



TERO.006 - ARR, V1.1
METHODOLOGY, AFOLU, ARR
TERO CARBON AVALIAÇÕES E CERTIFICAÇÕES S.A.



TERO.006 - ARR
VERSION 1.1
METHODOLOGY, AFOLU, ARR

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IDENTIFICATION

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SOLUTION	Nature-Based Solutions (NBS)
SECTOR	Agriculture, Forestry and Other Land Use (AFOLU)
TYPE	Afforestation, Reforestation, and Revegetation (ARR)
ASSET GENERATED	Verified Carbon Unit (VCU) - Carbon Credit Asset
PROJECT ACTIVITIES	• Afforestation; • Reforestation; and • Revegetation.
GHG MITIGATION	Removal

LIST OF ACRONYMS

AFOLU	Agriculture, Forestry and Other Land Uses
AGB	Above-Ground Biomass
ARR	Afforestation, Reforestation, and Revegetation
BAU	Business as usual
BGB	Below-Ground Biomass
BP	Buffer Pool
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CRVE	Verified Emission Reduction or Removal Certificate (from the SBCE)
CS	Carbon Stock
DBH	Diameter at Breast Height
DDW	Down Dead Wood
ER	External Reviewer
EUC	Emissions Unit Criteria
GHG	Greenhouse gas
ICROA	International Carbon Reduction and Offsetting Alliance
IPCC	Intergovernmental Panel on Climate Change
KPI	Key Performance Indicator
LB	Leakage Belt
LRA	Legal Reserve Area
MRV	Measurement, Reporting, and Verification
MUA	Multiple-Use Area
NBS	Nature-based Solutions
PA	Project Area
PB	Property Boundary

PDD	Project Design Document
PPA	Permanent Preservation Area
QA/QC	Quality Assurance /Quality Control
RR	Reference Region
SBCE	Brazilian Greenhouse Gas Emissions Trading System (<i>Sistema Brasileiro de Comércio de Emissões de Gases de Efeito Estufa</i>)
SDG	Sustainable Development Goals
SOC	Soil Organic Carbon
TAC	Term of Conduct Adjustment (<i>Termo de Ajustamento de Conduta</i>)
VCU	Verified Carbon Unit - Carbon Credit Asset
VVB	Validation/Verification Body



LIST OF PROGRAMS

ID	NAME
DC.CER.001	Certification Program
DC.MET.001	Methodologies Program
DC.REG.001	Asset Program

LIST OF SUPPORTING DOCUMENTS

ID	NAME	SOLUTION
DC.COM.001	Definitions	All
DC.COM.003	Stakeholder Consultation Procedure	All
DC.GOV.001	Tero Carbon Governance Structure	All
DC.GOV.004	Grievance Management Procedure	All
DC.CER.002	Land Tenure Compliance Manual and Tero Carbon Seals for NBS Projects	NBS
DC.CER.003	Technical Guidelines for Carbon Quantification in AFOLU Projects	NBS
FR.CER.001	Project Scale Analysis Tool	All
FR.CER.002	Social and Environmental Safeguards Analysis Tool	All
FR.CER.003	Project Additionality Demonstration Tool	All
FR.CER.004	Non-Permanence Risk Analysis and Guarantee Mechanism Tool	NBS
FR.CER.005	Leakage Assessment and Management Tool for NBS VCU Projects	NBS
FR.CER.007	Acceptance Criteria Analysis Tool for Project Verification	All
TP.CER.004	[Template] Zero Deforestation Declaration	NBS
TP.CER.005	[Template] Leakage Risk Assessment and Negligibility Justification Form for Small-Scale NBS VCU Projects	NBS
Law nº 15.042/2024	Establishes the Brazilian Greenhouse Gas Emissions Trading System (SBCE)	All

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1. INTRODUCTION

This methodology establishes guidelines for the implementation of **Afforestation, Reforestation, and Revegetation (ARR)** projects aimed at removing greenhouse gases (GHG) from the atmosphere and generating Verified Carbon Units. Based on Nature-Based Solutions (NBS), the methodology considers environmentally responsible approaches to restore and/or expand vegetation cover (forests and/or other crops) in eligible areas within the AFOLU (Agriculture, Forestry, and Other Land Use) sector. In addition to climate mitigation, the methodology promotes sustainable land management, biodiversity conservation, the recovery of ecosystem services, and the generation of social benefits for local communities.

The methodology was developed in line with the principles of integrity and best practices recognized internationally, including those established by the Intergovernmental Panel on Climate Change (IPCC) and aiming for alignment with the criteria of high-quality accreditation programs, such as the International Carbon Reduction and Offsetting Alliance (ICROA) Code of Best Practice and the Emissions Unit Criteria (EUCs) of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Additionally, this methodology was prepared considering Law No. 15,042, of December 11, 2024, which establishes the Brazilian Greenhouse Gas Emissions Trading System (SBCE). The aim is thus to provide a technical framework that is not only robust for the voluntary market but can also facilitate the eventual accreditation of this methodology and the recognition of the Verified Emission Reduction or Removal Certificates (CRVEs) generated by projects that use it within the scope of the SBCE, as per Art. 25 and Art. 44 of the said Law.

This methodology is the intellectual property of Hdom Engenharia e Projetos Ambientais Ltda and was developed and registered under the Tero Carbon “Methodologies Program (DC.MET.001)”. It **MUST** be used in conjunction with the Tero Programs (“Certification Program (DC.CER.001)”, “Methodologies Program (DC.MET.001)”, “Asset Program (DC.REG.001)”) and their complementary documents (Tools, Policies, Manuals, Procedures, and Templates). These documents provide mandatory and detailed requirements for crucial aspects such as additionality (FR.CER.003), land tenure compliance (DC.CER.002), non-permanence risk analysis and guarantee mechanisms (FR.CER.004), leakage assessment (FR.CER.005), application of social and environmental safeguards (FR.CER.002), stakeholder consultation (DC.COM.003), and the validation and verification processes. This document and its application operate under the principles of the “Tero Carbon Governance Structure (DC.GOV.001)”, aiming to ensure the environmental integrity and credibility of the generated VCUs.

2. SCOPE, ACCEPTANCE CRITERIA, AND ACTIVITIES

2.1. Scope

This methodology applies to projects in the AFOLU sector that promote carbon removal through the establishment or recovery of vegetation cover.

2.2. Acceptance Criteria

This methodology applies to projects that meet the following acceptance criteria:

- i. **Land Tenure Compliance:** The project must be implemented on rural properties with proven land tenure regularity, according to the “Land Tenure Compliance Manual and Tero Carbon Seals for NBS Projects” (DC.CER.002), and may be privately or publicly owned.
- ii. **Territorial Configuration:** The area can be contiguous or composed of multiple parcels, as long as it forms an ecological mosaic that ensures the connectivity and integrity of the biome.
- iii. **Project Area Location and Additionality:** The Project Area (PA) can be located in Permanent Preservation Areas (PPAs) and Legal Reserve Areas (LRAs). However, the ARR activities cannot be motivated by legal requirements, court orders, or formal commitments, such as Terms of Conduct Adjustment (TACs) or mandatory environmental compensations, and must demonstrate additionality according to the “Project Additionality Demonstration Tool (FR.CER.003)”. As per Art. 46 of Law No. 15,042/2024, activities for the restoration, maintenance, and conservation of PPAs and Legal Reserves are eligible for the generation of carbon credits (CRVEs), provided they meet additionality criteria and are not pre-existing obligations.
- iv. **Additional Social and Environmental Impacts:** In addition to direct carbon removal, the project must demonstrate, through clear and monitorable indicators (as per the “Social and Environmental Safeguards Analysis Tool (FR.CER.002)”), the occurrence of at least two social and environmental co-benefits (SDGs, excluding SDG 13).
- v. **Compliance with Social and Environmental Safeguards:** The project must fully comply with the social and environmental safeguards established by the “Social and Environmental Safeguards Analysis Tool (FR.CER.002)”.
- vi. **Clear Identification of Key Roles:** The project must explicitly present the identification of the main parties responsible for its implementation. It is mandatory to indicate, at a minimum, a Lead Proponent, a Developer, a Generator, and an Implementer. Each role must be clearly defined, detailing the respective responsibilities and contributions to the project's

execution, as per the requirements of the "Certification Program (DC.CER.001)".

- vii. **(Reforestation and Revegetation, only) Area Eligibility and Land Use History:** The area designated for reforestation and/or revegetation must prove, through verifiable remote sensing analysis and other robust evidence as per the "Certification Program (DC.CER.001)", a minimum period of five years between the conversion—characterized by the suppression of original vegetation—and the start of reforestation or revegetation, ensuring adequate ecological conditions for the establishment of new vegetation cover. For Afforestation activities in areas that historically did not have forest cover, this prior conversion criterion does not apply, but the area must be eligible for afforestation and must not have been converted from other important native ecosystems in the last five years. The justification for the specific "non-forest" period must be presented in the PDD. Projects aiming for the SBCE should be aware that regulations may impose additional restrictions on areas with a recent history of deforestation.

2.3. Activities

This methodology provides for the generation of carbon credits (removal) through the following activities:

- I. **Afforestation:** Consists of establishing forests in areas where there has been no forest cover for a prolonged period, according to historical land use criteria. This activity promotes the removal of greenhouse gases (GHG) through carbon sequestration in biomass and soil, in addition to contributing to the restoration of ecosystems and the improvement of environmental services.
- II. **Reforestation:** Involves the recovery of forest cover in areas previously occupied by native vegetation that was converted to other uses, such as agriculture or pasture. To ensure eligibility, the methodology establishes a minimum period from the vegetation conversion to the start of the project. Reforestation contributes to GHG removal and the regeneration of ecological functionality.
- III. **Revegetation:** Encompasses the recovery of degraded areas through the introduction of perennial vegetation, without necessarily re-establishing a complete forest ecosystem. Revegetation may include tree, palm, shrub, or grass species that are native or economically viable, aiming at soil stabilization, recovery of ecosystem services, and carbon sequestration.

3. BASELINE

3.1. Selection of Project Activity Implementation Areas

The implementation area for the project activities, the Project Area (PA), must be geographically identified (**Figure 1**), along with the main geographical polygons of the rural property: Hydrography, Property Boundary (PB), Permanent Preservation Area (PPA); Multiple-Use Area (MUA), and Legal Reserve Area (LRA).

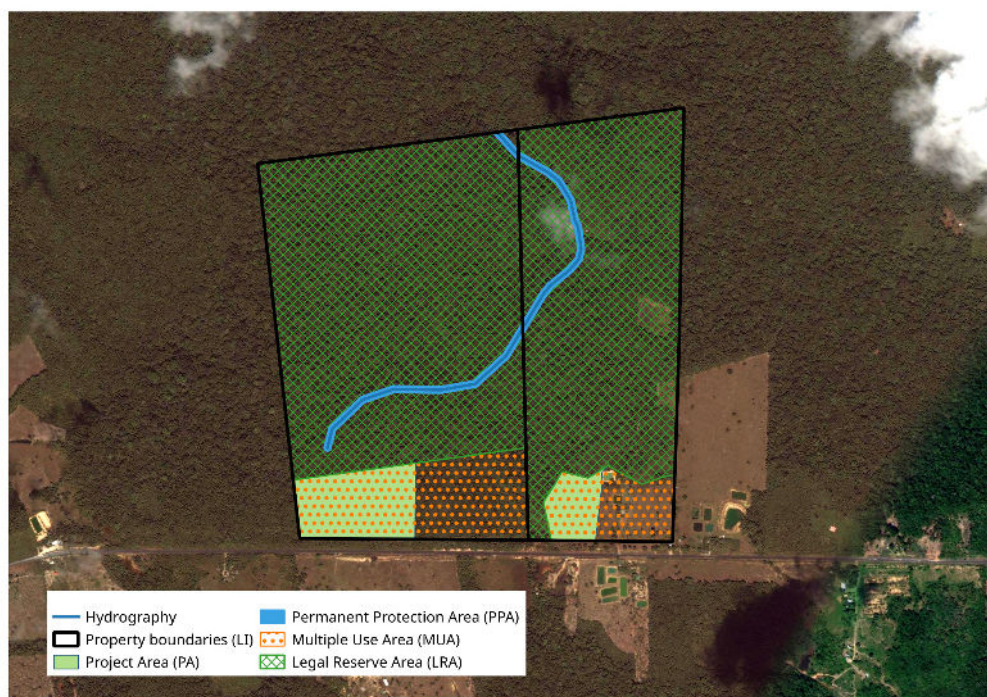


Figure 1. Map identifying the main geographical polygons of the project: Hydrography, Property Boundary (PB), Project Area (PA), Permanent Preservation Area (PPA); Multiple-Use Area (MUA), and Legal Reserve Area (LRA).

3.2. Selection of Carbon Pools Used in Carbon Stock Accounting

The project must indicate which carbon pools were used in the accounting of carbon stocks. **Table 1** presents the types of pools accepted by this methodology.

Table 1. Types of carbon pools accepted by the methodology.

POOL	ACRONYM	MANDATORY
Above-Ground Biomass	AGB	Yes

POOL	ACRONYM	MANDATORY
Below-Ground Biomass	BGB	Yes
Litter	Litter	Optional
Down Dead Wood	DDW	Optional
Soil Organic Carbon	SOC	Optional

The emission sources and greenhouse gases (GHG) considered in the accounting of the project activities are described in **Table 2**.

Table 2. Emission sources and GHGs considered in the accounting of project activities.

STAGE	SOURCE	GAS	USED	JUSTIFICATION
Pre-project (BAU)	Emissions from the use of nitrogen fertilizers	CO ₂	No	Conservatively excluded due to limitations of MRV tools.
		CH ₄	No	
		N ₂ O	No	
	Fossil fuel combustion	CO ₂	No	
		CH ₄	No	
		N ₂ O	No	
Project Implementation	Burning of plant biomass	CO ₂	Yes	If the project includes the burning of woody biomass as part of land clearing for planting, the resulting emissions must be accounted for.
		CH ₄	No	Conservatively excluded due to limitations of MRV tools.
		N ₂ O	No	Conservatively excluded due to limitations of MRV tools.
	Emissions from the use of nitrogen fertilizers	CO ₂	No	Conservatively excluded due to limitations of MRV tools.

STAGE	SOURCE	GAS	USED	JUSTIFICATION
Project Implementation	Emissions from the use of nitrogen fertilizers	CH ₄	No	Conservatively excluded due to limitations of MRV tools.
		N ₂ O	Yes	May represent a significant emission and, therefore, must be accounted for.
	Fossil fuel combustion	CO ₂	Yes	If the project involves harvesting products from revegetation, the emissions generated by the use of vehicles and machinery in this activity must be accounted for.
		CH ₄	No	Conservatively excluded due to limitations of MRV tools.
		N ₂ O	No	Conservatively excluded due to limitations of MRV tools.

3.3. Baseline Selection and Additionality Demonstration

The selection of the baseline and the demonstration of additionality must consider the challenges faced by rural landowners, who often opt for more profitable activities, such as livestock and agriculture, over planting trees. Therefore, the project must compensate for opportunity costs and become economically attractive. For this, the integration of plantings with economic purposes, such as agroforestry systems or commercial monocultures, is recommended to diversify income sources and ensure financial viability, in addition to promoting environmental and social benefits for the region.

In Brazil, ARR projects have the prerogative to generate carbon credits in Permanent Preservation Areas (PPAs) and Legal Reserves (LRs) based on Art. 46 of Law No. 15,042, of December 11, 2024, which establishes the Brazilian Greenhouse Gas Emissions Trading System (SBCE), provided they meet additionality criteria and are not pre-existing obligations. This premise reinforces the validity of projects that prioritize the restoration, maintenance, and conservation of these areas, contributing to the generation of carbon credits.

At the same time, the validity of an approach that prioritizes the planting of

native trees and the promotion of biodiversity, resulting in a diverse and resilient forest mosaic, is recognized. This strategy contributes to the conservation of ecosystems and meets the growing demand for environmentally integrated projects. In summary, the baseline must reflect the actual land use and the opportunity costs faced by landowners, ensuring the additionality of the projects. Thus, whether through diversified plantings or economically viable monocultures, Afforestation and Reforestation projects can provide effective GHG removal, local economic development, and the conservation of natural resources.

To demonstrate additionality, the Project Developer **MUST** fully apply the Tero Carbon “Project Additionality Demonstration Tool (FR.CER.003)”, following the appropriate flow and tests for the project's scale and type. The analysis must be particularly robust for projects aiming for recognition in the SBCE. The complete analysis, including all justifications and evidence, **MUST** be presented in the Project Design Document (PDD).

The demonstration of additionality is a central pillar of carbon credit integrity, as required by standards like ICROA and CORSIA, and is a fundamental criterion for the accreditation of methodologies and projects under the SBCE (Art. 25, II and Art. 44 of Law No. 15,042/2024).

3.4. Baseline for Removals by Natural Regeneration

To account for the natural regeneration of the property's vegetation or the maintenance of a degraded state, the calculation of removed Greenhouse Gas (GHG) emissions in the project's baseline must consider the scenario where the project is not implemented, reflecting the natural or stagnant dynamics of the carbon stock over time.

The baseline must be constructed from the initial carbon stock (CS_0) present in the target area and from well-founded projections of its possible evolution (or lack thereof) in the long term, considering environmental, historical, and socioeconomic factors that influence land use.

The developer must present technical evidence supporting the adopted model, and may use historical series of satellite images and local data to demonstrate whether the area has potential for natural regeneration or will remain in a degraded state without direct intervention. This reference scenario is essential for the correct quantification of the project's climate benefits, ensuring the credibility and accuracy of the carbon credits generated through the effective removal of GHG. Equation (1) shows how the baseline should be presented.

$$CS_{BSL\ NAT\ n} = CS_{NAT\ 0} + fCS_{NAT\ n} - IC_{BSL\ NAT\ n} \quad (1)$$

Where:

CS_BSL_ NAT_n	=	Baseline of the carbon stock removed/maintained by natural regeneration (NAT) in period “n” (in tCO ₂ e).
CS_NAT_0	=	Initial carbon stock in the NAT/ARR area at the start of the project (t ₀) (in tCO ₂ e). (May be zero if the area was completely degraded).
fCS_NAT_n	=	Function representing the natural variation of the carbon stock in the NAT area during period “n” (in tCO ₂ e).
IC_BSL_ NAT_n	=	Confidence Interval applied to ensure conservatism.

3.5. Leakage

The assessment and accounting of leakage (LK_n) are mandatory for all ARR projects seeking to generate VCUs using this methodology. The Project Developer **MUST** fully apply the procedures and requirements established in the Tero Carbon “Leakage Assessment and Management Tool for NBS VCU Projects (FR.CER.005)”.

The result of this analysis will be a Net Leakage (LK_n) value for each verification period “n”, which will be used to adjust the project's net removals. The entire leakage assessment approach, along with assumptions, data sources, calculations, and results, **MUST** be fully presented, justified, and documented in the Project Design Document (PDD) for evaluation by the VVB. The continuous monitoring of leakage throughout the crediting period must follow the specifications in Section 6 of FR.CER.005.

The assessment and mitigation of leakage is a fundamental integrity requirement for programs like ICROA (Criterion 5.5.2.b) and CORSIA (EUC 3.6), and an important principle for the credibility of CRVEs in the SBCE (Art. 2, XXXV of Law No. 15,042/2024 defines leakage).

3.6. Quantification of the Current Carbon Stock in the Project Area

The quantification of the current carbon stock in the biomass of the ARR project area (CS_PROJ_ARR_n) must be presented with a known confidence interval (CI). This methodology requires the use of the document “Technical Guidelines for Carbon Quantification in AFOLU Projects (DC.CER.003)” as the primary technical reference for procedures of forest inventory, sampling, measurement, use of allometric equations, and calculation of biomass and carbon for the planted or regenerating species. Complementary methods or site-specific adaptations may be presented, provided they are technically and

scientifically valid, transparently documented in the PDD, demonstrate equivalence or superiority in precision and conservatism, and are approved by the VVB and Tero Carbon.

3.7. Calculation of Net GHG Removals by the Project

The Net GHG Removals by the ARR project in verification period “n” ($NR_{PROJ_ARR_n}$) are calculated as the increase in the carbon stock in the project area relative to the baseline, minus any direct project emissions:

$$NR_{PROJ_ARR_n} = (CS_{PROJ_ARR_n} - CS_{BSL_NAT_n}) - E_{PROJ_ARR_n} \quad (2)$$

Where:

$NR_{PROJ_ARR_n}$	= Net GHG removals by the ARR activity in verification period “n”, before leakage adjustment (in tCO ₂ e).
$CS_{PROJ_ARR_n}$	= Verified carbon stock in the ARR project area at the end of period “n” (in tCO ₂ e).
$CS_{BSL_NAT_n}$	= Baseline carbon stock in the ARR project area at the end of period “n” (in tCO ₂ e), as per Equation 1.
$E_{PROJ_ARR_n}$	= GHG emissions within the project area boundaries that are a direct result of ARR activities (e.g., soil preparation, seedling production, fertilization) during period “n” (in tCO ₂ e).

After calculating the Project's Net Removals ($NR_{PROJ_ARR_n}$) and determining the project's Net Leakage (LK_n) according to the “Leakage Assessment and Management Tool for NBS VCU Projects (FR.CER.005)”, the Net Removals Adjusted for Leakage ($VCU_{adj_LK_ARR_n}$) are calculated:

$$VCU_{adj_LK_ARR_n} = NR_{PROJ_ARR_n} - LK_n \quad (2a)$$

Where:

$VCU_{adj_LK_ARR_n}$ = Net removals from the ARR activity in period “n”, adjusted for leakage (in tCO₂e). This value will serve as the basis for calculating the increment and the buffer in Section 3.9.

$NR_{PROJ_ARR_n}$ = As per Equation 2.

LK_n = Total net leakage of the project in period “n”, quantified as per FR.CER.005 (tCO₂e).

Confidence Interval (CI): All estimates of carbon stock and emissions/removals must be accompanied by their respective confidence intervals. Uncertainty propagation must be performed to determine the final CI of the $VCU_{adj_LK_ARR_n}$ estimate. The final value to be carried forward for the calculation of permanent credits (Section 3.9) **MUST** be the lower bound of the confidence interval (e.g., the 5th percentile for a 90% CI), ensuring the principle of conservatism.

3.8. Non-Permanence Risk and Guarantee Mechanisms

Ensuring the permanence of carbon removals is a fundamental requirement. Programs like ICROA (Criterion 5.3) and CORSIA (EUC 3.5) require mechanisms to address the non-permanence risk (reversal) of mitigations. The SBCE, through Art. 21, § 1, V of Law No. 15,042/2024, also provides for protection mechanisms against reversal of removals. For Afforestation, Reforestation, and Revegetation (ARR) projects using this methodology, the mandatory mechanism to address Non-Permanence Risk (NPR) is the **Buffer Pool (BP)**.

The Project Developer **MUST** fully apply the procedures and requirements of the “Non-Permanence Risk Analysis and Guarantee Mechanism Tool (FR.CER.004)” of Tero Carbon. Specifically:

1. **Assess Non-Permanence Risk (NPR_{total}):** Use one of the options described in Section 4 of FR.CER.004 (Simplified or Detailed Approach) to calculate the project's NPR_{total} .
2. **Calculate the Contribution to the Buffer Pool:** Follow the procedures in Section 7 of FR.CER.004 to determine the permanent fraction ($\alpha = 1 - NPR_{buffer}$) and the quantity of VCUs ($Buffer_n$) to be allocated to the Buffer Pool, based on the assessed NPR_{total} (or another NPR_{buffer} option as per FR.CER.004).

The entire Non-Permanence Risk analysis, the assumptions, the calculations for the buffer contribution, and the risk monitoring plan must be fully presented and documented in the PDD.

3.9. Calculation of Generated Permanent Carbon Credits

For ARR activities, which mandatorily use the Buffer Pool (BP) approach, the permanent carbon credits generated in verification period “n” ($pVCU_{ARR_n}$) are calculated based on the “high-water mark” principle to ensure that credits are issued only on the net and additional carbon increment.

$$\Delta NR_{ARR_n} = MAX(0; VCU_{adj_LK_ARR_n} - CTOT_{REM_ARR_max(n-1)}) \quad (3a)$$

Where:

ΔNR_{ARR_n} = Net increment of removals by ARR in period “n” eligible for crediting (in tCO₂e). The $MAX(0; \dots)$ function ensures that if there is no increment, the value will be zero.

$VCU_{adj_LK_ARR_n}$ = Net removals adjusted for leakage in period “n”, after conservative application of the CI, as per Section 3.7 (tCO₂e).

$CTOT_{REM_ARR_max_n-1}$ = The highest value of $VCU_{adj_LK_ARR_n}$ ever recorded and for which VCUs were issued in any previous verification period. For the first verification, $CTOT_{REM_ARR_max_n-1} = 0$.

Based on the net increment (ΔNR_{ARR_n}), the permanent VCUs to be issued and the contribution to the Buffer Pool are calculated:

$$pVCU_{ARR_n} = \Delta NR_{ARR_n} \times \alpha_{ARR} \quad (3b)$$

$$Buffer_{ARR_n} = \Delta NR_{ARR_n} \times (1 - \alpha_{ARR}) \quad (3c)$$

Where:

$pVCU_{ARR_n}$ = Permanent VCUs generated by the ARR project in verification period “n”.

$Buffer_{ARR_n}$ = Contribution to the project's Buffer Pool in period “n”.

α_{ARR} = Permanent fraction for the ARR component, calculated as $(1 - NPR_{buffer_ARR})$, where NPR_{buffer_ARR} is the Non-Permanence Risk applicable to the buffer, determined as per FR.CER.004.

After issuance, the value of $CTOT_REM_ARR_max$ for the next verification will be updated to the new maximum value achieved, i.e.: $CTOT_REM_ARR_max_n = MAX(CTOT_REM_ARR_max_n-1; VCU_adj_LK_ARR_n)$.

3.10. Definition of Project Scale

The project's scale (Small or Large-Scale) **MUST** be determined using the Tero Carbon “Project Scale Analysis Tool (FR.CER.001)”, based on the annual estimate of $pVCU_ARR_n$ generation. The scale classification and its justification **MUST** be presented in the PDD.

3.11. Project Start Date and Retroactivity

The Project Start Date (t_0) is defined by the Project Developer in the Project Design Document (PDD). Projects using this **TERO.006 – ARR** methodology may have a retroactive t_0 .

The ability to credit retroactive removals is a feature of some carbon programs. However, for compliance with schemes like CORSIA, there may be restrictions on the eligibility of very old vintages. Developers should be aware of the specific requirements of the markets their credits are intended for. Within the SBCE, the regulation may establish specific rules on retroactivity for CRVEs.

For VCUs to be issued for periods prior to the project's validation date, the Developer **MUST** fully comply with the Measurement, Reporting, and Verification (MRV) evidence requirements for the entire claimed retroactive period. These requirements are detailed in the Tero Carbon “Certification Program (DC.CER.001)” and include, but are not limited to, the presentation of robust and auditable evidence for:

- The performance of an initial biomass inventory (or equivalent, as per Section 3.6 of this methodology and the “Technical Guidelines for Carbon Quantification in AFOLU Projects (DC.CER.003)”) before or at the t_0 date, especially for the baseline scenario.
- The maintenance of the project area's conditions and the implementation of ARR activities since t_0 (e.g., planting dates, species, planted area).
- Effective governance over the project area by the proponent since t_0 .

- The demonstration of project additionality, valid for the entire period since t_0 , according to the "Project Additionality Demonstration Tool (FR.CER.003)".
- Continuous compliance with social and environmental safeguards (as per the "Social and Environmental Safeguards Analysis Tool (FR.CER.002)") since t_0 .
- Valid and uninterrupted land tenure compliance since t_0 (as per the "Land Tenure Compliance Manual and Tero Carbon Seals for NBS Projects (DC.CER.002)").

The maximum retroactivity period allowed for the first issuance of VCUs is defined in the "Certification Program (DC.CER.001)" (currently 15 years prior to the PDD submission date for validation). The absence of robust and verifiable evidence for any of the requirements for the retroactive period will result in the inability to issue VCUs for that period. The final decision on the acceptance of the retroactive period and the presented evidence rests with Tero Carbon, based on the VVB's assessment.

4. MONITORING PROCEDURE

4.1. Monitoring Plan

The Project Developer **MUST** prepare and implement a detailed Monitoring Plan, which will be an integral part of the Project Design Document (PDD). This plan is fundamental to ensure the quality, traceability, transparency, and integrity of the project's results over time, to verify continued compliance with the requirements of this methodology and the Tero Programs, and to meet the Measurement, Reporting, and Verification (MRV) standards required by high-integrity markets and the SBCE (Art. 2, XVIII of Law No. 15,042/2024).

The Monitoring Plan **MUST** cover, at a minimum, the following components, with explicit references to the applicable Tero tools and procedures:

1. Maintenance of Project Acceptance Criteria:

- Procedures to continuously verify that all project eligibility criteria (defined in Section 2.2 of this methodology) and commitments made (e.g., "[Template] Zero Deforestation Declaration" (TP.CER.004), if applicable to the project area's context) remain valid.

2. Monitoring of Carbon Stock in the Project Area (CS_{ACTUAL_n}):

- Parameters to be monitored for ARR activities (e.g., effectively afforested/reforested/revegetated area, species used, survival rate,

planting density, Diameter at Breast Height (DBH), height of trees/plants, canopy development).

- Biomass/carbon inventory methodology (according to the "Technical Guidelines for Carbon Quantification in AFOLU Projects (DC.CER.003)"), including sampling design, plot size and shape, measurement frequency, and data QA/QC procedures.
- Procedures for the periodic recalculation of carbon stocks.

3. Monitoring of Project Emissions (E_PROJ_ARR_n):

- Identification and quantification of any GHG emission sources within the project boundaries that are a direct result of ARR activities (e.g., soil preparation with machinery, production and application of fertilizers, burning of residual biomass if it occurs, fuel use in planting and management operations). Quantification methodologies as per IPCC or other approved sources.

4. Monitoring of Leakage (LK_n):

- Application of the monitoring requirements of the "Leakage Assessment and Management Tool for NBS VCU Projects (FR.CER.005)", according to the project's scale, detailing the analysis in the LB and RR if applicable.

5. Monitoring of Non-Permanence Risk (NPR) and the Buffer Pool (BP):

- Continuous monitoring of the risk factors (internal and external) identified in the NPR analysis (conducted according to the "Non-Permanence Risk Analysis and Guarantee Mechanism Tool (FR.CER.004)").
- Procedures for detecting, recording, and immediately reporting to Tero Carbon any reversal events (intentional or unintentional) affecting the credited carbon stocks. Reversal compensation mechanisms must be triggered as per FR.CER.004 and aligned with SBCE requirements for reversal protection.
- Monitoring the integrity of the areas contributing to the Buffer Pool and the management practices that ensure the permanence of the removed carbon.

6. Monitoring of Social and Environmental Safeguards and Co-benefits:

- Implementation and monitoring of the effectiveness of social and environmental risk mitigation measures.
- Monitoring of the Key Performance Indicators (KPIs) for the mandatory minimum of two co-benefits (SDGs, excluding SDG 13) and any others claimed, according to the "Social and Environmental Safeguards Analysis Tool (FR.CER.002)".

7. Monitoring of Land Tenure Compliance:

- Procedures to ensure the maintenance of land tenure regularity, according to the "Land Tenure Compliance Manual and Tero Carbon Seals for NBS Projects (DC.CER.002)".

8. Monitoring of Stakeholder Engagement:

- Maintenance of communication channels with stakeholders and recording of interactions, according to the "Stakeholder Consultation Procedure (DC.COM.003)" and "Grievance Management Procedure (DC.GOV.004)".

For each parameter, the Plan must specify: variable, unit, collection/calculation methodology (referencing Tero), frequency, responsible party, and QA/QC. The PDD must indicate what is mandatory for validation and the data expected for verifications.

4.2. Monitoring Methodology and Quality

As part of the monitoring procedure, the project developer must establish a clear and replicable methodology for data collection, analysis, and reporting, ensuring that the processes are auditable and consistent across verification cycles. The plan should describe the tools, technologies, and frequencies used for monitoring, as well as identify the responsibilities of the involved parties. It is also necessary for the developer to adopt measures to ensure data quality, including internal audits, control procedures, and detailed records of all monitored activities.

4.3. Period Between Verifications

The period between verifications must be defined by the developer in the Monitoring Plan, considering the nature of the project and the frequency required to ensure the quality and traceability of the results. However, this interval must not exceed three years, to ensure that the collected data remains up-to-date and consistent with the project's reality. Ideally, verifications should be conducted annually. In the event of the publication of a new major version of the TERO.006 methodology (e.g., v1.X to v2.0), the project must undergo re-validation before the next scheduled periodic verification, as established in the Tero Carbon "Certification Program (DC.CER.001)".

4.4. Monitoring Report

For each monitoring period, when requesting a verification, the project developer must submit a comprehensive Monitoring Report. This report must present the quantified results of net emissions, clearly indicating the carbon credits requested for the crediting period. In addition to the written document, the developer must also provide spreadsheets and supporting information available in the "Acceptance Criteria Analysis Tool for Project Verification (FR.CER.007)". This documentation ensures that all data and calculations are transparent, auditable, and consistent with the project's monitoring and verification requirements.

5. REVIEW OF THIS METHODOLOGY

This methodology (**TERO.006 – ARR**) will be periodically reviewed by Tero Carbon in collaboration with the methodology author (Hdom Engenharia e Projetos Ambientais Ltda) or at the initiative of Tero Carbon, according to the procedures established in the "Methodologies Program (DC.MET.001)". Reviews may occur, at a minimum, every 5 (five) years, or sooner, if necessary, to:

- a. Incorporate relevant scientific and technical advances for ARR activities, including new approaches for estimating carbon stocks, growth models, planting techniques, survival monitoring, and assessment of permanence risks.
- b. Reflect significant changes in national policies, regulations (such as the evolution of the Brazilian Greenhouse Gas Emissions Trading System - SBCE regulation, as per Law No. 15,042/2024) or international ones, or in market requirements, including those of accreditation schemes like ICROA and CORSIA.
- c. Accommodate consistent and constructive feedback from Project Developers, VVBs, experts, and other stakeholders, through Tero Carbon's formal channels ("Stakeholder Consultation Procedure (DC.COM.003)", "Grievance Management Procedure (DC.GOV.004)").
- d. Correct any inconsistencies, ambiguities, or errors identified.
- e. Ensure continuous alignment with the Tero Programs and their complementary documents.

Substantial revisions will follow the full process of the "Methodologies Program (DC.MET.001)", and may include review by an ER and public consultation. Minor revisions may have a simplified process.

Tero Carbon reserves the right to suspend or deactivate this methodology as detailed in the "Methodologies Program".

VERSION HISTORY

VERSION	DATE	NOTES
1.1	06/16/2025	Complete alignment with Tero Programs v2.1. Leakage and Non-Permanence Risk (NPR) become mandatory, with Buffer Pool (BP) as the mandatory mechanism for ARR, referencing Tero Tools. Detailed and integrated Monitoring Plan. Retroactivity section added. Mandatory references to Tero Tools for Additionality, Stock Estimation, Scale, Safeguards, and Land Tenure Compliance. Focus on integrity and preparation for ICROA/CORSIA and SBCE.
1.0	04/02/2025	Initial version approved by the Directorate and launched for public consultation.