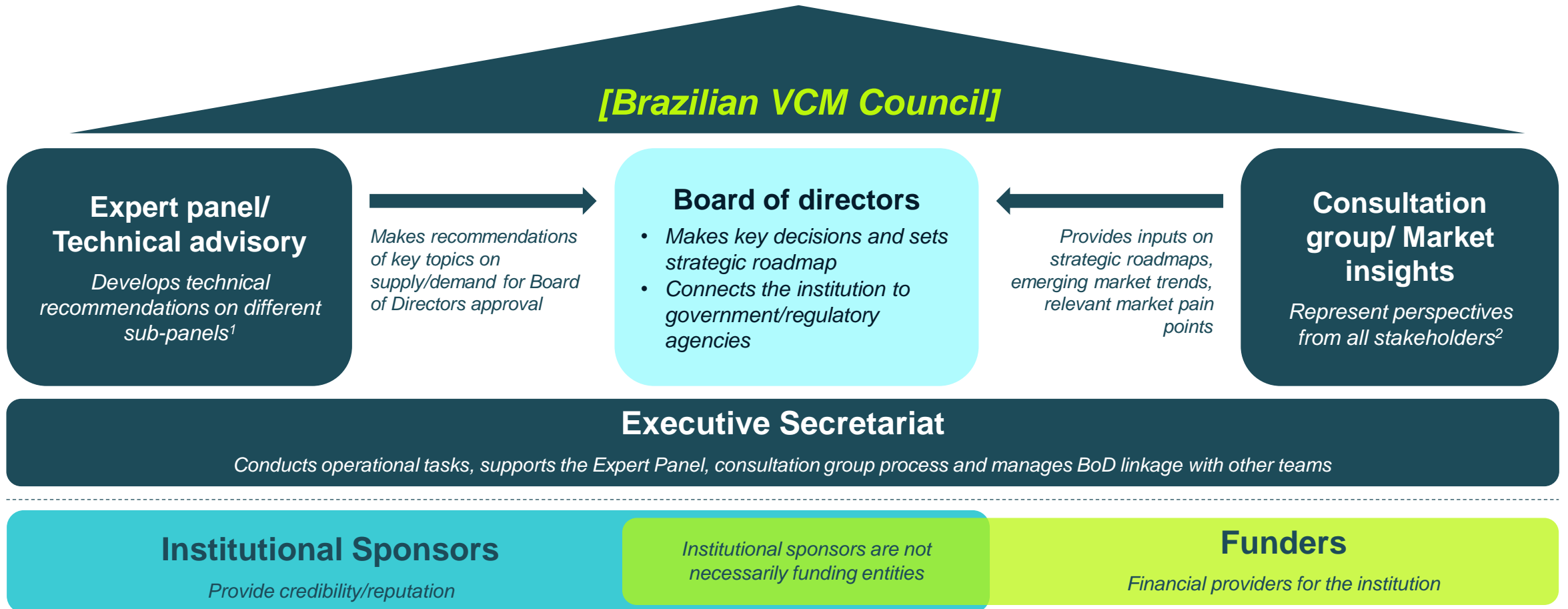
Composition includes a Board of Directors supported by expert and market inputs from other groups



Is there a specific group/expertise missing in the structure?

Organizational design (1/6)

Detailed next



1. Such as carbon baselining, project financing mechanisms, financial treatment of carbon credits.

2. Such as market participants, industry associations, NGOs, experts.

1C Key pillars of the Brazilian VCM Council - Composition

Composition includes a Board of Directors supported by expert and market inputs from other groups

Organizational design (2/6)

The Brazilian VCM Council will have 3 main groups in its structure:

1. Board of Directors (BoD): Decision maker, responsible for setting the strategic roadmap of the BR VCM and connect the institution with other VCM entities, government/regulatory agencies
2. Expert Panel: Divided into sub-panels with different expertise, develops technical recommendations for approval by the Board of Directors
3. Consultation group: Provides market inputs on strategic topics and market trends

Institutional Sponsors: group of institutions that provide public endorsements, credibility, legitimacy and authority to the Brazilian VCM Council. Their representatives are included on the Board of Directors (limited rotated seats) to provide guidance and steering. The setup of the Institutional Sponsors group, as other groups, should cover a diversity of expertise (e.g., financial and carbon markets, climate change)

Executive Secretariat: provides operational and day-to-day back-office support for the Brazilian VCM Council. Delegates from the Secretariat attend all meetings within the Brazilian VCM Council as observers. In the implementation phase, one of the Institutional sponsors can act as the Executive Secretariat. In the steady state, the Board of Directors can establish or appoint another legally independent institution to run the Executive Secretariat

Board of Directors

The Board of Directors (BoD) sets the strategic roadmap of the Brazilian VCM Council based on recommendations from the Expert Panel (technical advisory) and the Consultation Group (market insights)

The Board has 11-17 participants (uneven number). Board seats are distributed between **3 different groups** as follows:


1. 3-5 **Institutional Sponsor** representatives elected from the pool of Institutional Sponsors, 3-year terms with unlimited reelection. Institutional sponsors in this group should have no market participation or conflicts of interest, and compensation for their contribution should come directly from their home institution
 2. 3-5 representatives from **Funding Institutional Sponsors** or **Market participants** interested in being a part of the BoD. These participants are elected by the consultation group, with 1-year terms subject to a single reelection. The seats are staggered asynchronously so that discussions can continue during the election phase. Participants are not compensated by the Brazilian VCM Council
 3. 5-7 **Independent Members** acting on their personal capacity (e.g., experts, academics or former market participants¹). This group is required to be the majority of the BoD to ensure its independence; 3-year terms with unlimited reelection. Participants' self-candidatures are elected by the consultation group, although Institutional Sponsors have veto rights and can demand another voting process if they consider the candidate to be inadequate (integrity and transparency requirements). The seats are staggered asynchronously so that discussions can continue during the election phase. Independent Board Members are compensated for their work by the Brazilian VCM Council
1. A signed declaration of "no market participation" may be required by the Brazilian VCM Council
-

1C Key pillars of the Brazilian VCM Council - Composition


Board of Directors is composed by 3 different groups

Are the number of chairs, appointment methods and terms adequate? Please give detailed feedback

Organizational design (3/6)

| | Participant groups | # Seats | Appointment | Term | Remuneration |
|--|---|---|--|--|--|
| Board of Directors  | 1 Institutional sponsors' representatives without any market participation or funding from the entity | 3-5 | By invitation (prioritization by the Brazilian VCM Initiative) | 3 years Unlimited reelection | Compensation should be from the home institution (e.g. hours dedicated) |
| | 2 Funding sponsors and market participants | 3-5 | Elected by the consultation group ² | 1 year Limited reelection Asynchronous designation | No compensation from the Brazilian VCM Council |
| | 3 Independent members Experts, academics, former market participants and others acting in their personal capacity and without conflicts of interest | 5-7 (ideally, group 3 should be the majority) | Elected by the consultation group Institutional sponsors have veto rights over this group's appointment | 3 years Unlimited reelection Asynchronous designation | Compensated by the Brazilian VCM Council |

Expert panel
Indicated by the BoD¹

Consultation group 
By invitation, open consultation, membership

Executive Secretariat

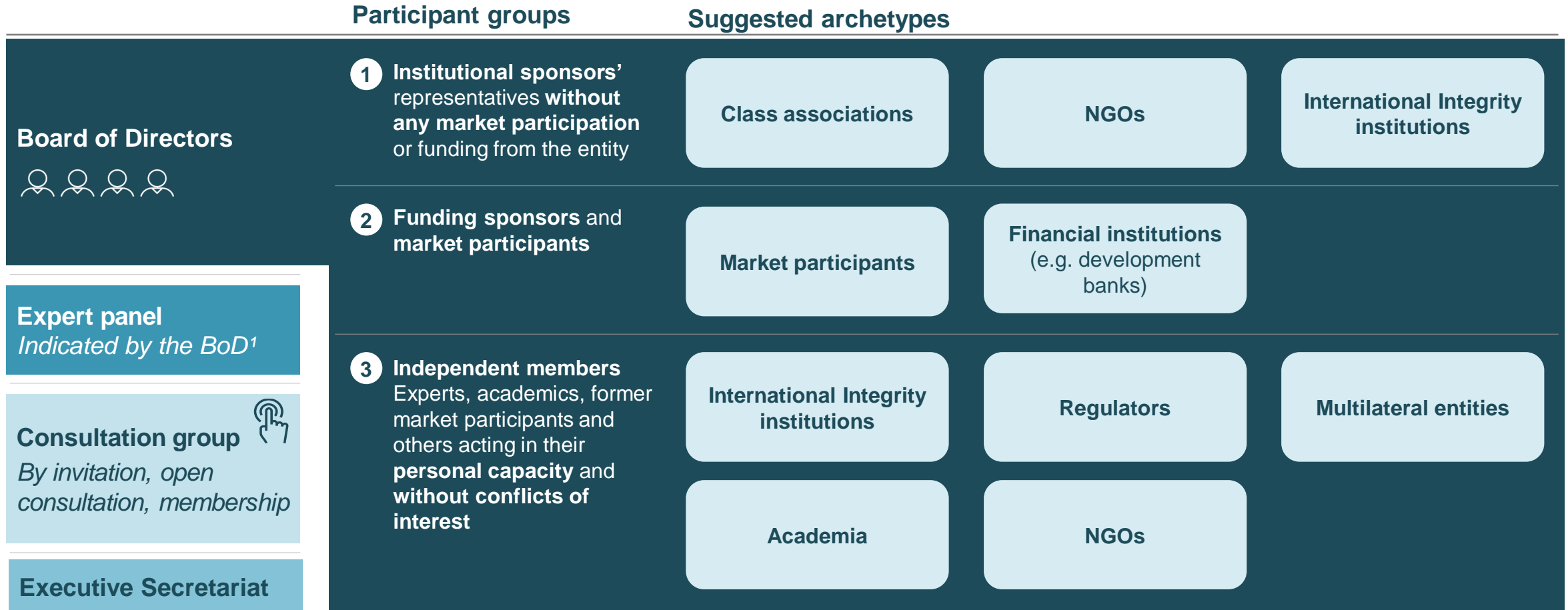
1. Board of Directors
2. Seats will be planned to cover representatives from different parts of the value chain (e.g. supply, demand, financial intermediaries)

1C Key pillars of the Brazilian VCM Council - Composition

Board of Directors considers a broad set of representation in its groups

Do you agree with the suggested archetypes for each group?
 Are there any other archetypes that should be considered? In which group?

Organizational design (4/6)



1. Board of Directors

1C Key pillars of the Brazilian VCM Council - Composition

Expert Panel and Consultation group are the groups that provide technical and market insights

Organizational design (5/6)

Expert Panel

- The Expert Panel is a group of independent experts without direct market interests (e.g., academics, experts from multilateral and international organizations, former market participants¹), which are grouped into sub-panels based on the required expertise for assessments on different subjects and workgroup efforts
- The Expert Panel is led by a Chair and Deputy and the work of each sub-panel is organized by a Coordinator. Expert Panel Members, Chair and Deputy are appointed by the Board of Directors
- Size of the expert panel is left open during this planning phase and depends on the number of topics prioritized for the first wave of the Brazilian VCM Council. The experts serve on an *ad-hoc* basis corresponding to the currently required expertise
- Expert Panel Members are compensated for their work

Executive Secretariat

- The Executive Secretariat carries out operational tasks (e.g., coordinating work, organizing meetings, managing memberships, supporting experts, operation of proposed mechanisms)
- The Executive Secretariat can be hosted by one of the Institutional sponsors during the implementation phase. After implementation, the plan is for a legally independent institution to take over and run the Executive Secretariat
- Two representatives from the Secretariat (Secretary-General and Deputy) are appointed by the Board of Directors to be part of all forums as observers
- The Executive Secretariat should be a group of 3-5 full-time employees during the implementation phase, and should be compensated for their work by the Brazilian VCM Council

Consultation group

- The Consultation group provides market inputs to the BoD
- It consists of representatives of all stakeholders of the voluntary carbon market (including market participants, NGOs, experts/academics, etc.)
- Members of the consultation group are neither compensated nor required to provide funds
- This is aimed to be a broad group. Initially, the plan is that all interested parties can be part of the Consultation groups, either in a personal capacity or representing an institution (participants can be enrolled by invitation or self-appointment). After implementation, participation may be subject to membership

1. A signed declaration of “no market participation” may be required by the Brazilian VCM Council

1C Key pillars of the Brazilian VCM Council - Composition

Representation is also important in other groups of the structure

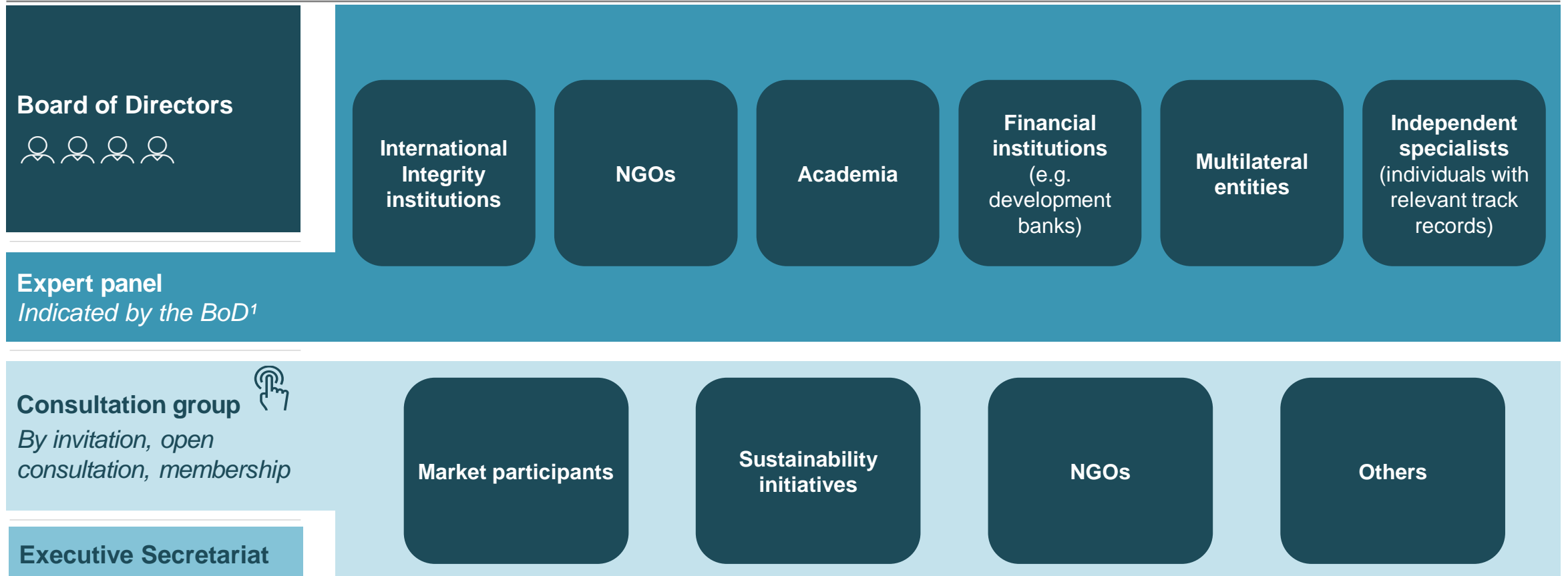


Do you agree with the suggested archetypes for each group?

Are there any other archetypes that should be considered? In which group?

Organizational design (6/6)

Examples of representativeness needed (archetypes)



1. Board of Directors

1D Key pillars of the Brazilian VCM Council - Funding

The Brazilian VCM Council will operate on a not-for-profit basis

Funding Implementation phase – two years

The first 2 years require seed funding, which will be responsibility of the Institutional Sponsors and the Initiative. Key sources of funding will be contributions from corporates and philanthropic donations.

Institutional Sponsors can contribute to the funding. In such cases, any participation on the Board of Directors needs to be considered in light of the financial participation and will be restricted to the groups (2) **Funding Institutional sponsors** and **market participants**

Donors will be recognized for their contribution but will not obtain any rights or privileges associated with their funding

Steady state

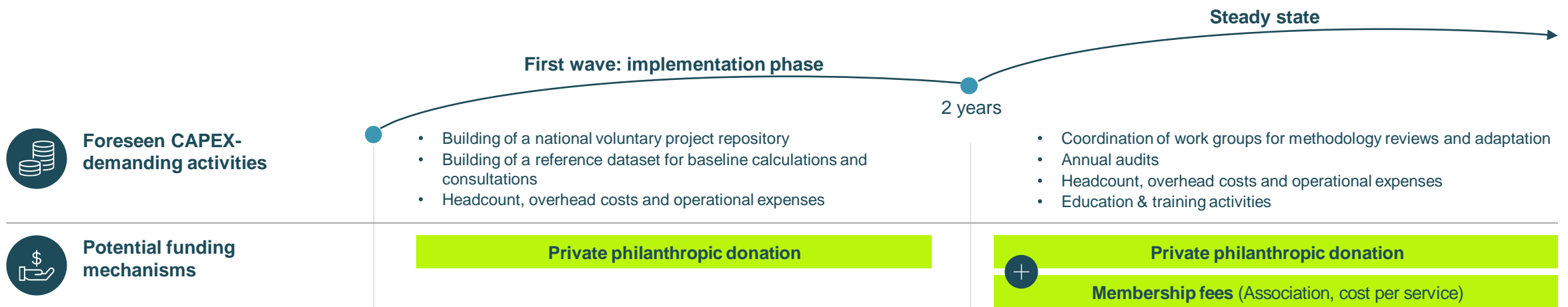
The final decision on the steady-state funding model will be taken by the Board of Directors.

Funding can consider other sources besides philanthropic donations, such as membership fees and/or a service-based user fee.

Proceeds could be limited to a cap only to support the Brazilian VCM Council’s operational costs and to reinforce its integrity and lack of commercial interests

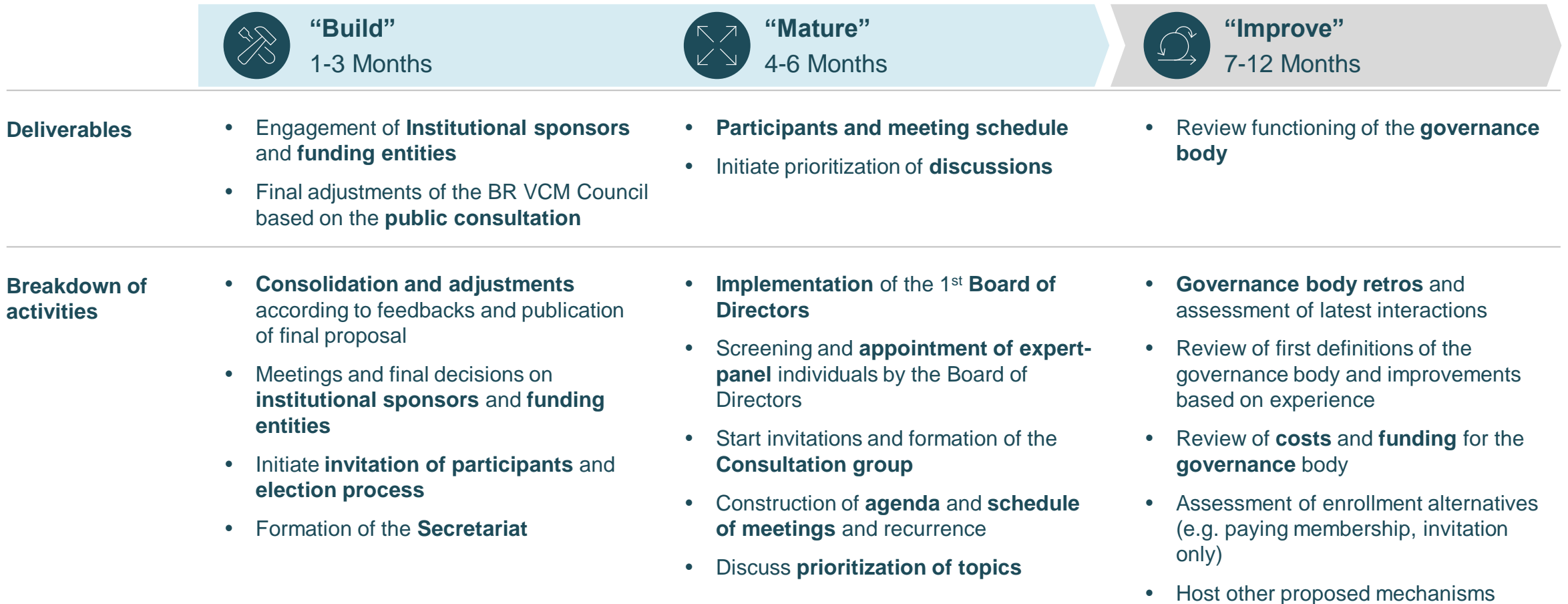
Potential additional sources for steady state could be contributions from Founding Sponsors / Executive Secretariat Host, public funding and philanthropic donations. Donors will be recognized for their contribution, but will not obtain any rights or privileges associated with their funding

Foreseen CAPEX investments required for the BR VCM Council: 2-wave implementation



1D The implementation phase of the Brazilian VCM Council is programmed over 12 months

Implementation roadmap



Brazilian VCM Council

Proposal and call for action

■ Detailed next

1 Review proposal for the Brazilian VCM Council's structure

1A Overall structure

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1D Funding

1D Implementation plan

2 Call for engagement

2A Institutional sponsorship

2B Expert panel

2C Consultation group

2D Funding

2 Call for engagement: The Brazilian VCM Council invites interested parties to express their willingness to participate

2A Institutional Sponsors

Institutional sponsorship organizations provide appropriate legitimacy for the governance body

It is planned that the institutional sponsorship groups will be a cooperation of different archetypes of sponsors, such as governmental institutions, NGOs, investors, buyers and suppliers

If done right, the formation of this group can cover the largest pool of interests and **broadest pool of knowledge and skillsets**, ensuring **buy-ins from all market participants**

2B Expert panel

Demonstrated expertise to (collectively) assess different subjects relevant to the Brazilian context, such as the tropicalization of methodologies, project financing

2C Consultation group

The Consultation group will issue invites to all interested parties to participate and provide feedback on market inputs, trends, pain points and other subjects

All market participants are invited to participate, among them NGOs, governmental institutions, academia, financial intermediaries and others

2D Funding

The plan for the 1st implementation wave (2 years) of the Brazilian VCM Council is to be supported by philanthropic donations from the public

As of now, we are open to institutions that are willing to fund the Brazilian VCM Council

Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

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Mechanism #3: Reference Dataset

Mechanism #4: Project Finance with Risk Mitigators

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Brazilian
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for the Voluntary
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Mechanism #2: National Voluntary Project Repository

Public Consultation



National Voluntary Project Repository

Proposal and call for action on the
Repository mechanism of the Brazilian
Initiative for the VCM

Review proposal for the National Voluntary Project Repository mechanism

- A Context & Executive Summary
- B Mechanism Objectives
- C Repository Structure
- D Governance
- E Implementation plan

A Executive Summary

National Voluntary Project Repository



Situation & Complication: After various iterations with demand players across different geographies, there is a common understanding that Brazilian carbon credits will be key for carbon portfolios due to their scale and relevance on the international stage. However, in order to scale the supply of BR-issued credits, there are important data-transparency hurdles that need to be overcome:

- Corporate carbon buyers are extremely conscious of reputational risks derived from carbon-credit compensations
- Currently there is no single platform in which buyers can access a comprehensive list of Brazilian projects
- There are specific aspects of the Brazilian context that are important to be checked for high-integrity standards, however international buyers do not know the rules nor have a way to verify specific documentation for projects and developers (*e.g., land ownership status*)



Potential Solution: A potential solution to address demand-related pain points – especially those related to data transparency and reputation – would be the creation of a national voluntary project repository. The proposed mechanism, owned by the BR-VCM Council, would ensure a single-purpose mission of ensuring data transparency to foster demand for high-integrity projects

- Value proposition: The National Voluntary Project Repository aims to become a reference platform for credible information on high-integrity Brazilian-issued carbon credits
- Modus Operandi: The platform will be structured around three information categories: BR-specific information; Project Information and Additional Information
- Governance: We have developed a 5-layer governance model to ensure data integrity based on benchmarks from similar platforms (*e.g., stock exchange listings of public companies*)



Planned Steps After Public Consultation:

- Develop MVP based on technical information requirements: Engage with standards registries, VVBs and developers to review the required information and launch the MVP to be tested
- Test the mechanism with potential users: Partner with 2-3 developers of the platform UX and provide feedbacks on usability for corrections
- Engage with market stakeholders working on similar topics: Learn from market stakeholders that have the technical and operational expertise in performing due diligence on high-integrity carbon projects

B Key information needed for due diligence is currently not readily available

In various interactions, demand players confirmed their interest in Brazilian carbon credits due to their scale and international relevance, however there are important data-transparency hurdles to overcome

Situation



Corporate carbon buyers are extremely conscious of reputational risks derived from carbon-credit compensations



Complication

Carbon-credit buyers might feel insecure if they cannot perform a comprehensive due diligence on the projects they are committed to buy



Currently there is no platform in which buyers can check a comprehensive list of Brazilian projects



Carbon credits buyers lack an easy and straightforward way to compare between Brazilian projects, leading to market inefficiencies



Brazil has specific information (e.g., *land ownership status*) that is difficult for foreign buyers to understand and verify in national databases



Developers spend time and resources to provide and explain such information to buyers in an inefficient way



Is there any other relevant point regarding information access that is an important hurdle in the market?

To solve these pain points, a proposed solution would be the creation of a national voluntary project repository

The proposed mechanism, owned by the BR-VCM Council, would ensure data transparency to foster demand for high-integrity projects

Features of the Proposed Solution



Centralized Information



Curated Projects



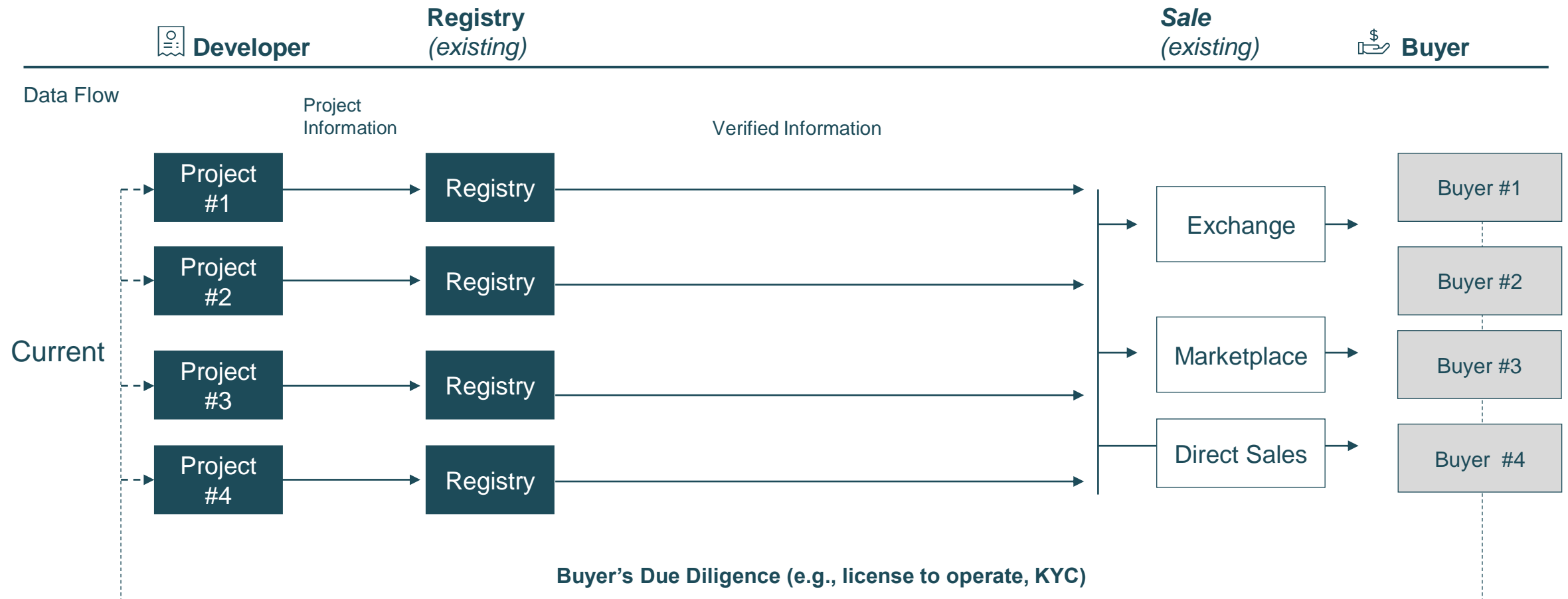
Integrity

C With the existing structure, buyers don't have easy access to key information used during due diligence processes

Illustrative diagram of the carbon credit market structure

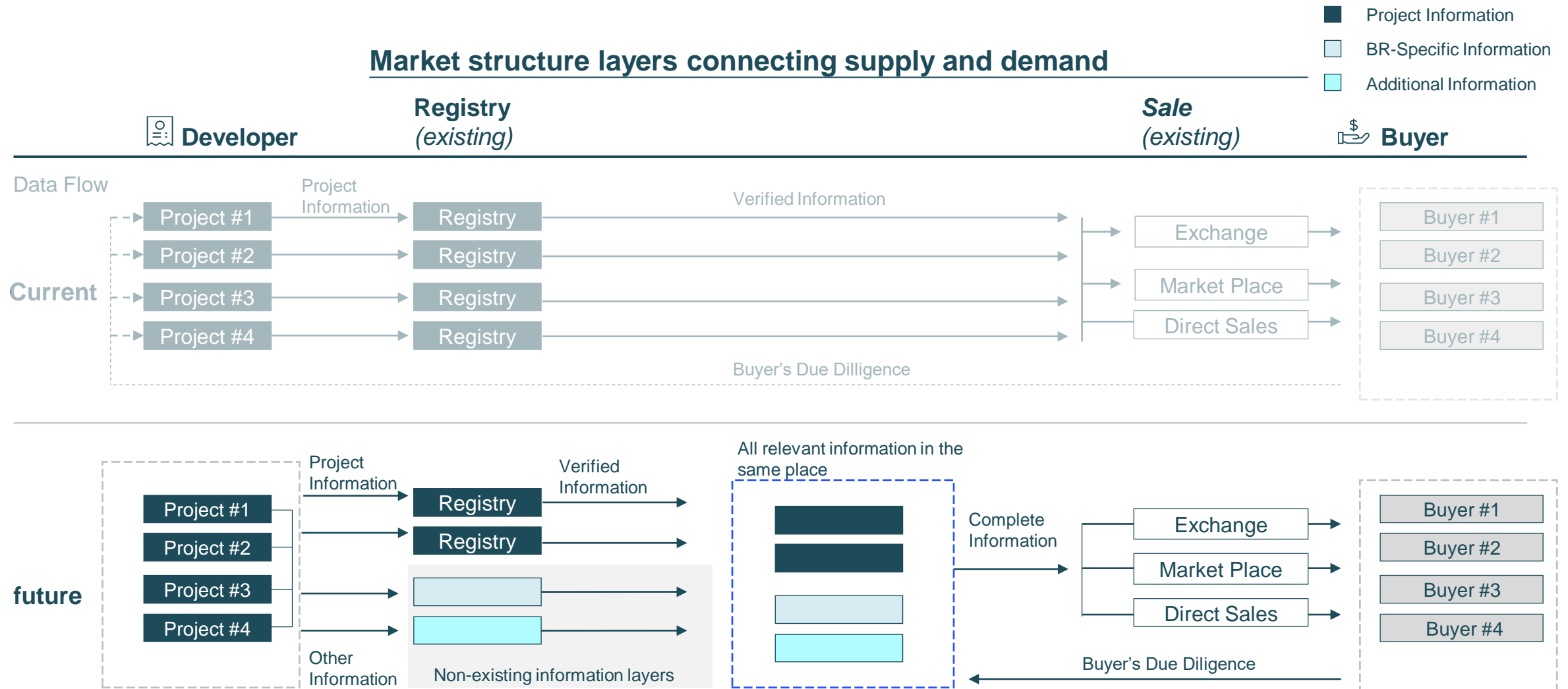
■ Project information

Market structure layers connecting supply and demand



C Creating a National Voluntary Project Repository is a potential mechanism to optimize projects' due diligence processes (1/2)

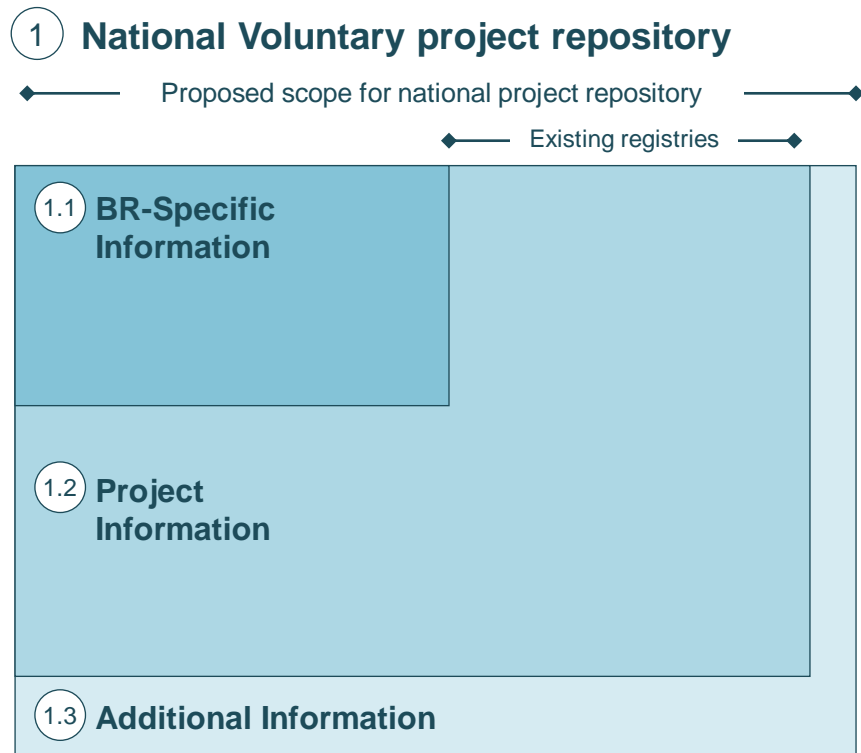
Illustrative diagram of the carbon credit market structure



C Creating a National Voluntary Project Repository is a potential mechanism to optimize projects' due diligence processes (2/2)

Do these layers of information provide enough details for the public to ensure project integrity?

Illustrative diagram Information layers from the National Voluntary repository of Brazilian projects



- 1 **National Voluntary Project Repository**
Platform that aggregates information to create a repository of reliable data on Brazilian carbon projects

| Information Layer | Description |
|---|---|
| 1.1 BR-Specific Information <i>(proposed)</i> | Information that addresses integrity issues related to the Brazilian context (e.g. legal status of developers, land ownership issues) |
| 1.2 Project Information <i>(existing)</i> | Existing project information available in multiple registries in a decentralized manner |
| 1.3 Additional Information <i>(proposed)</i> | Flexibility to include any information that project developers may want to disclose (e.g. monitoring reports, rating) |

C The National Voluntary Project Repository has clear goals

Goals of this mechanism



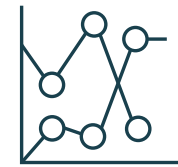
The National Voluntary Project Repository aims to become a reference platform for credible information on high-integrity Brazilian-issued carbon credits



Become a trusted information provider to the market by positioning itself as a noncommercially-driven platform to avoid double incentives



Reduce potential reputation-risk fears from carbon buyers when assessing BR-issued credits



Build a data-driven platform to raise the integrity bar for Brazilian credits

C

What must be defined to successfully build the National Voluntary Project Repository



Platform's value proposition

Discussion of the “platform’s right to win” and required features to attract users on both ends (supply and demand)



Mechanism Processes and Modus Operandi

Definition of the mechanism’s operating processes and which type of information will be required to be uploaded to ensure a minimum level of transparency and integrity



Governance

Definition of roles and responsibilities across the project information chain, setting of mandates and data-storage protocols

C

What must be defined to successfully build the National Voluntary Project Repository



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C The BR Project Repository differentiates from other platforms by adding a new integrity layer for information on Brazilian-issued credits

Value proposition

The National Voluntary Project Repository aims to become a reference platform for credible information on high-integrity Brazilian-issued carbon credits

1

Fills a market gap for information on Brazilian projects to address integrity doubts ...

2

...Facilitates demand, financial institutions and supply, as well as due diligence processes for carbon credits.

3

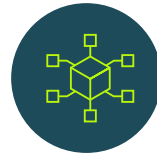
....provides transparency

Differentiation aspects



Brazilian-specific information

Information addressing integrity issues specific to the Brazilian context that have a high risk attached for buyers (e.g., land ownership issues with reputation risks)



Aggregation of fragmented information¹

All information needed in one place for complete and straightforward due diligence processes by demand players and financial institutions, which also avoids repetitive information-sharing by developers



Carbon credit comparisons and transparency

Platform curates selected high-integrity Brazilian projects that are easily comparable and provide high transparency

1. The platform aims to aggregate information from all relevant registries containing Brazilian projects

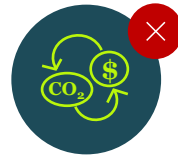
C

This BR-project repository does not aim to replace existing market mechanisms



Will not replace VVBs/Certifiers' responsibility

This mechanism aims to address the lack of data transparency in the market, not verify whether credits are within the methodology requirements



Will not function as a marketplace

The BR-project repository will not serve any carbon credit transactions or commercial purposes



Will not replace the regulated national registry

This is a voluntary project repository, not an official registry of national projects

C

What must be defined to successfully build the National Voluntary Project Repository



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Definition of the mechanism's operating processes and which type of information will be required to be uploaded to ensure a minimum level of transparency and integrity



Governance

Definition of roles and responsibilities across the project information chain, setting of mandates and data-storage protocols

C The project repository would include key BR-specific info, in addition to digested information available in the market

Is there any other BR-specific information that should be added to the repository?

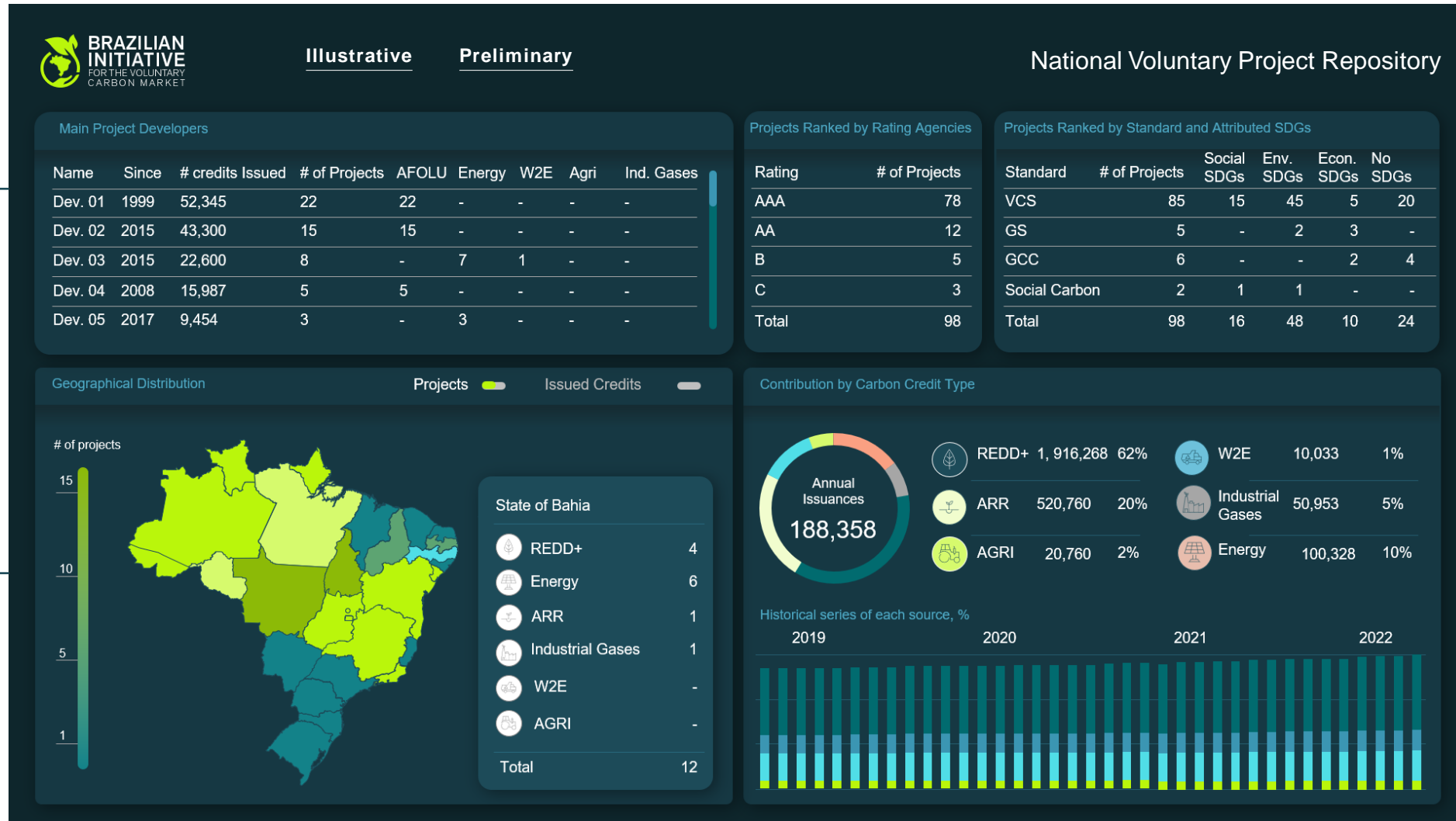
| Information Type | 1.1 BR-specific information (proposed) | 1.2 Project information ¹ (existing) | 1.3 Additional Information (proposed) |
|------------------|---|--|---|
| Description | Information that addresses integrity issues related to the Brazilian context | Existing project information available in multiple registries in a decentralized format ¹ | Flexibility to include any information that project developers may want to disclose in order to add more sophisticated layers of assurance for buyers |
| Content | <p>Land Ownership Analysis</p> <ul style="list-style-type: none"> • CCIR updated and paid • ITR updated and paid • Personal Documents: <ul style="list-style-type: none"> – RG and CPF – Proof of address • Company documents: <ul style="list-style-type: none"> – CNPJ – Contract – Proof of address – Owner’s documents (RG, CNH) – Land ownership <ul style="list-style-type: none"> » <i>Definitive title</i> » <i>Registration</i> » <i>Public deed of purchase and sale</i> • IBAMA registration number • Geolocation certified by INCRA • Property map with defined perimeter • “Clearance certificate of encumbrance” <p>Socioenvironmental Analysis</p> <ul style="list-style-type: none"> • Record of environmental violations • Record of lawsuits (<i>tax, labor, criminal</i>) • IBAMA and/or OEMA embargos • Mapping of indigenous / tribes / quilombolas areas in the region and potential conflicts | <p>Project Information</p> <ul style="list-style-type: none"> • Project ID and name • Project description • Proponent • Localization • Status • Estimated annual emissions reduction • Project type (<i>e.g., AFOLU</i>) <ul style="list-style-type: none"> – Activity type (<i>e.g., REDD</i>) – Methodology and version • Area <ul style="list-style-type: none"> – Size – Buffer % – Perimeter/map • Project VVB • Crediting period • Additional labels <ul style="list-style-type: none"> – SDGs – Label (<i>e.g., CCB</i>) • Public comments <p>Project Files</p> <ul style="list-style-type: none"> • Standard files <ul style="list-style-type: none"> – Registration documents (<i>e.g., PDD</i>) – Issuance documents – Area document (<i>.kml file</i>) • Additional label files <ul style="list-style-type: none"> – Label validation document – Label verification document | <p>Rating</p> <ul style="list-style-type: none"> • Integrity rating (<i>e.g., Sylvera</i>) <p>Transaction</p> <ul style="list-style-type: none"> • Pricing index • Offtake volume <p>Other</p> <ul style="list-style-type: none"> • Monitoring reports • Major events reports (<i>e.g., fire</i>) |

1. Potentially collected via APIs linked to online public registries (e.g., Verra)

C The National Voluntary Project Repository aims to become a reference platform for credible information on high-integrity Brazilian-issued carbon credits (1/2)

Dashboard view #01: Overview of projects

Illustrative



Key data from developers to provide insights on track records and types of projects

Information on the proportion of credits by standard, and breakdown of additional co-benefits

Geographic distribution of projects with an easy-to-use UX for localized information

Integrated view of issued carbon credits by type

Information on the proportion of credit categories, issuances over time

C The National Voluntary Project Repository aims to become a reference platform for credible information on high-integrity Brazilian-issued carbon credits (2/2)

Dashboard view #02: Project overview

Illustrative



Integrated view of key metrics (e.g., Co-benefits; Standard; Methodology; VVB)

Carbon-credit emissions curve (realized and forecast)

Status of BR-specific documentation uploaded and checked

Repository of downloadable project files

D

What must be defined to successfully build the National Voluntary Project Repository



Platform's value proposition

Discussion on the "platform's right to win" and required features to attract users on both ends (supply and demand)



Mechanism Processes and Modus Operandi

Definition of the mechanism's operating processes and which type of information will be required to be uploaded to ensure a minimum level of transparency and integrity



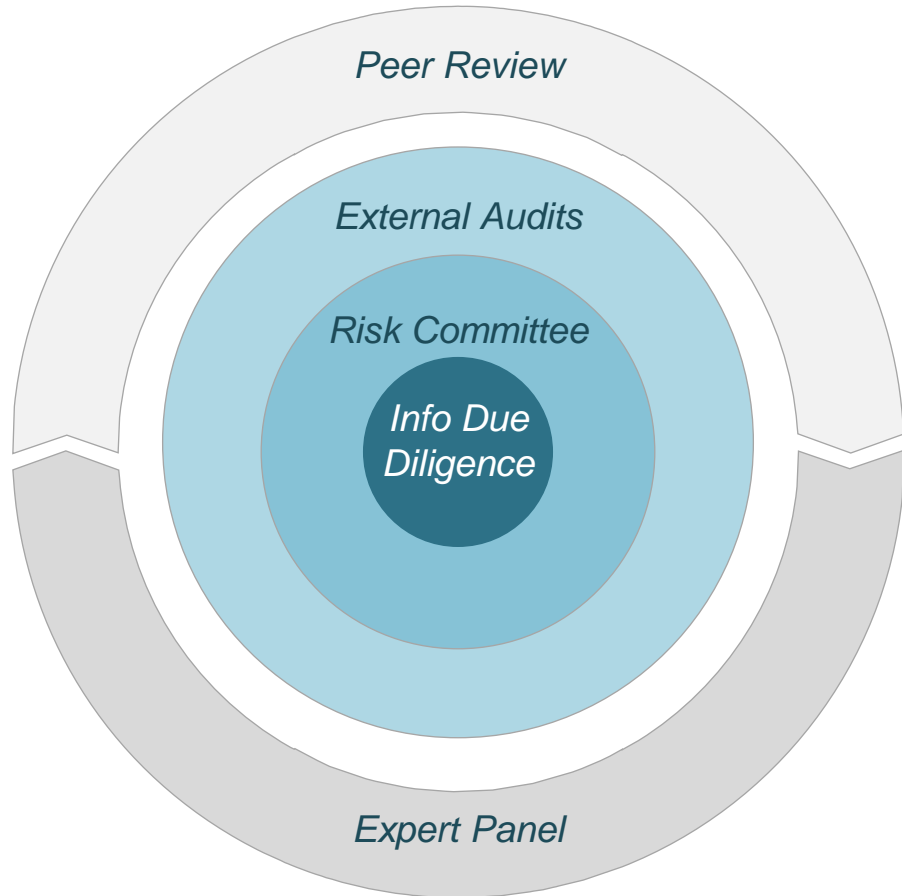
Governance

Definition of roles and responsibilities across the project information chain, setting of mandates and data-storage protocols

D In order to ensure data integrity, it is important to define a process governance for the National Voluntary Project Repository



Do you agree with the Governance divisions?
Which entities do you think should be part of each group?



Information Governance

How to ensure information integrity?



Due Diligence: 1st Layer of Integrity (project-by-project basis)

Due diligence process on the information being uploaded to the project registry



Risk Committee: 2nd Layer of Integrity (every year)

Statistical verification of the information uploaded into the registry



External Audits: 3rd Layer of Integrity (every year)

External audits on the modus operandi and process rules



Specialist Panel: (ad-hoc)

Expert discussions to suggest specific improvements in the process



Peer Review: (every 2 years)

Overview to update the process according to global integrity guidelines

Process Governance

How to improve information integrity?

E

Next steps in adapting methodologies



Develop MVP based on technical information requirements

Engage with standards registries, VVBs and developers to review the required information and launch the MVP to be tested



Test the mechanism with potential users

Partner with 2-3 developers of the platform UX and provide feedbacks on usability for corrections



Engage with market stakeholders working on similar topics

Learn from market stakeholders (e.g., Compromisso pelo Clima; selected legal advisors) that have the technical and operational expertise in performing due diligences for high-integrity carbon projects

Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

Mechanism #1: BR VCM Council

Mechanism #2: Brazilian Voluntary Project Repository

Mechanism #3: Reference Dataset

Mechanism #4: Project Finance with Risk Mitigators

Mechanism #5: Reference Contracts

Mechanism #6: Carbon Credit Issuance Methodology Review





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Carbon Market**

Mechanism #3: Reference Dataset

Public Consultation

Reference Dataset

Proposal and call for action on the Repository mechanism of the Brazilian Initiative for the VCM

Review proposal for the Reference Dataset mechanism

- A Context & Executive Summary
- B Mechanism Objectives
- C Dataset Reference
- D Governance
- E Implementation plan

A Executive Summary

Reference Dataset



Situation & Complication: Given the current lack of integration of various data categories required for project development – specifically, the verification, certification and issuance of carbon credits –, the process to prove additionality and other metrics is arduous and long. Additionally, it is onerous for both developers and VVBs, often requiring numerous interactions to reach common agreement on the data used.



Potential Solution: In order to address these issues, the BR Initiative proposes to create a reference dataset, which is a tool that combines the most-accepted and trusted dataset for each information category, a reliable database gathering all the information required for project developers and VVBs to use in the project development cycle:

- Reference Dataset tool: This tool would deliver a straight-forward and widely accepted reference for developers and VVBs to use in the process of setting project baselines, including codification of BR-specific information
- Codification of BR-specific information: Guidance material accessory to the Reference Dataset tool that would explain Brazilian specificities for external stakeholders, from certifiers and VVBs to sophisticated demand players
- Governance: We have developed a 3-layered governance model to ensure data integrity, including a peer review every ~2 years to ensure alignment with external institutions



Planned Steps After Public Consultation:

- Defining composition of the working group: Definition of working group composition with experienced players in the use of data sets from Brazil for carbon credit development (e.g., Developers, VVBs)
- Develop MVP based on technical information requirements: Engage with developers and VVBs and project developers to review the required information and launch the MVP
- Engage with market stakeholders working on similar topics: Learn from market stakeholders that have the technical and operational expertise with datasets used in the development of carbon projects

B Developing a Reference Dataset can optimize the certification and verification process, beginning with the definition of the baseline

Mechanism Overview

Mechanism Objectives

- 1 Reference Dataset + MVP:**
Creation of a reliable database that gathers the main information required for project development
- 2 Codification of BR-specific information**
Develop guidance material that explains all Brazilian specificities for external stakeholders, from certifiers and VVBs to sophisticated demand players



Reduce the time spent by all stakeholders on the process of defining project baselines



Create a **straight-forward and widely accepted dataset** for developers to use in the process of setting project baselines



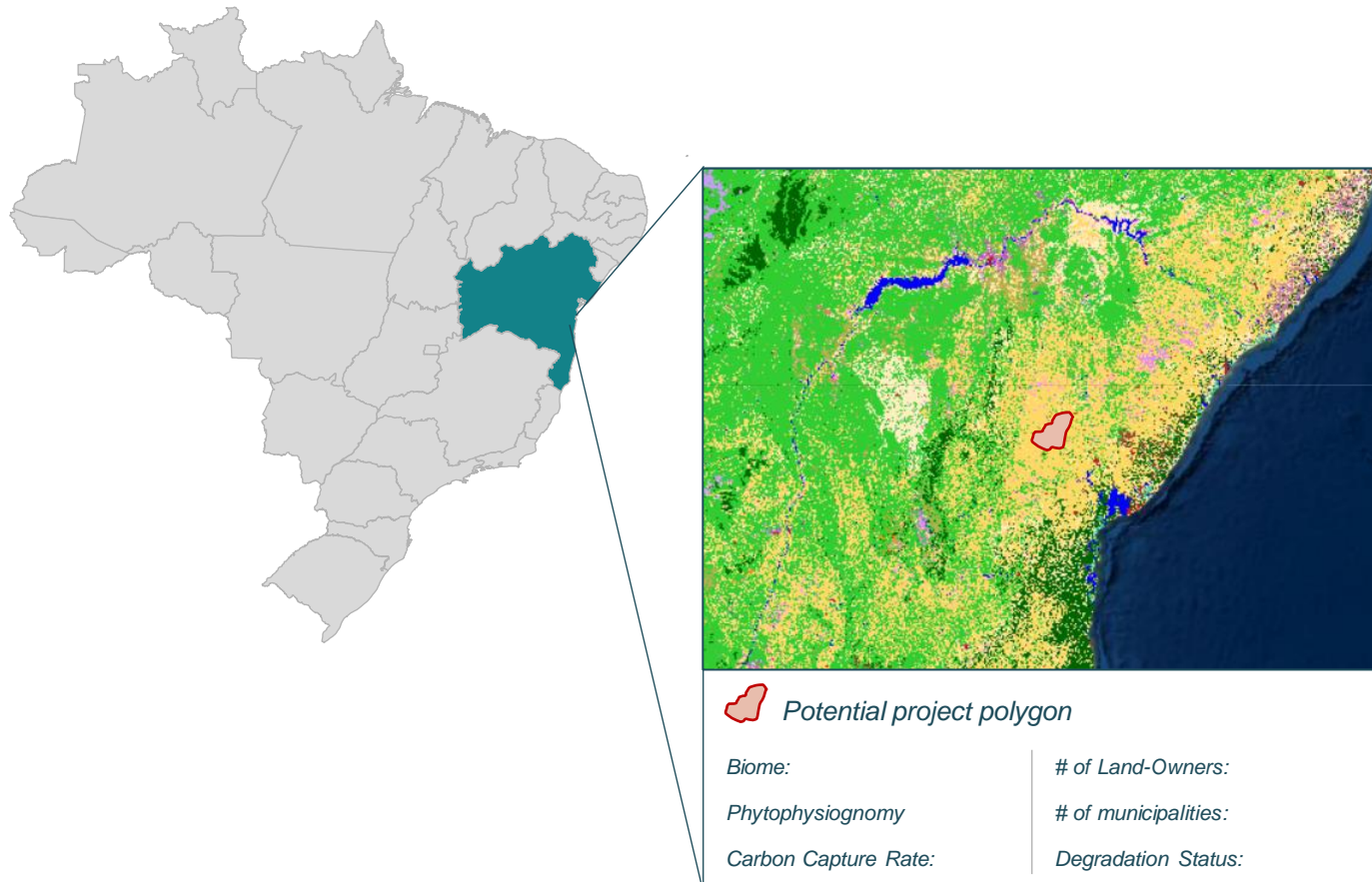
Inform market stakeholders about Brazilian specificities in terms of biomes, soil and carbon sequestration rates

C Developing a Reference Dataset can optimize the certification and verification process, starting with the baseline definition



Is there additional relevant information that should be considered?

Example of multi-layered GIS information dataset



Information Layers

- Land Images
 - Satellite images
 - Farm divisions
 - Municipality divisions
- Natural Resources
 - Biome and phytophysiognomy distribution
 - Current and historical land use
- Area classification
 - Forest coverage
 - Deforestation trends
 - Degradation status
 - Road maps
- Land ownership
- Carbon capture rates

C Several data sources can be used to reach key metrics such as land usage, satellite images, biome type and sequestration factors

| Topic | Information Category | Data necessary | Potential sources |
|--|----------------------|---------------------------|---|
| Land type and activity evolution | Land images | Satellite images | Sentinel; MODIS; LandSat |
| | | Farm divisions | INCRA (SIGEF); CAR |
| | | Municipality divisions | IBGE; IMAFLORA |
| | | Biome distribution | |
| | Natural resources | Current land usage | IBGE; MapBiomass; PRODES |
| | | Historical land usage | |
| | | Human intervention | |
| | Deforestation | Natural disasters | TerraBrasilis/INPE |
| | | Forest coverage | INDE; Serviço Florestal; BDQueimadas/INPE; CEM; MMA; State and Municipal databases ¹ |
| | Area classification | Road maps | Open Street map |
| Commodities consumption centers (e.g., location of wood mills, grain silos and slaughterhouse) | | TBD | |
| Carbon capture and storage rates | Capture and storage | Above-ground capture rate | 4ª Comunicação Nacional |
| | | Underground storage | |

1. State and Municipal levels of legal/illegal deforestation (currently decentralized in public agencies)



Is this the right preliminary selection of datasets for Brazil?



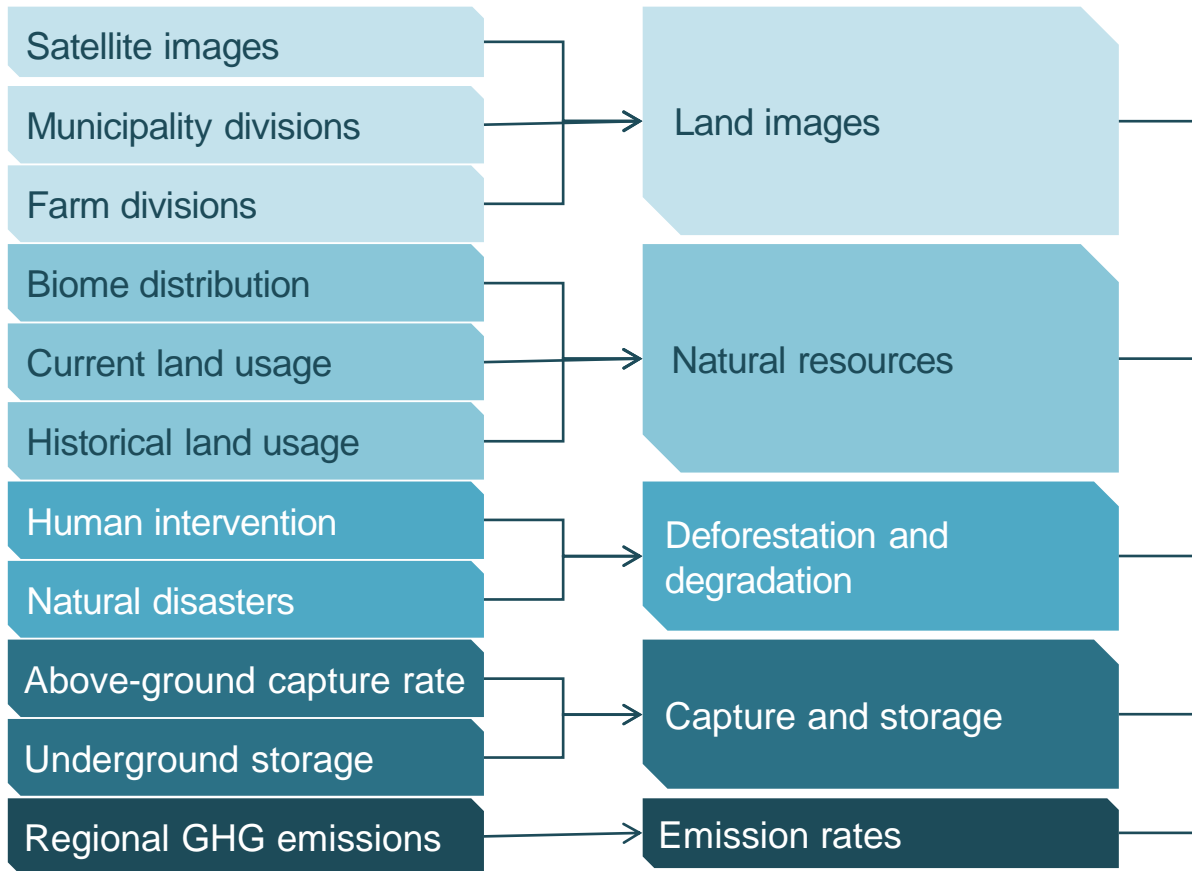
How can we ensure that the databases are frequently updated and accepted by all stakeholders involved in the project approval process?




Databases might have inconsistencies that will need to be resolved before being unified

C Once data sources are defined, the next step will involve creating an integrated dataset model to support the baseline calculations for carbon projects

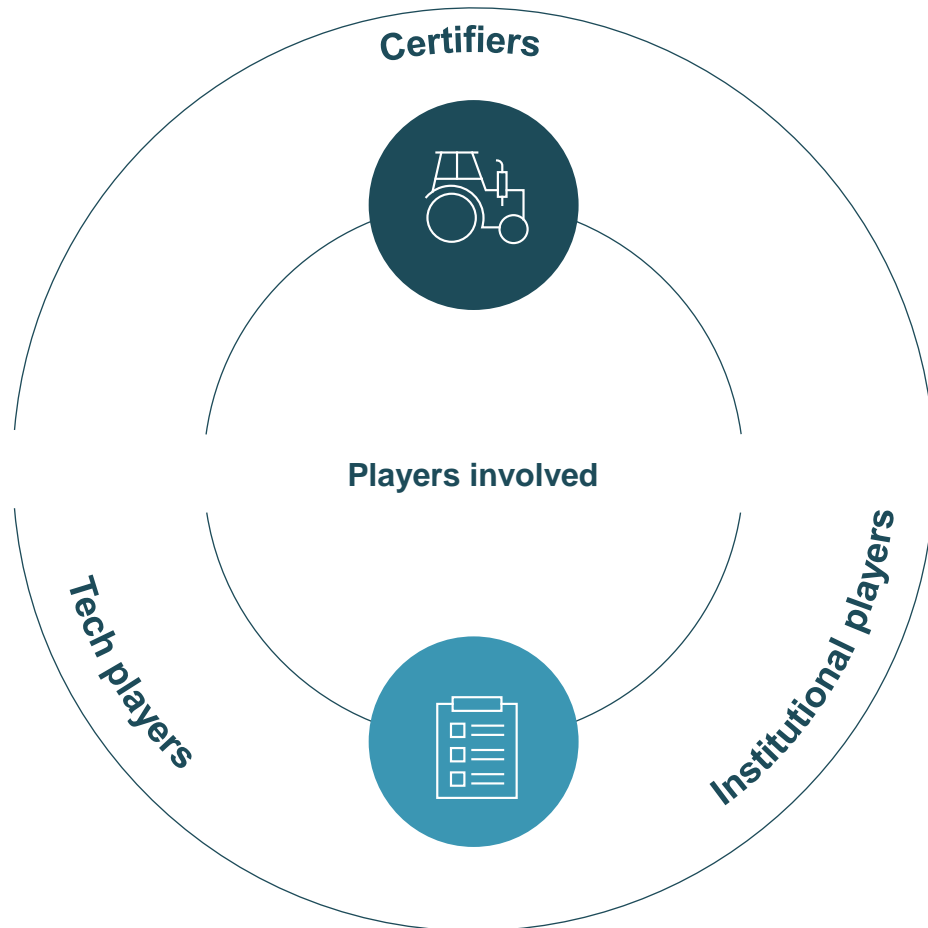
 Data used  First concept created (MVP)  Constant iterations




Dataset model to be created in the next phase with the support of a technical working group



D The participation of various actors in the working groups to set up the Reference Dataset aims to ensure the creation of a mechanism accepted by all stakeholders



Advisors

Certifiers

Responsible for validating project methodologies and additional criteria

Tech players

Companies that have expertise in the dataset used to build the centralized database

Institutional players

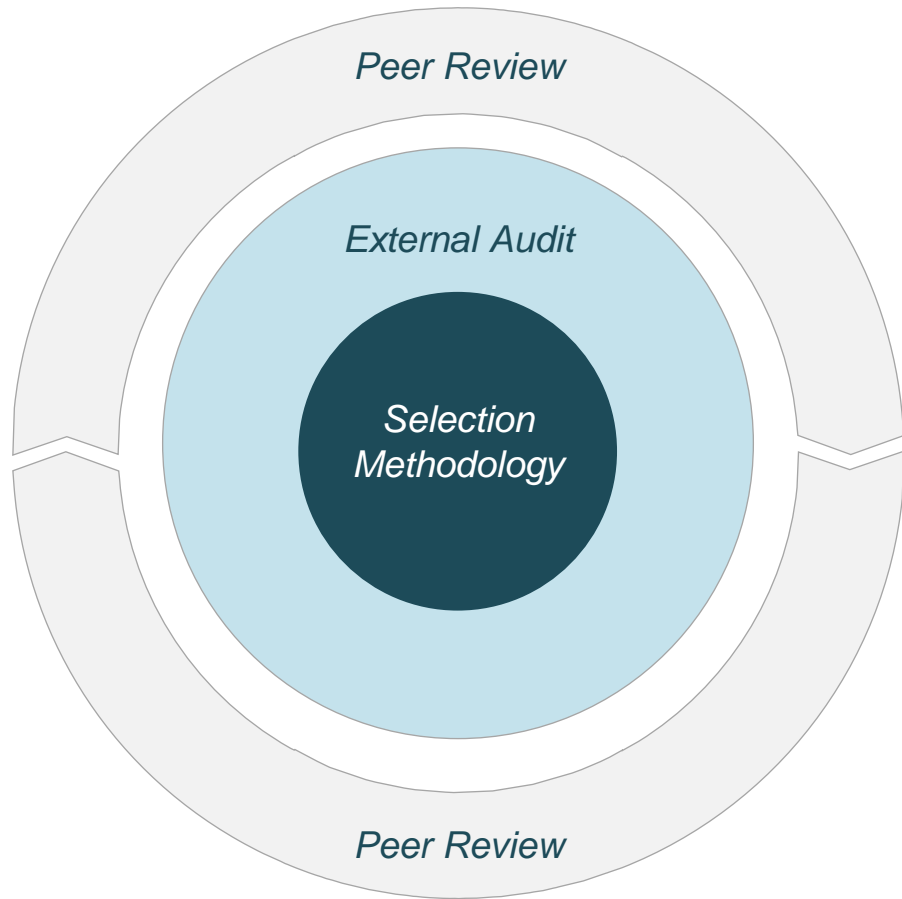
Government, universities and other organizations such as EMBRAPA

Directly involved players

- **Project developers**
Responsible for executing the project and for proving additionality versus the defined baseline
- **VVB¹**
Responsible for verifying projects and validating the calculation of carbon credits

1. Verification and Validation Bodies

D To ensure data integrity, it is important to define the process governance for the database



Information Governance

How to ensure information integrity?



Selection Methodology: (annual)

Define which database (or databases) is the best fit for the reference baseline creation process, aligned with the certifiers



External Audit¹: (annual)

External audits to verify whether the database information meets the defined selection method

Process Governance

How to improve information integrity?



Peer Review: (every 2 years)

Engage with global entities² to:

- Check whether the methodologies, data usage and audit system are consistent with national and international integrity standards
- Propose data updates and/or the selection of new databases

1. Similar to CVM process for listed company information

2. Example: Integrity Council, VCM

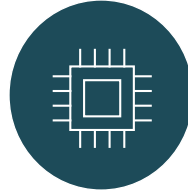
E

Next steps to build the Reference Dataset after the public consultation



Defining composition of the working group

Definition of the working group composition with experienced players in the use of data sets from Brazil



Develop MVP based on technical information requirements

Engage with developers and VVBs and project developers to review the required information and launch the MVP



Engage with market stakeholders working on similar topics

Learn from market stakeholders (e.g., MapBiomass, ITV, EMBRAPA) that have technical and operational expertise with datasets used in the development of carbon projects

Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

Mechanism #1: BR VCM Council

Mechanism #2: Brazilian Voluntary Project Repository

Mechanism #3: Reference Dataset

Mechanism #4: Project Finance with Risk Mitigators

Mechanism #5: Reference Contracts

Mechanism #6: Carbon Credit Issuance Methodology Review



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Carbon Market

Mechanism #4: Project Finance with Risk Mitigators

Public Consultation



Project Finance with Risk Mitigators

- A Project Finance
- B Risk mitigators

Executive summary

Financial solutions

Context

The voluntary carbon market has been growing exponentially, with **demand expected to increase 9x by 2030**

Despite this attractive scenario, developers still struggle to get **access to financing for project execution**

Given the high upfront costs and long payback period, **capital injections from financial institutions are essential to scale the market**

However, **financial institutions still face many obstacles** to amplify their presence as financiers in the market, such as demand and price uncertainty, lack of regulatory definitions and mechanisms to mitigate the risks associated with carbon credits

Mechanism

Given the length and capex required, **project finance could be a suitable financial solution** for providing the capital needed to develop carbon credit projects

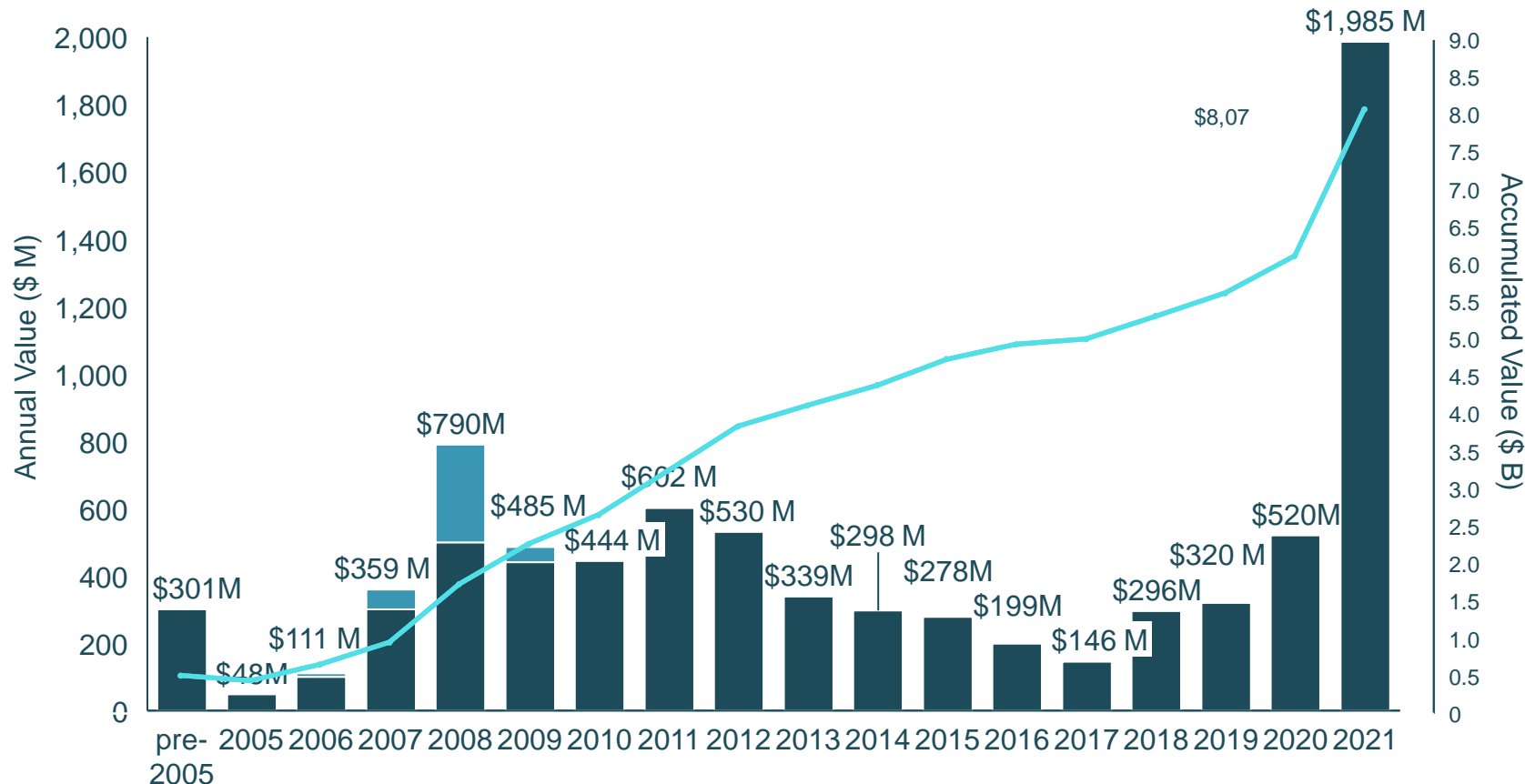
However, in order to scale the financing, key risk mitigators need to be implemented. There are potential **enablers that can de-risk financing for the voluntary carbon market**, such as:

- Offtake agreements
- Subordinate mechanism
- Disbursement in tranches
- Guarantees

The Voluntary Carbon Market has been gaining interest from financial institutions given its accelerated growth and relevance

■ Negotiated on Chicago Climate Exchange ■ Voluntary — Accumulated value

Global voluntary carbon market size, in financial terms



Record financial volume for voluntary carbon credits in 2021

- **300%** growth vs. 2020
- Financial volume **greater than the 5 previous years combined**

Growth was due to higher volumes and prices:

- ~140% increase in demand for credits
- ~60% increase in average credit price¹

Various sources estimate **demand growth of up to ~9x by 2030 and 70x by 2050**

1. Average price in the voluntary market rose from USD 2.52/tCO₂e in 2020 to USD 4.00/tCO₂e in 2021

Developers point to the lack of specific financial instruments to fund carbon projects as a challenge

Top 5 pain points identified by developers¹

1st Regulatory and land ownership issues

2nd Certification process and verification itself (e.g., delay in checking, understanding of methodologies, etc.)

3rd Inadequate methodologies for projects developed in Brazil

4th Access to capital and/or financing for project execution

5th Lack/conflict of data required for project development (e.g., data to prove baselines)

Research indicates that **equity is the most commonly used form of financing** by carbon-credit project developers

Biggest funding challenges:

- Lack of specific **financial products**
- **Guarantees required** that are incompatible with the project's context
- **High rates**

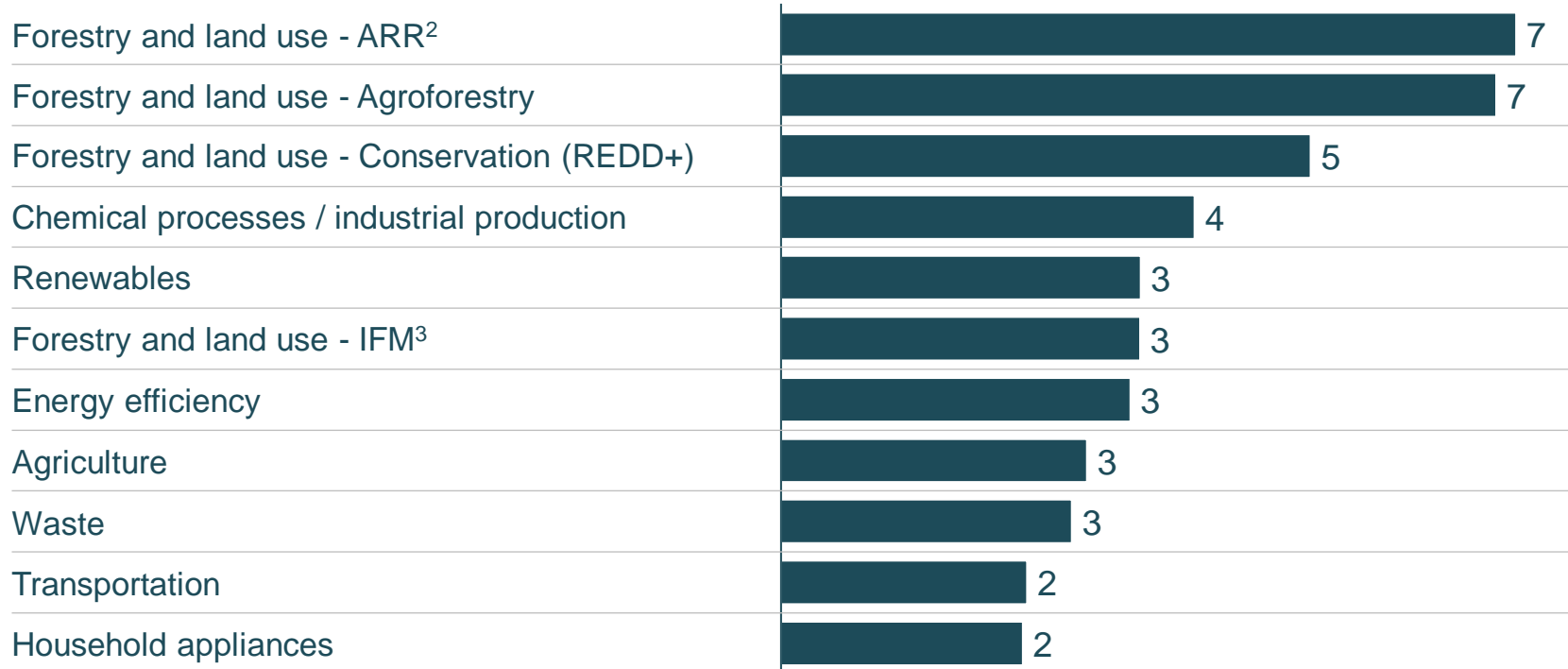


In order to effectively scale the origination of high-integrity credit in Brazil, the participation of financial institutions will play a key role

1. N = 15 active developers in Brazil; anonymous survey and grouped results without any type of identification about the respondent and his/her entity

Large upfront investments and time to first revenue per credit issue indicate the need for capital injections

Average years before 1st credit issued, by type of project¹



1. Average years between the first vintage period (i.e. GHG emission reduction or CO₂ removal verified) and first emission; excl. -62 projects in the Vivo Plan (with no issuance dates) and CAR
2. Reforestation, forestry and restoration
3. Better forest management

During the first years of carbon generation projects, there are **high initial costs that require a large capital injection**, such as:

- Land cost
- Implementation cost
- Maintenance cost

The first return on investment, however, can **take up to 7 years**, depending on the type of project

To accelerate the generation of renewable energy, the creation of project finance proved to be key

Inspiration and context

In the 2000s, renewable energy projects gained relevance due to the **energy crisis** in Brazil

However the projects **required high CAPEX**, with a **long pay-back period**

As a solution, a **project finance mechanism** was developed, leveraging **PPAs**¹



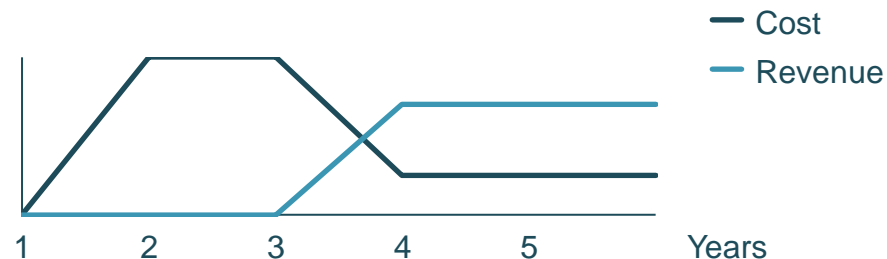
Details of the renewable energy solution

The developer participates in an auction and **signs a PPA**¹

With the signed PPA, financial institutions **fund the project based on the guarantee of demand**

Gradual capital disbursements linked to the project's evolution

Illustrative timeline of a renewable energy project



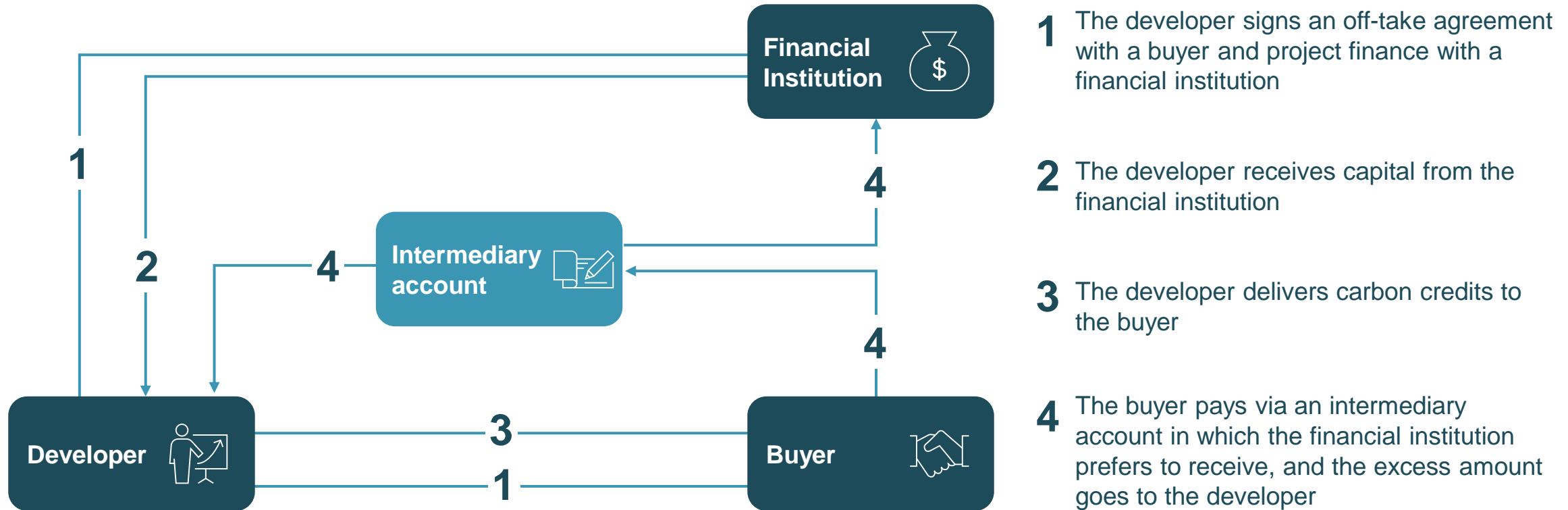
A specific project finance mechanism for voluntary carbon credit projects can be key to accelerating market development

1. Power Purchase Agreements

Project finance can be a suitable solution to scale the access of carbon credit projects to financing...

Do you agree that project finance is a suitable financial solution to scale the financing of carbon credits projects?
Are there any other potential solutions?

Example of potential project finance mechanisms for carbon credits



Assuming:

- Off-take agreement
- Use of capital financed for CAPEX
- Payment through an intermediary account
- Capital disbursement according to project's stage gate (e.g., validated registration)

...although the parties involved in the process face different risks, which could be addressed by de-risking mechanisms

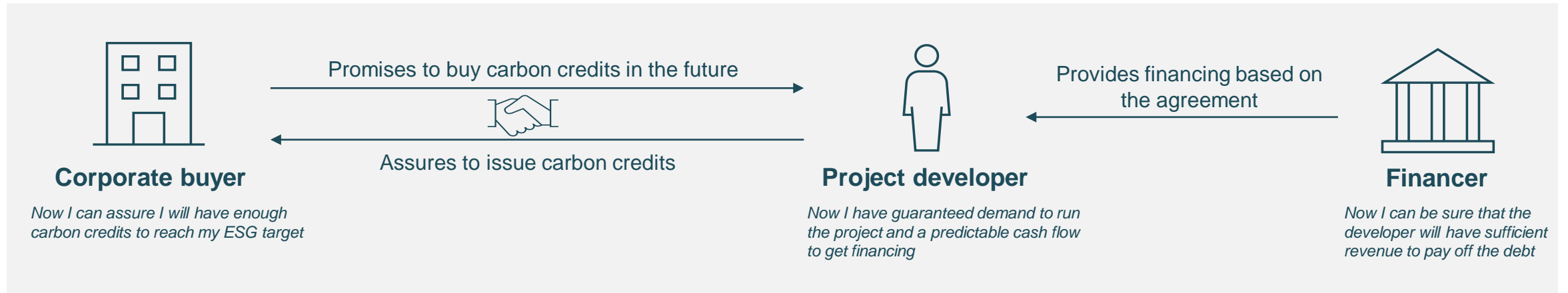
How important are these mechanisms to de-risk the financing?
Are there any other potential mechanisms?

Non-exhaustive

| Risks | | Parties involved | | | De-risking mechanisms | | | |
|-----------------------------|--|--|--|-------------------|--------------------------|-----------------------|------------|--|
| | Developer | Financer | Buyer | Offtake agreement | Disbursement in tranches | Subordinate financing | Guarantees | |
| Economic | | | | | | | | |
| Demand uncertainty | How can I be sure there will be buyers? | How can I be sure there will be revenue to pay off the project? | | ✓ | | | | |
| Price uncertainty | What if the prices go down and I'm not able to pay off the project? | What if the prices go down and the developer is not able to pay back? | | ✓ | | | | |
| Counterparty financial risk | What if the buyer does not pay for the credits? | What if the buyer doesn't pay? How can I be sure the developer will pay me back? | | ⊘ | | ✓ | ✓ | |
| Operational | | | | | | | | |
| Project performance risks | What if I can't issue and deliver the credits as fast as I expected? | What if the project does not honor the timeline promised? | What if I don't get the credits when I need them? | | ✓ | | | |
| Project execution risks | What if I can't finish the project due to a fire, for example? | What if the developer can't finish the project I financed? | What if the developer can't deliver the credits I was expecting? | | | | ✓ | |
| Land ownership disputes | What if the landowner retrieves the land that I was using? | | | ✓ | | | | |

Offtake agreements are contracts established between developers and buyers for the future purchase and sale of carbon credits

Offtake agreement structure



Terms of the agreement



Parties involved

In general, the parties to the offtake agreement will be the **project developer as the seller and the corporation as the buyer**



Price

The **price to be paid for the carbon credits issued** during the duration of the agreement



Volume

The **amount of carbon credits** agreed on between the parties



Duration

The period agreed on between the parties, in which the **developer assumes the commitment to issue carbon credits** in favor of the buyer and they take over the commitment to pay for the credits



Guarantees

Provision of additional assurance regarding the **ability of a party to meet its obligations** under a contract

Subordinate debt de-risks the investment by providing first-loss capital

»» What is subordinate debt?

Subordinate debt is a type of loan that's considered lesser in priority and, in the case of borrower default, is **paid after all other corporate debts and loans** are repaid, although it is still paid out prior to any equity holders

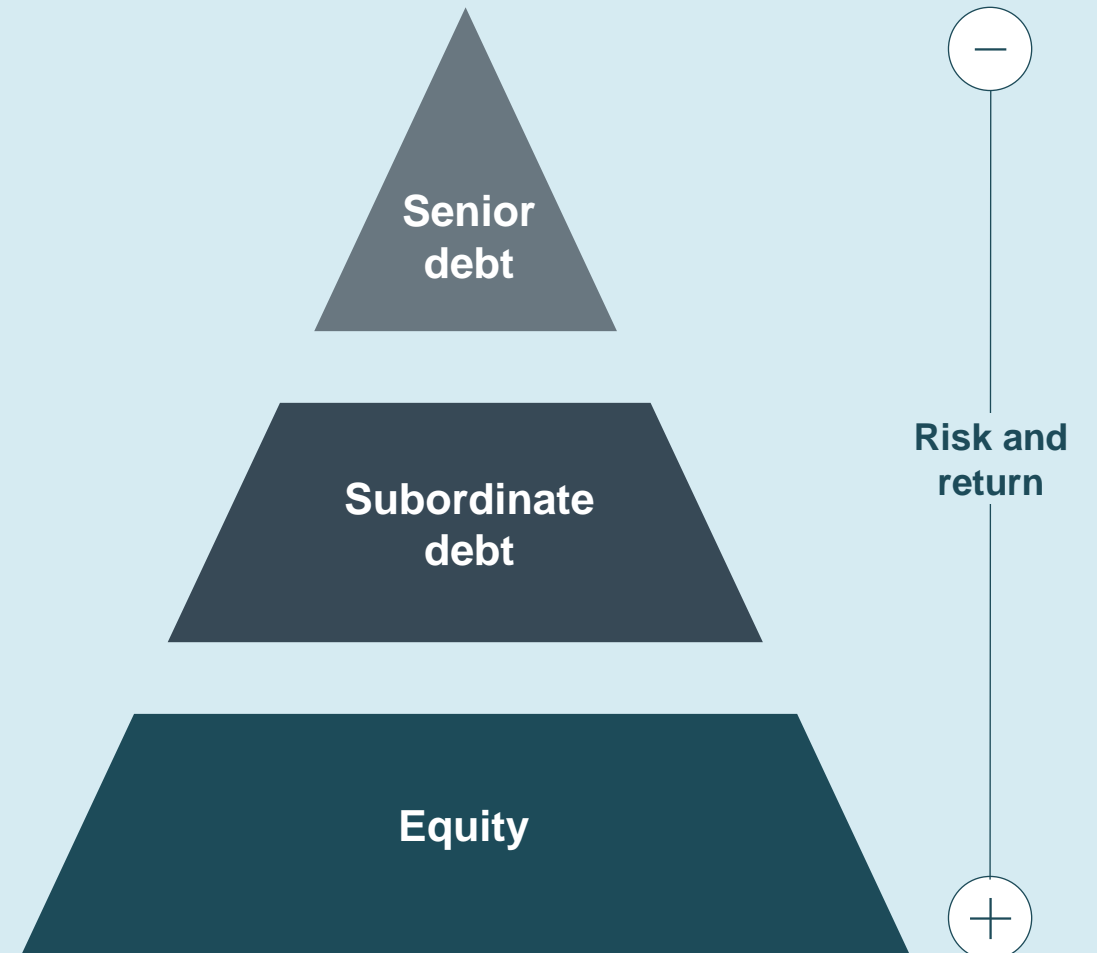
»» What is the benefit to the borrower?

Holders of subordinated debt will be fully repaid if there is enough cash on hand for repayment after paying off senior debt, although it is also **possible that they will receive either a partial payment or no payment at all**

Because of this, it is considered 'first loss capital', making it **less risky for other creditors** to invest, allowing for the unlocking of further debt to scale

»» What is the benefit to the lender?

As subordinated debt is **riskier for lenders**, they are able to charge a **higher rate of interest** to compensate for the potential risk of default



Disbursement in tranches conditions payments to the achievement of project milestones

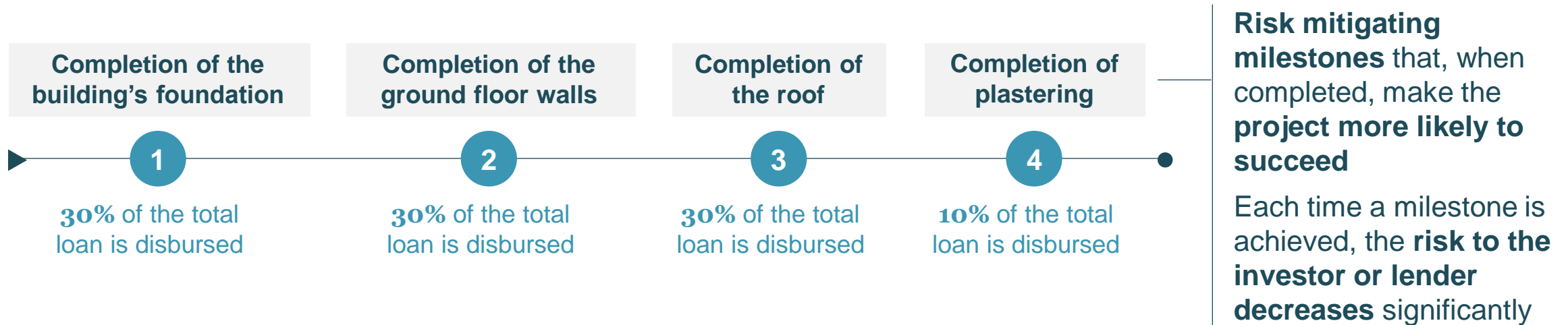


Disbursement in tranches

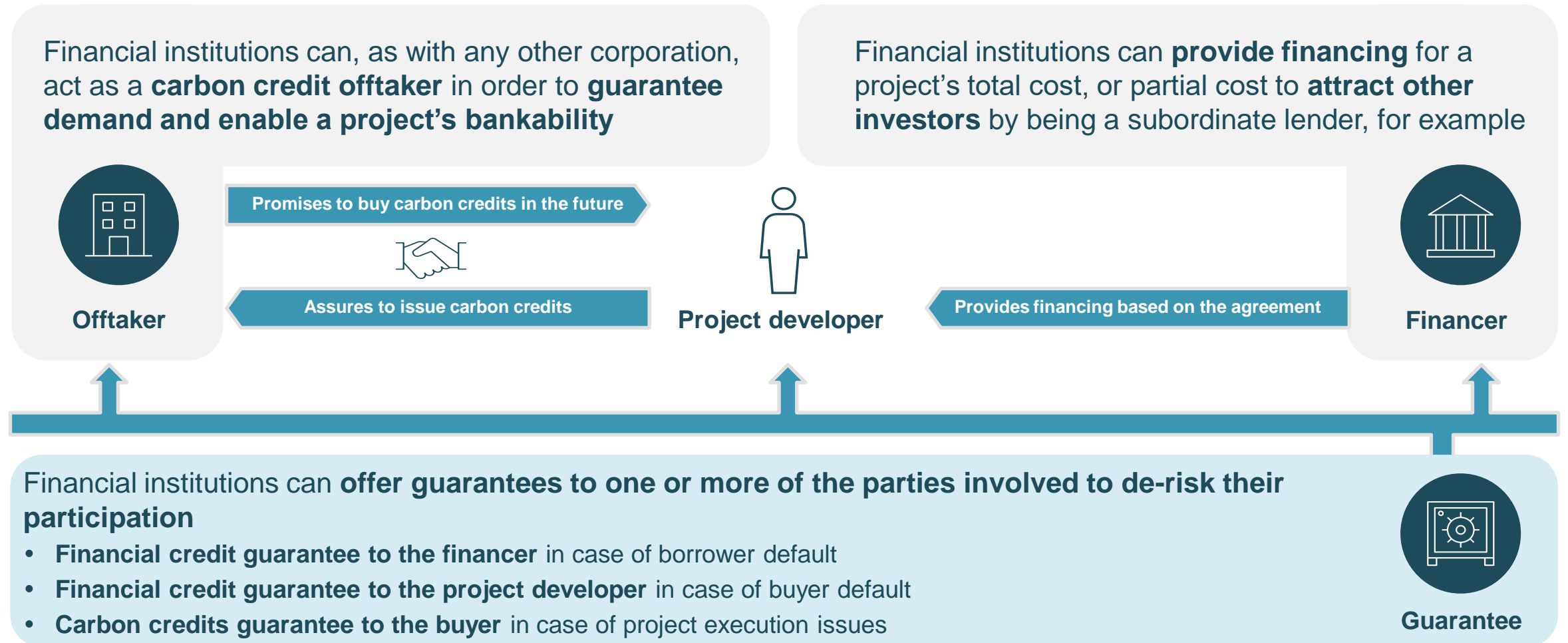
Loans are paid in **multiple installments** that are **conditioned to agreed milestones** of the project in order to de-risk the investment

Illustrative example

Home loans are disbursed in multiple steps based on the progress in completing the house/apartment being constructed



Aside from acting as an offtaker or financier, financial institutions can also offer guarantees to any of the parties involved



Insurance is an important mechanism to **improve the bankability** of projects, however carbon credits are **not yet considered insurable**

Challenges involving the insurability of carbon credit projects...



Long tail obligations

Once the CO₂ is captured from the atmosphere and the storage is created, it must be kept safely and stored permanently for many years



Lack of historic data

Small number of projects and lack of quality data on historic losses and performance



Legal risk

Some countries have a weak legal system and limited recourse if problems occur

Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

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Mechanism #2: Brazilian Voluntary Project Repository

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Mechanism #4: Project Finance with Risk Mitigators

Mechanism #5: Reference Contracts

Mechanism #6: Carbon Credit Issuance Methodology Review





Brazilian
Initiative

for the Voluntary
Carbon Market

Mechanism #5: Reference Contracts

Public Consultation

Reference contracts

- A Attributes of carbon credits
- B Potential Brazilian reference contracts

Executive summary

Reference contracts

Context

Aside from financing, the market also faces other challenges that could be addressed by financial institutions. These include **lack of liquidity, inefficient buying processes** and uncertainties regarding the **transparency and integrity of trading infrastructures**

The innumerable **possible project attributes and different buyer preferences** when looking for credits create the need for very time-consuming due diligence and matching processes

Mechanism

Building efficient reference contracts **simplifies buying processes** by bundling suppliers' products and buyers' preferences, in addition to **increasing price transparency** and **concentrating liquidity** in a few products

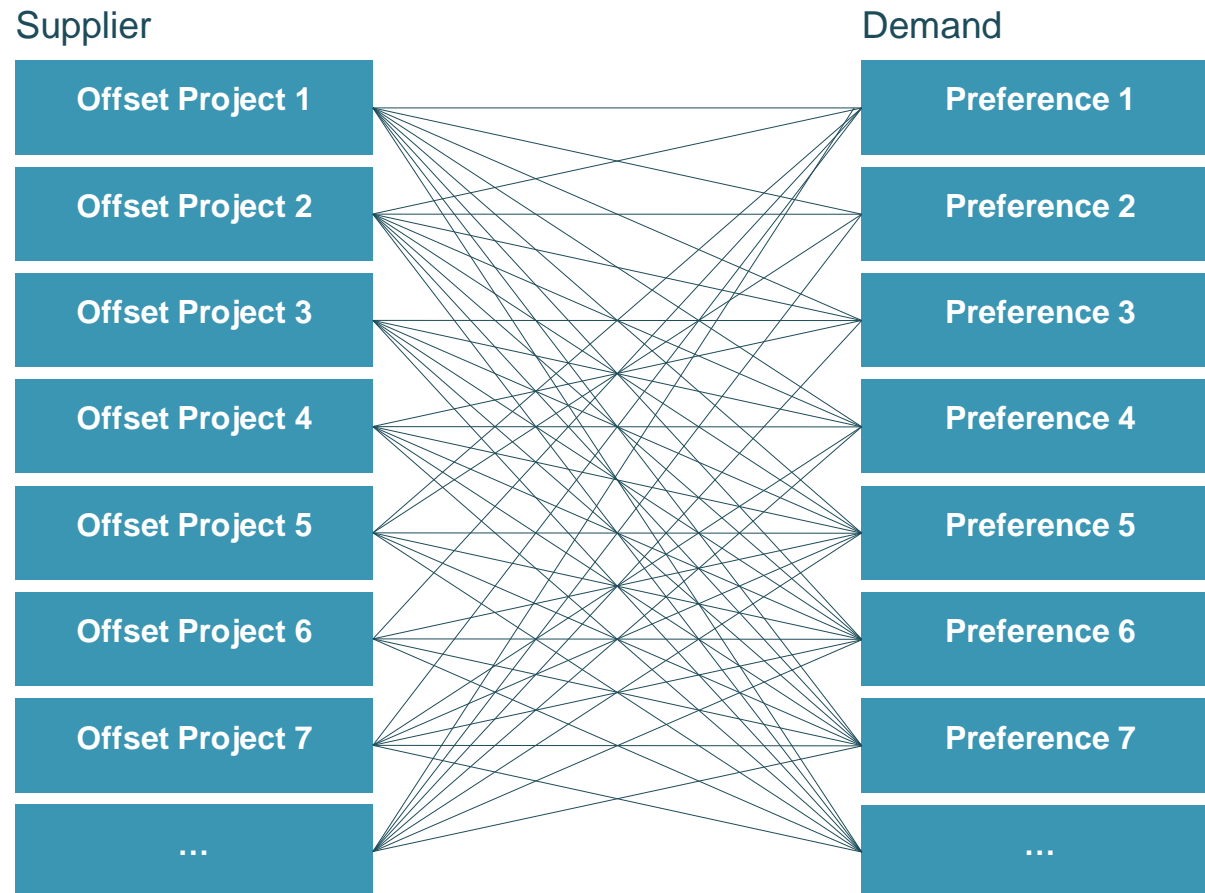
While there are already-existing reference contracts in the market, **creating specific products for the Brazilian context** can be key to unlocking supply and matching unmet demand needs

Taking into account the country's portfolio of credits and expectations for the future, there are **3 main potential new products**:






- Spot contracts for high-integrity Brazilian REDD credits
 - Spot contracts for high-integrity Brazilian energy credits
 - Future contracts for high-integrity Brazilian ARR credits
-

A key challenge in creating “carbon credit products” is to match demand preferences with a project’s attributes

The challenge in a nutshell (simplified)



The associated challenges

-  **Every offset project** has somewhat **different attributes** (e.g., carbon removal versus avoidance, geography, vintage, project type)
-  **Every buyer** has **different attribute preferences** (e.g., specific SDG)
-  Matching each individual buyer with a corresponding supplier can be a highly time-consuming and **inefficient process**
-  As a result, there are **no liquid reference contracts** (e.g., spot and future) **with daily, reliable price signals...**
-  ... which in turn makes it very difficult to scale up **supplier financing and (price) risk management**

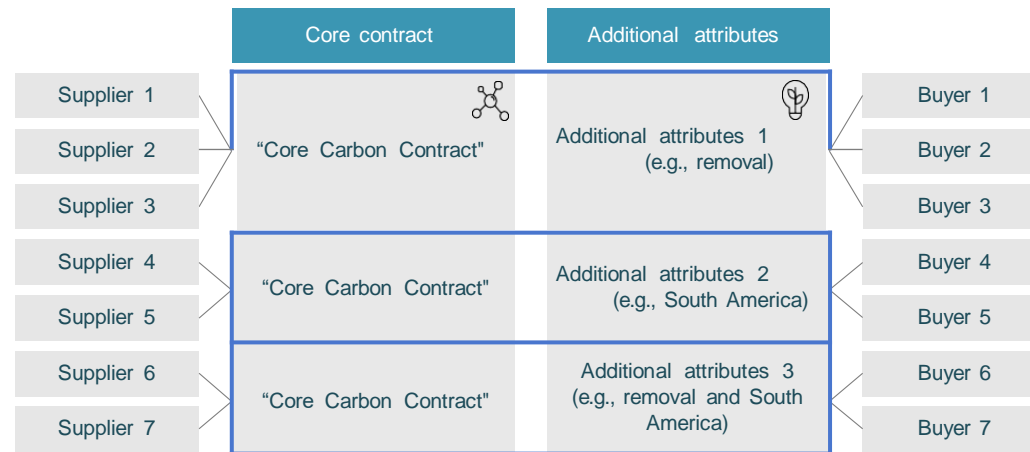
To match supply and buyers' preferences, reference contracts should be created

How a reference contract can address the “matching challenge”

Reference contracts can bundle suppliers' products and buyers' preferences to **allow for significantly more efficient matching of buyers and suppliers**

Buyers benefit from a simplified buyer journey and greater price transparency

Suppliers benefit from price-risk management and improved access to financing, as well as a clear price signal to inform their investment decisions



Key benefits

Significantly more efficient matching of buyers and suppliers

Concentrates liquidity in a few reference contracts, with **clear and transparent price signals**, which facilitates:

- **Simplified buying processes** (in particular, for inexperienced buyers)
- Development of **financing services for suppliers**
- Development of **risk management solutions for suppliers, buyers and financiers**

Various other markets with non-standardized commodity products (e.g., corn, oil) have successfully implemented reference contracts in the past despite the vast complexity of the underlying physical substance, without compromising either integrity or quality

Carbon credits can be bundled according to different aspects to create standardized products



How would you rank the importance of these categories when buying credits?

Core Carbon Contract

1 tonne of CO₂ avoided or removed



Contracts with additional attributes



Project type

Restricted to specific types of project, such as REDD+ or ARR



Location

Restricted to specific locations such as Amazonia



Co-benefits

Restricted to projects that have additional certification of co-benefits, such as CCB, Social Carbon or SD Vista



Registry

Restricted to credits registered in a specific registry such as Verra or Gold Standard



Vintage

Restricted to credits issued after a certain date






Integrity

Restricted to credits that adhere to high-integrity criteria such as Core Carbon Principles or CORSIA

Assessing current credit volumes and expectations for the future could be a way to conduct an initial prioritization of bundles






| Project type | Credits issued '19-22, Mil. | Registry | | Additional certifications ² | | |
|---|-----------------------------|---|---|---|------------------------------|------|
| | |  |  |  | No additional certifications | |
| REDD+ | 53.08 | 100% | - | 43% | 15% | 42% |
| Energy | 15.16 | 97% | 3% | N/A | 26% | 74% |
| Waste management | 1.94 | 67% | 33% | N/A | 4% | 96% |
| Afforestation, Reforestation and Revegetation (ARR) | 0.59 | 100% | - | 26% | - | 74% |
| Others ¹ | 0.04 | 100% | - | - | - | 100% |

1. Includes transport, livestock, enteric fermentation and manure management, and combinations of different types of projects

2. Only considers Verra projects

Different spot and future reference contracts are already available in the market

Non-exhaustive

| Platform | Product | Description |
|---|--|--|
|  | GEO | The Global Emissions Offset (GEO) is a physical spot contract that represents a high-quality emission offset not related to AFOLU¹ and that is aligned to CORSIA's integrity criteria |
| | N-GEO | The Natural-based Global Emissions Offset (N-GEO) is a physical spot contract representing AFOLU¹ emission offsets that have a Verra CCB certification of co-benefits |
| | C-GEO | The Core Global Emissions Offset (C-GEO) is a physical spot contract that represents a high-quality emission offset not related to AFOLU¹ and aligned with Core Carbon Principles requirements |
|  | BCC | Includes carbon credits generated by renewables and energy efficiency projects that have been approved by Verra or Gold Standard |
| | PCC | Covers carbon credits generated by projects with additional benefits that meet at least three of the United Nations Sustainable Development Goals and have been approved by Verra or Gold Standard |
| | FCC | Covers carbon credits generated from agricultural, forestry and land-use projects that have been approved by Verra or Gold Standard |
| | CCC | Covers carbon credits from projects that provide long-lived removal of carbon emissions, such as biochar, BECCS and DACC projects , and that have been approved by Verra or Gold Standard |
|  | NBS Future | Physical future contract that represents a high-quality emission AFOLU offset that is aligned with Verra's CCB |
|  | Trades GEO, N-GEO and C-GEO future contracts | |

1. Agriculture, forests and other land uses

Taking into account the existing contracts and Brazil's portfolio of carbon credits, there are 3 main potential new products that make sense to be created



How should these contracts be prioritized?
Are there any other potential contracts?

| | <i>High quality REDD bundle</i> | <i>High quality ARR future bundle</i> | <i>High quality energy bundle</i> |
|----------------------------|---|---|---|
| Product description | Spot contract that represents a high-quality REDD+ emission offset aligned to Verra's CCB | Future contract that represents a high-quality ARR emission offset aligned to Verra's CCB | Spot contract that represents a high-quality energy (renewable or non-renewable) emission offset aligned to Social Carbon |
| Project type | REDD+ | ARR | Energy |
| Location | Brazil | Brazil | Brazil |
| Spot or future | Spot | Future | Spot |
| Framework alignment | Verra's CCB | Verra's CCB | Social Carbon |
| Vintage structure | 5-year rolling | 5-year static | 5-year static |
| Lot size | One metric ton of CO ₂ equivalent | One metric ton of CO ₂ equivalent | One metric ton of CO ₂ equivalent |
| Registry | Verra Registry | Verra Registry Gold Standard | Verra Registry Gold Standard |
| Currency | BRL | BRL | BRL |

Rationale

Offering a spot contract for the most common project type in Brazil, with verified co-benefits

Offering a future contract for forestry-avoidance credits, which have a high price and are expected to gain more volume and relevance in Brazil

Offering a spot contract for energy credits, which still have high issuance in Brazil, with verified co-benefits

Table of Contents

Disclaimer and general instructions

Introduction to the Initiative and proposed mechanisms to unlock the market potential

Mechanism #1: BR VCM Council

Mechanism #2: Brazilian Voluntary Project Repository

Mechanism #3: Reference Dataset

Mechanism #4: Project Finance with Risk Mitigators

Mechanism #5: Reference Contracts

Mechanism #6: Carbon Credit Issuance Methodology Review



Brazilian
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for the Voluntary
Carbon Market

Mechanism #6: Methodology Review

Public Consultation



Methodology Review

Proposal and call for action on the Repository mechanism of the Brazilian Initiative for the VCM

Review proposal for the Methodology Adaptation mechanism

- A** Context & Executive Summary
- B** Mechanism Objectives
- C** Methodology Analysis
- D** Working Groups & Implementation Plan

A Executive Summary

Methodology Review



Situation & Complication: After various iterations and working sessions with project developers and VVBs operating in Brazil, we have identified the need to review methodologies to ensure tropical characteristics are encompassed in the methodology models - It is also possible that there will be a need to develop new methodologies. The right set of methodologies will be key to unlocking Brazilian supply in all types of projects.



Potential Solution: In order to match the available methodologies in the market and the specificities of the Brazilian context, the BR-VCM conducted a quantitative and qualitative analysis of existing methodologies to determine which categories (and in some cases, specific methodologies) will require adaptations and new methodologies. The analysis considered only projects registered in the Verra and Gold Standard registries.

- Quantitative analysis: In Brazil, 7 methodologies are responsible for ~95% of emission reduction (68% derived from REDD+ projects) and ~70% of total projects
- Qualitative analysis: Additionally, other methodologies were identified that could also help unlock BR-issued carbon credits (e.g., blue carbon; reduction of enteric methane emissions; ALM; improved forest management)
- Prioritized methodologies: As a result of the quantitative and qualitative analyses, we shortlisted 14 methodologies to be further analyzed by working groups
- Working groups: Working groups to conduct further analyses and draft the methodology adaptation proposals will be created in 2023 with a mandate to ensure that methodologies encompass Brazilian characteristics to unlock the supply of high-integrity carbon credits



Planned Steps After Public Consultation:

- Prioritize 2-3 of the 14 shortlisted methodologies to be reviewed and potentially adapted according to a set of criteria: (i) market size, (ii) maturity and (iii) size of effort
- Define working groups based on the prioritized methodologies
- Invite participants to join the working groups – e.g., private players (corporate and developers), VVBs, public agencies, academia

B There is currently a need to review and adapt methodologies for the Brazilian context

Current methodology issues

- 1 Methodological gaps for tropical biomes**
Current methodologies do not reflect tropical conditions, underestimating their potential, which impacts the viability of development projects
- 2 Need to create new methodologies**
There is need to create methodologies that reflect Brazil's specificities



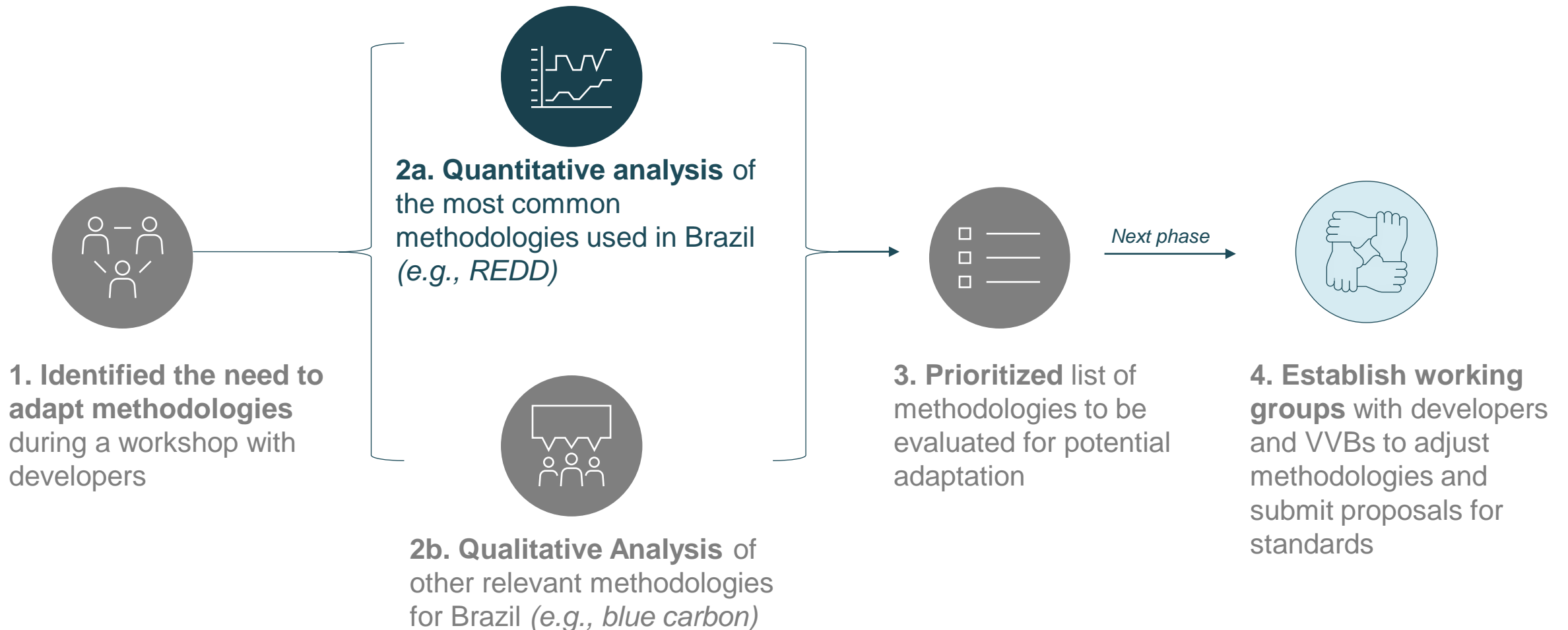
Objective



Create working groups with stakeholders involved in carbon project development (developers, VVBs) to review a prioritized list of methodologies and propose adjustments to the Brazilian context

C We created a prioritized list of methodologies based on a quantitative analysis of existing registries and interviews with developers

■ Detailed Next



C One third of the pipeline of Brazilian projects¹ is still in the development phase, representing ~47% of total potential reduction

■ Focus of the analysis

175 Brazilian projects¹

Development phase

Registered

of projects

47 (27%)

128 (73%)

Estimated total emission reduction²
(mtCO₂e)

408.3

372.4

Total issuances
(mtCO₂e; 2009-sep. 2022)

-

90.2

Projects by development status

25 – Under development
11 – Under validation
10 – Registration requested
01 – Withdrawn

122 – Registered with CC already issued
6 – Registered with no CC issued

1. Estimation based on Verra and Gold Standard registries that represent major part of BR-issued CC | 2. A project total emission reduction is the annual estimated reduction times the project duration

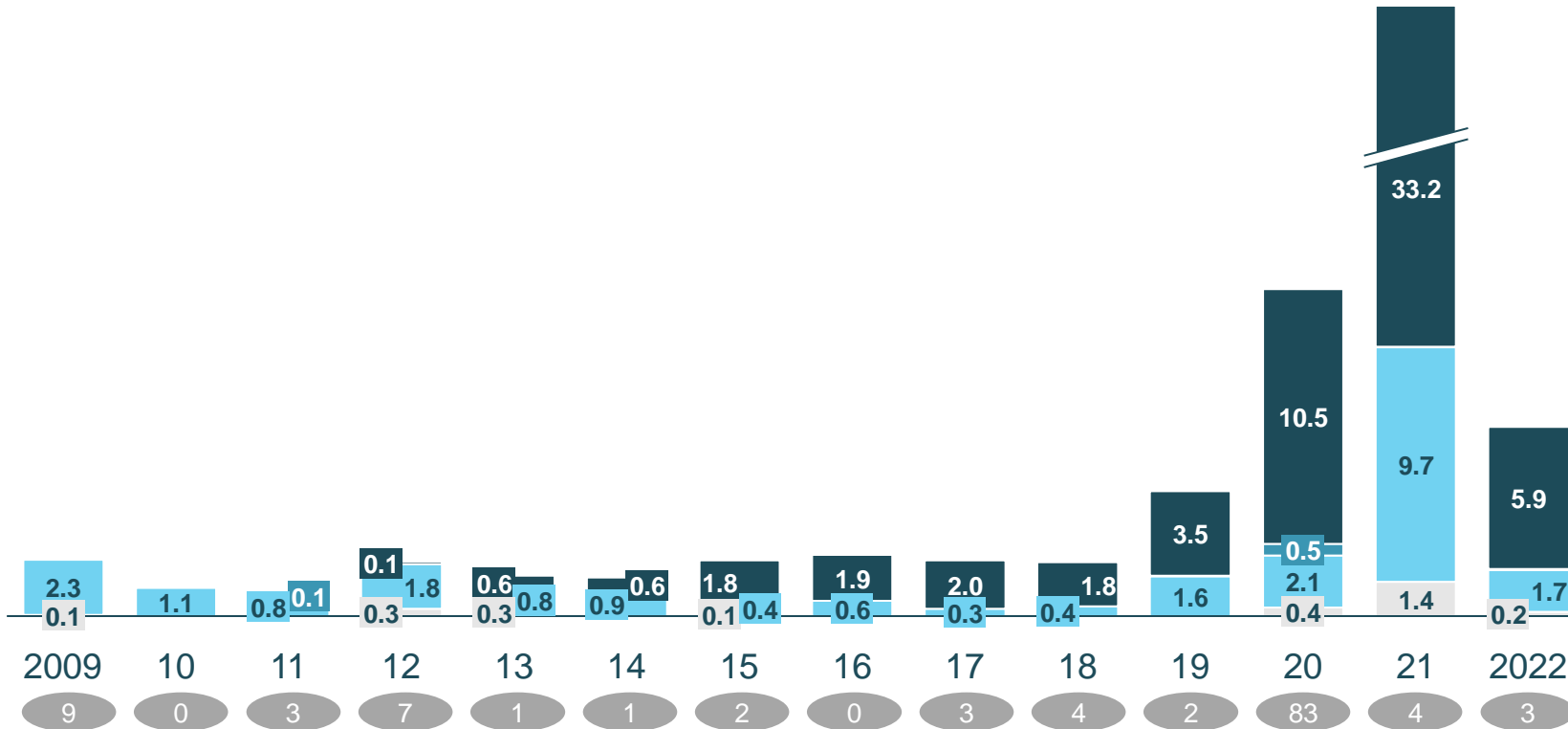
C Brazil¹ has issued ~90 mtCO₂e in carbon credits since 2009 and REDD+ is the most representative category

x # projects registered²

■ REDD+ ■ ARR ■ Energy industries ■ Waste management

AFOLU

CC issuance evolution¹ by project type, (mtCO₂e; 2009-Sept. 2022)



Brazilian carbon credit issuances¹ from 2009 to 2022 total ~90 mtCO₂e




1. Estimation based on Verra and Gold Standard registries, which represent the major part of BR-issued CCs | 2. Considering only registered projects that already issue carbon credits | 3. Includes transport, livestock, enteric fermentation, manure management and combined project types

- Verra's carbon credit issuances represent ~98% of total Brazilian issuances¹ from 2009 to 2022
- REDD+ has been responsible for ~75% of total carbon credit issuances¹ since 2015
- Other³ project types – not represented in the graph – such as **transport and livestock** represents less than 0.5% of total issuances over the past eight years

C

7 methodologies are responsible for ~95% of emission reduction and ~70% of total projects

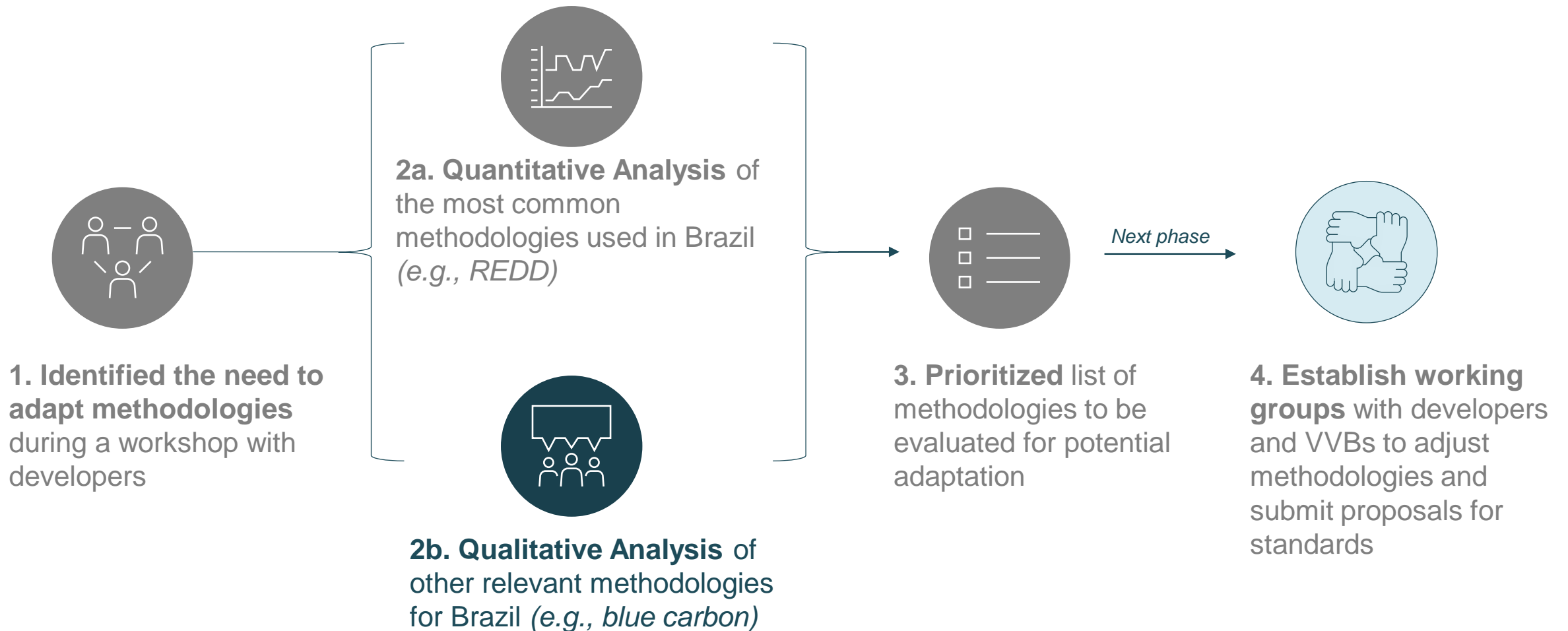
? Which adaptations should be made to these methodologies?

| | Project type | Methodology | Description | Total CC issued ¹ mtCO2e | # projects ¹ |
|--|-----------------------------|-------------|---|--|-------------------------|
|  AFOLU | REDD | VM0015 | Estimate and monitor emissions from project activities that avoid unplanned deforestation | 36.8 | 15 |
| | | VM0007 | Modular methodology to incorporate various REDD mechanisms | 4.9 | 7 |
| | ARR | AR-ACM0003 | Afforestation and reforestation of lands, except wetlands | 0.3 | 2 |
|  Energy industries | Renewable energy generation | ACM0002 | Consolidated methodology for grid-connected electricity generation from renewable sources | 16.5 | 13 |
| | Switch to biomass | AMS-I.E. | Switch from non-renewable biomass for thermal applications by the user | 5.5 | 34 |
|  Waste management | Waste to energy | ACM0001 | Baseline and monitoring methodology for flaring or use of landfill gas | 2.5 | 7 |
| | Methane recovery | AMS-III.D. | Methane recovery in agricultural and agroindustrial activities | 0.1 | 9 |
| % Total registries | | | | 96% | 71% |

1. Considering only registered projects that issue carbon credits in the period of 2009 – sep.2022

C We created a prioritized list of methodologies based on a quantitative analysis of existing registries and interviews with developers

■ Detailed Next



C

Additionally, there are other methodologies that can unlock Brazilian potential






These methodologies were additionally selected based on interviews with market experts, developers and VVBs

1. Based on the Frontiers Blue Carbon article

● AFOLU



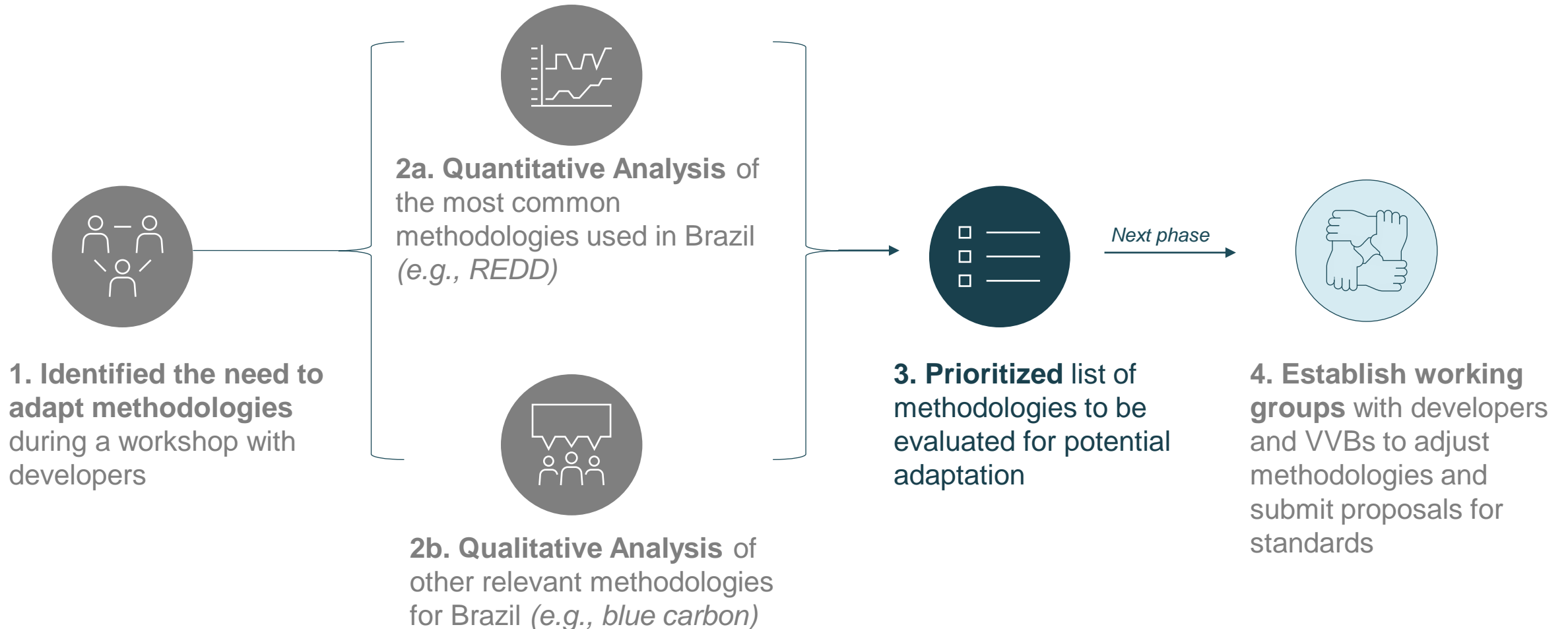
Are there any other relevant methodologies to be reviewed?

| Sector | Methodology | Description | Rationale for Selection |
|---|-------------|--|--|
|  Agriculture | VM0042 | Methodology for improved agricultural land management | Brazil is the largest country in terms of arable land, a top-5 producer of 34 agricultural commodities and the largest agricultural net exporter |
| | VM0003 | Improved forest management through extension of rotation age | IFM might be able to unlock several projects that are not yet financially sustainable using only one methodology (e.g., ARR) due to additional revenue streams for the developer |
|  Forestry | VM0009 | Avoided forestry and grasslands ecosystem conversion | |
| | [No code] | Improved forest management through targeted, short-term harvest deferral | |
|  Livestock & manure | VM0041 | Reduction of enteric methane emissions from ruminants using feed ingredients | Brazil has the 2 nd largest cattle inventory in the world |
|  Waste management | VM0044 | Methodology for biochar utilization in soil and non-soil applications | Biochar can be a relevant lever in adding carbon to the soil for ALM players |
|  Wetlands | VM0033 | Methodology for tidal wetland and seagrass restoration | Brazil has a massive coastline (~9.000 km) and mangrove forests (990k ha) ¹ |

These methodologies were additionally selected to those in “2a. Quantitative analysis”

C We created a prioritized list of methodologies based on a quantitative analysis of existing registries and interviews with developers






■ Detailed Next



C Among all analyzed methodologies, 14 stand out for their representativeness or need for adaptation



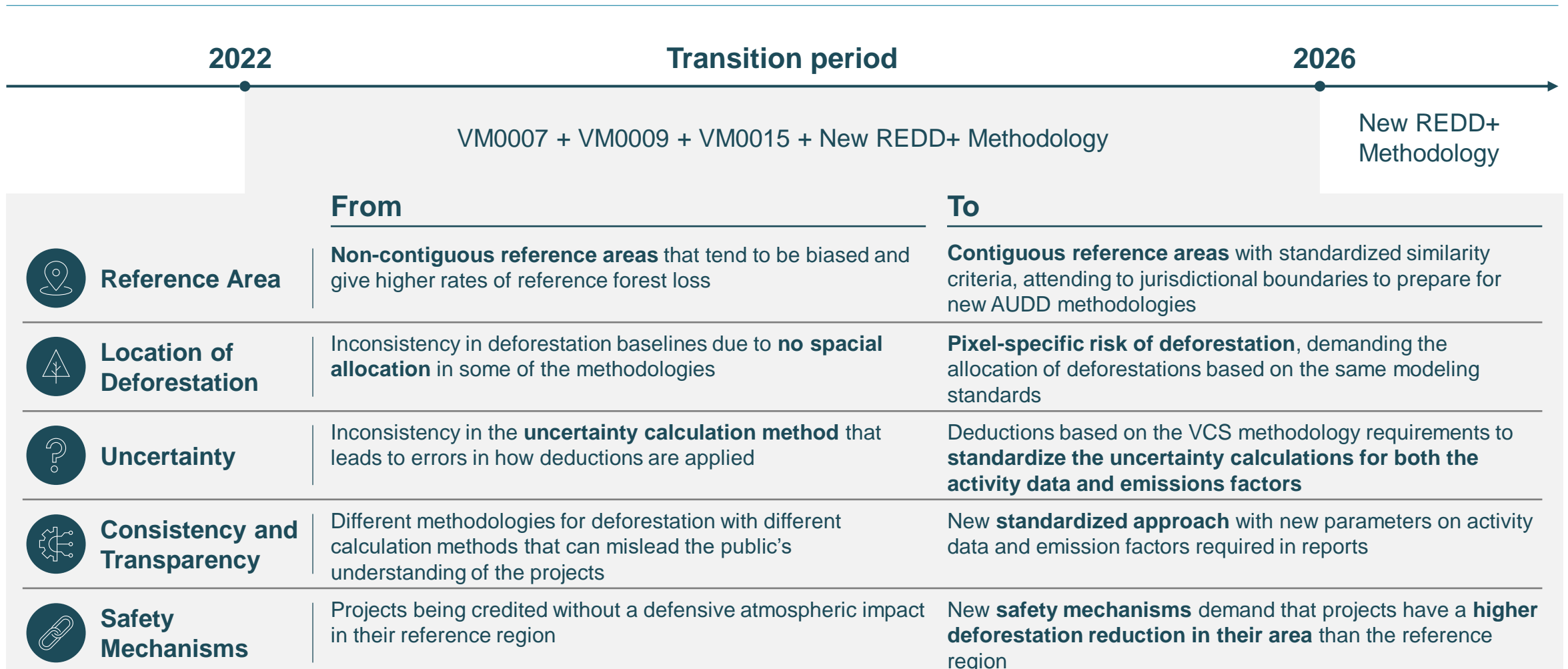
Aside from the AFOLU methodologies, is there any other group of methodologies that should be prioritized? Which one?

| | Project type | Methodology | Description | Detailed Next |
|---|-------------------|---|---|---------------|
|  AFOLU¹ | REDD | VM0007 | Modular methodology to incorporate various REDD mechanisms | |
| | | VM0009 | Methodology for avoided forestry and grasslands ecosystem conversion | |
| | | VM0015 | Estimate and monitor emissions of project activities that avoid unplanned deforestation | |
| | ARR | AR-ACM0003 | Afforestation and reforestation of lands except wetlands | |
| | IFM | VM0003 | IFM through extension of rotation age | |
| | | [No code] | IFM through targeted, short-term harvest deferral | |
| Agriculture | VM0042 | GHG emission reduction by improving land and resources use in farming spots | | |
|  Livestock & Manure | Enteric gases | VM0041 | GHG emission reductions and removals from activities that aim to restore tidal wetlands | |
|  Energy industries | Renewable energy | ACM0002 | Consolidated methodology for grid-connected electricity generation from renewable sources | |
| | Switch to biomass | AMS-I.E. | Switch from non-renewable biomass for thermal applications by the user | |
|  Waste management | Waste to energy | ACM0001 | Baseline and monitoring methodology for flaring or use of landfill gas | |
| | Methane recovery | AMS-III.D. | Methane recovery in agricultural and agroindustrial activities | |
| | Biochar | VM0044 | Methodology for biochar utilization in soil and non-soil applications | |
|  Wetlands | Blue carbon | VM0033 | GHG emission reductions and removals from activities that aim to restore tidal wetlands | |

It is important to **get inputs** on which initiatives among the highlighted need to be **adapted and be the focus of the Brazilian Initiative's next phase**

1. Agriculture, Forestry And Other Land Use

C Verra's new REDD+ methodology unites existing methodologies and standardizes project development, fixing inconsistencies

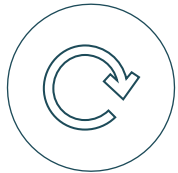


[Click here for more information on this topic and to access Verra's public consultation website](#)

C Brazilian farmers already use carbon reduction mechanisms...

Mechanisms already used by Brazilian farmers

The following techniques are already widely used in Brazilian farming and therefore have low additionality potential



Crop rotation

Alternate among different crops during the year in the same spot in order to improve soil quality



No-till farming

Technique of planting without disturbing the soil, generally using the last crop's leftovers as fertilizer



Cover Crops

Plants used primarily to slow erosion, improve soil health and add organic matter to the soil

... but there are opportunities to improve carbon capture in the chain



What are other levers that can support the creation of carbon credits from ALM in Brazil?

New mechanisms to be explored

Additional techniques specifically designed for tropical farming in the BR-context might be able to generate carbon credits



Underground soil carbon capture

Expand studies and validate deeper carbon capture in some types of soil present in Brazil



Reduce the use of carbon-based fertilizers

Use of technologies to identify and use fertilizers only in necessary areas of the crop



ICLF (*Integrated Crop-Livestock-Forestry*)

Production technique based on alternating or integrating cattle, farming and forestry in an area

D

Next steps on adapting methodologies



Definition of prioritized methodologies

Of the 14 shortlisted methodologies, prioritize 2-3 methodologies and potentially adapt according to a set of criteria: (i) market size, (ii) maturity and (iii) size of effort



Definition of working groups and members

Define working groups based on the prioritized methodologies and invite participants to join these groups (e.g., corporate players, developers, VVBs, public agencies, academia)








Engage with market stakeholders working on similar topics

Market stakeholders (e.g., NBS Alliance, Verra) that are already working on this theme to collect inputs based on similar efforts

D Working groups will focus on 2 or 3 prioritized methodology categories to be reviewed and adapted



What are the 2 most important methodologies to be addressed? Why?

| | Project type | Methodology | Description |
|---|-------------------|---|---|
|  AFOLU¹ | REDD | VM0007 | Modular methodology to incorporate various REDD mechanisms |
| | | VM0009 | Methodology for avoided forestry and grasslands ecosystem conversion |
| | | VM0015 | Estimate and monitor emissions of project activities that avoid unplanned deforestation |
| | ARR | AR-ACM0003 | Afforestation and reforestation of lands except wetlands |
| | IFM | VM0003 | IFM through extension of rotation age |
| | | [No code] | IFM through targeted, short-term harvest deferral |
| Agriculture | VM0042 | GHG emission reduction by improving land and resources use in farming spots | |
|  Livestock & manure | Enteric gases | VM0041 | GHG emission reductions and removals from activities that aim to restore tidal wetlands |
|  Energy industries | Renewable energy | ACM0002 | Consolidated methodology for grid-connected electricity generation from renewable sources |
| | Switch to biomass | AMS-I.E. | Switch from non-renewable biomass for thermal applications by the user |
|  Waste management | Waste to energy | ACM0001 | Baseline and monitoring methodology for flaring or use of landfill gas |
| | Methane recovery | AMS-III.D. | Methane recovery in agricultural and agroindustrial activities |
| | Biochar | VM0044 | Methodology for biochar utilization in soil and non-soil applications |
|  Wetlands | Blue carbon | VM0033 | GHG emission reductions and removals from activities that aim to restore tidal wetlands |

1. Agriculture, Forestry And Other Land Use

It is critical to focus our efforts on the 2/3 most important methodologies. In order to select them, we have defined a set of criteria to prioritize methodologies

Proposed criteria

Market size:
large markets should be prioritized for maximum impact

Maturity:
assessed according to existing baselines, methodologies, tools

Size of effort:
low-effort & high-impact should be prioritized

D A diverse mix of stakeholders in each working group is key to ensure representativeness and broad adoption of the proposed changes

Mandate

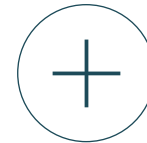
Ensure that methodologies encompass Brazilian characteristics to unlock the supply of high-integrity carbon credits

Example of stakeholder composition:



Core working group

- **Private sector**¹: Experienced developers and corporate players with carbon initiatives (e.g., *Pro Carbono – Bayer*)
- **Academia**: Research involving specific topics and generation of relevant datasets (e.g., *ESALQ/INSPER*)
- **Public agencies**: Involved in the development of carbon topics (e.g., *EMBRAPA*)



Consultation group

- **VVBs**: vast market-wide experience in auditing projects
- **NGOs**: experience with community engagements (e.g., *IDESAM*)

1. Developers and other private entities

