



JOINT VALIDATION & VERIFICATION REPORT

PROYECTO CARBONO FORESTAL VICHADA ALIANZA FIDUCIARIA S.A.

BCR-CO-139-14-001



Validation & Verification Report

Project Title	Proyecto de Carbono Forestal Vichada Alianza Fiduciaria S.A.
Project ID	BCR-CO-139-14-001
Project holder	Alianza Fiduciaria SA - Fideicomiso
Project Type/Project activity	AFOLU
Grouped project	No
Version number of the Project Document to which this report applies	V2.1
Applied methodology	METHODOLOGICAL DOCUMENT. AFOLU SECTOR. BCR0001 Quantification of GHG Emission Reductions. GHG REMOVAL ACTIVITIES. Version 3.0
Project location	La Primavera, Vichada, Colombia.
Project starting date	01/01/2018
Quantification period of GHG emissions reductions/removals	01/01/2018 - 31/12/2047 (30 years)
Estimated total and mean annual amount of GHG emission reductions/removals	Total amount of GHG emissions removals 1,001,597 tCO ₂ eq. With an average of 33,387 tCO ₂ eq./year.

Monitoring period	First monitoring period: 01/01/2018 – 31/12/2019
Total amount of GHG emission reductions/removals	30,654 tCO ₂ . With an average of 15,327 tCO ₂ /year.
Contribution to Sustainable Development Goals	SDGs 8, 12, 13 and 15
Special category, related to co-benefits	N/A
Version and date of issue	V.1.2. 21/03/2024
Work carried out by	Lead Audit: Claudia Polindara. Audit: Daniel Bermejo. Audit: Richard Gonzales Audit in training: Joao Barata Technical Reviewer: Javier Cócera.
Approved by	José Luis Fuentes.

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1 Executive summary

The Vichada Alianza Fiduciaria S.A. Forest Carbon Project (VAF) is based on changing land use from the traditional extensive cattle ranching model to sustainable forestry production systems, to create a landscape of biological and productive corridors that promote multiple economic, social and environmental benefits, including actions for climate change mitigation, regulation of water flows and conservation of the fauna and flora of the Upper Orinoquia, among others.

This is an afforestation and reforestation (A/R) project of 1,641.70 ha of *Pinus caribea* of the 1,645.85 eligible hectares. The project is located in the municipality of La Primavera, department of Vichada in the Eastern Plains of Colombia. The responsible entity is Alianza Fiduciaria S.A. as trustee of the autonomous Patrimonios Fidecomiso Galicia and Andalucía.

The start date of the VAF project is 01 January 2018, until 12 December 2047, with a first verification period from 01/01/2018 – 31/12/2019.

The project generates net 30,654 tCO₂ GHG removals from ARR activities in the monitoring period (01/01/2018 – 31/12/2019) that is being submitted for verification, for all sinks considered (above-ground and below-ground biomass, soil organic carbon, shrubs, leaf litter and dead wood on soil).

Likewise, the project contributes to SDGs 8, 12, 13 and 15 through the development of its activities. This takes into account not only benefits to the community of the area and the biodiversity of the area, but also generates GHG removals.

The validation confirms that the ex-ante analysis of the project's GHG removals has been carried out in an accurate, transparent, and conservative manner, being estimated a total of 1,001,597 tCO_{2e}, for a GHG removal quantification period of 30 years, and average of 33,387 tCO_{2e}. For the first monitoring period, AENOR issues a positive verification opinion for the verified GHG emission removals of 30,654 tCO_{2e} from 01/01/2018 – 31/12/2019, which means 24,523 tCO_{2e} of marketable offsets and a reserve of non-marketable offsets of 6,131 tCO_{2e}.

2 Objective, scope and criteria

The objective of the validation and verification audit was to carry out an independent assessment of the project in order to determine:

- That the project complies with all the requirements of the BioCarbon Registry Standard Version 3.2. September 23, 2023.
- That the PD (Project Description) and supporting information comply with the requirements of ISO 14064-2:2019 and the Colombian Legal Framework.
- That the project complies with the rules and criteria of the Colombian carbon market.
- That the project, its activities, methods and procedures, described in the PD document and its corresponding annexes, including the monitoring plan, comply with the criteria established in this report;
- That the activities, methods, and procedures, including monitoring procedures, have been implemented in accordance with the PD; and follow the national regulations that apply to climate change mitigation initiatives.
- Verify compliance in the implementation of mitigation project activities, including those associated with the methodology selected for the project.
- Assess and verify compliance with the principles of the monitoring, verification and reporting system necessary to comply with current legislation.

The following criteria were used to evaluate this project:

- Methodological Document. AFOLU Sector. Bcrooo1 Quantification of GHG Emission Reductions. GHG Removal Activities. Version 3.0.
- BCR Standard from differentiated responsibility to common responsibility. Version 3.2. September 23, 2023.
- Validation and Verification Manual Greenhouse Gas Projects. V2.2. October 19, 2023.
- Permanence and Risk Management. BCR Tool. V1.0. March 7, 2023.

The scope of the validation and verification audit of the GHG mitigation project is the following:

1. to validate the project activities, its monitoring plan, its GHG Greenhouse Gas sources, sinks and/or reservoirs, its period of quantification of GHG emission reductions by removal activities, its baseline scenario, its legal and information requirements management processes, maximum mitigation potential and the BioCarbon Registry v2.0 guidelines and methodological documents.
2. Verify GHG emission removals, implementation of activities and their reported impact from 01 January 2018 to 31 December 2019.

In addition, the following documents were used as reference during the audit process:

- Good practice guide for land use, land use change and forestry. IPCC, 2003
- Good Practice Guidance for Land Use, Land Use Change and Forestry. IPCC, 2006
- AFOLU non-permanence risk tool. V.04
- Estimation of NON-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity.
- ISO 14064:2019
 - Part 2: Specification with guidance, at project level for the quantification, monitoring and reporting of emission reductions or enhancements in greenhouse gas removals.
 - Part 3: Specification with guidance for the verification and validation of greenhouse gas declarations (2019)
- ISO 14065:2020 (EN) Greenhouse gases - Requirements for bodies performing validation and verification of greenhouse gases, for use in accreditation or other forms of recognition.

Furthermore, the following standards were applied:

- National regulations:
 - Decree 926 of 2017. Ministry of Finance
 - Law 1931 of 2018 "Climate Change Law".
 - Resolution 1447 of 01 August 2018 of the Ministry of Environment and Sustainable Development and its amendment Resolution 831 of 20 September 2020.

3 Validation and verification planning

As part of the validation and verification process (first validation phase), a field visit was carried out in the project area in order to assess its state of implementation, the quality of the field data collection techniques, compliance with the monitoring plan, the opinion of the parties involved and the management of the forest plantation /16/.

AENOR carried out a thorough and meticulous review of the spreadsheets to verify the correct application of the methodology (formulas, equations, spreadsheets) and checked that the data necessary for the calculation of GHG removals and reductions were adequately provided. Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the claimed emission reductions and removals are free from material errors, omissions, or inaccuracies.

As described below, findings were issued to ensure that the project complied with all requirements.

Given that the initial validation and verification process was carried out under NTC 6208 the guidelines of the ProClima standard, and the calculation methodology AR-ACM0003 v2.0, this second process was required to perform a gap analysis between this standard and the BCR 2.0 standard, to establish the differences between the first and the second validation process. Finally, the project updates the project according to the Standard BCR v3.2.

Section 3.2 of this report indicates the roles and responsibilities of the audit team, Section 3.3. concludes the level is assurance and materiality.

AENOR reproduced and verified 100% of the spreadsheets in the Excel file Section 3: Exante-Alianza-FID for the ex-ante estimates during the GHG emission removals quantification period and Excel file: Ex-post 2018 – 2019. V02.1

The project boundaries in the project area and the monitoring period were 100% verified using the GIS database, provided in Section 1. Project type and eligibility. Legal land tenure was validated in Section 5. Carbon ownership and rights. Changes in carbon pools (*P. caribaea*) in the project area were 100% verified.

In addition to the review of compliance with the requirements of ISO 14064-2:2019, the development of the validation/verification includes the strategic and risk analysis, with the issues indicated in ISO 14064-3:2019 being assessed by the audit team.

AENOR considers that the project manager has sufficient knowledge of forestry projects, monitoring activities and the requirements of the Standard for the Voluntary Market - BCR from differentiated to common responsibility Version 3.2, so the risks are minimal and assumable. However, AENOR performed the following sampling:

The activities where risks were assessed were the monitoring system assessments (data flow, data control procedures, etc.) but mainly the quality of the raw data, as well as the sources and calculations of the spreadsheets. AENOR reproduced and verified 100% of the sheets annexed to the PD-MR /1/ and the other spreadsheets for the monitoring period for the project area /2.1/. The project boundaries and land cover changes in the project area were also 100% verified using the GIS database /15/. Carbon stock changes by vegetation class in the project area were also 100% verified, using the sources cited in the PD-MR.

Furthermore, AENOR confirms that sufficient evidence was presented for the reported anthropogenic net removals of GHG emissions and that there is a clear audit trail containing the evidence and records that validate the figure stated in this Validation and Verification Report due to:

- Sufficient available evidence: The project proponent has provided 100% of the data used in the calculations to achieve the final reported amount of GHG emission removals.

- Nature of evidence: the raw data was obtained from credible and consistent sources. They are detailed in the project documents and have been provided to the verification team, which are listed in Annex 3.
- Cross-checked evidence: AENOR cross-checked the information gathered through an on-site inspection of the project area and by reproducing the calculations.

Therefore, AENOR confirms that the figures indicated in the Monitoring Report (as part of the PD document) are correct and confirms that it is able to certify the requested net anthropogenic GHG removals based on verifiable and credible evidence.

Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the project complies with the conditions established by the AFOLU Sector Methodological Document for the Quantification of GHG Emission Reductions. Removal Activities. - BCR0001 V3.0) and the BioCarbon Registry Version 3.2 standard; and that the requested emission removals are free from material errors, omissions, or misstatements.

3.1 Validation and verification plan

The verification audit was performed through a combination of documentation review, site visit and interviews and communications with relevant personnel of the project proponent. The project was assessed for compliance with the criteria described in Section 2 of this report.

The validation and verification started in 2019, of this process obtained a first report, which it didn't registered by the holder. In 2023 restarted the process with the changes of the standard, and this final report joint evaluations and the process finished in February 2024.

3.2 Audit team

AENOR team has work experience and technical knowledge of GHGs, awareness of the Standard BCR, and general rulers corresponding to the described criteria in Section 2 of this report. In summary, the audit team complies with the skills and sectoral competencies required in the CR Validation and Verification Manual (VVM).

Before being presented to the client, all versions of the verification report were subjected to an independent internal technical review to ensure that all verification activities were done in accordance with the relevant AENOR guidelines. The technical review was performed by a technical reviewer qualified by AENOR's qualification scheme for program BCR.

Annex 1 of this report submits the information corresponding to the professional training and competencies of the audit team. The audit team consisted of the following members:

Table 1 Audit Team

Name	Role in the Team	Activities carried out
Claudia Polindara	Lead Auditor	- Documentation Review - Identification of findings - Validation and Verification Report
Daniel Bermejo	Auditor	- Documentation Review
Richard Gonzales	Auditor	-Visit on site - Documentation Review - Validation and Verification Report (first document)
Joao Barata	Auditor in training	Documentation Review
Javier Cócera	Technical reviewer	Technical Review

The professionals belong to the audit team indicates to AENOR that they there are any conflicts of interest before to start the validation and verification, hence, the auditors can act objectively and independently, in accordance with the laws that govern the purpose of mentioned services.

According to section 8.2.4 of the Validation and Verification Manual v2.2 of the BCR Program, AENOR indicates the following:

- The audit team has the compromise to not transmit or reveal to third parties any Company information to which they access as a result of the performance of the audit process.
- The Audit Team of AENOR complies with all the provisions of the BCR's Code of Ethics.

Likewise, the auditors agreed to avoid any type of relationship with people or entities that might have the purpose of money laundering or terrorist financing.

3.3 Level of assurance and materiality

Through the audit process and in accordance with the non-conformities and requests for clarification generated, a positive assessment statement is issued which provides reasonable assurance that the project meets the criteria set out in Section 2 and the GHG statement is materially correct and credible.

For validation and verification, the guidelines of BCR Standard 3.2 - from differentiated responsibility to common responsibility.

- a) The validation and verification assurance level shall not be less than 95%.
- b) The material discrepancy of the data supporting the baseline and the estimate of GHG emission removals or reductions may be up to $\pm 5\%$.
- c) *The consistency of the baseline of the Project in accordance with the methodology applied, for the specific case of this project, the Methodology for the Quantification of GHG Emission Reductions. Removal Activities. - BCR0001 Version 3.0.*
- d) Quantification of the mitigation results against the validated baseline, in accordance with the Quantification of GHG Emission Reduction Methodology. Removal Activities. - BCR0001 Version 3.0.
- e) Co-benefit assessment and indicators related to the Sustainable Development Goals.

The nature and extent of the validation and verification activities have been developed in accordance with sections 9, 10 and 11 of the BCR GHG Project Validation and Verification Manual Version 2.3 of 2024.

Considering the above, the following criteria have been taken into account for the assessment of the project Carbono Forestal Vichada Alianza Fiduciaria S.A.:

- a) In accordance with the provisions of Article 44 of Resolution No. 1447 of 1 August 2018 of the Ministry of Environment and Sustainable Development, the level of assurance used in the audit was not less than 95% and the maximum material discrepancy of the data accepted was $\pm 5\%$. Errors found in the spreadsheets were corrected, errors never exceeded 5%.
- b) The quantification of the mitigation results against the validated baseline is in accordance with the national regulations in force and the methodology applied.
- c) The evaluation of the contributions to the Sustainable Development Goals (SDGs) in the activities implemented was carried out.

3.4 *Sampling plan*

The sampling plan's objective was to provide a risk assessment to identify the kind and scope of the verification processes required to guarantee that the risk of auditing error was minimized to a reasonable level. From each item, the verification sampling plan methodology was developed in order to assess the likelihood of any errors, omissions, or misinterpretations.

The sampling plan used the criteria described in Section 2 and ISO 14064-3. Any modifications applied to the verification sampling plan were made based on the conditions observed for monitoring to detect the processes with the highest risk of material discrepancy. To ensure compliance with the BCR standard criteria, the audit team

developed field activities and evaluated the supporting documentation, made a field visit to identify monitoring activities, conducted interviews with the PP, and a review of the tools, calculations, and procedures for determining GHG emission removal. The activities can be observed in Section 4 of this report.

Following these assessments, and considering the BCR standard criteria, the following sampling was carried out:

- Project proponent, developers/management team, local team onsite.
- Project design and boundaries
- Project rights and legal requirements
- Project conflicts, barriers, or difficulties
- Methodology used and deviations.
- Risk assessment.
- Monitoring procedures. Monitoring team and equipment
- Controls established to detect and correct any error or omission in monitoring parameters.
- Carbon calculations: Results of the monitoring period.
- Project Communication and Complaints Mechanism.

In addition to the review of compliance with the requirements of the ISO 14064 2:2019 standard, the development of validation includes the strategic and risk analysis, evaluating the issues indicated in the ISO 14064 3: 2019 standard by the audit team.

4 Validation and verification procedures and means

4.1 Preliminary assessment

AENOR determined the sampling plan. The documents prior assessed were GIS information/2/, calculations ex - post /4/, PD-MR/1/, and BCR tools, among others. The information provided by the PP was enough to elaborate the audit plan and the risk assessment and to determine the purpose and scope of the verification.

4.2 Document review

The Project Description, including the Monitoring Report, and supporting documentation were carefully reviewed for compliance with the validation and verification criteria. The audit team examined the spreadsheets to reproduce the removal calculations, obtaining the same results as those in the PD-MR.

The completeness of the project database was also assessed. Annex 3 of this report details the list of documents provided by the project manager and reviewed by AENOR during the validation and verification process.

4.3 Interviews

AENOR, conducted the site visit between 25 and 27 November 2019. The following table lists name, organisation, position, and the issues discussed during the validation and verification process.

Table 2 Interviews

Name	Entity/Charge	Topics Covered
Juan Esteban Guarnizo Orjuela	Forestry Nucleus/ CDM Manager	<ul style="list-style-type: none"> - Obtaining and processing satellite images - Definition of strata - Obtaining areas by strata - Monitoring of variables: DBH and Ht
Luis Fernando Gómez Ávila	Forestry Projects/ Technical Manager	<ul style="list-style-type: none"> - Forest Health - Forest Management - Project coordination
Luis Antonio Avella Platal	Bosques La Primavera/ Field Operator	<ul style="list-style-type: none"> - Monitoring of variables: DAP and Ht
Guido Enríquez Viveros	Alianza Fiduciaria/Administrator	<ul style="list-style-type: none"> - Ownership of the project - Project characteristics (strata and species)
Andres Sierra Buitrago	Consultant	<ul style="list-style-type: none"> - Preparation of the validation and monitoring report - Carbon stock calculation - Additionality - Compliance with the standard

Information obtained from the first validation and verification.

4.4 On-site visit

The objectives of the visit were to assess the implementation status of the project, assess compliance with the monitoring plan, assess whether the project activities are implemented in accordance with the PD-MR, the quality of the field data collection

techniques, the opinion of the parties involved and owners of the participating properties regarding the project, their knowledge of it and the perception of the benefits it brings them. A first validation and verification report /16/ were obtained from this process, which was not registered by the Project Proponent. During the visit the audit team reviewed the GIS database with the project manager.

A remeasurement of a sample of the monitoring plots surveyed for the calculation of removals was carried out, checking the diameter and height values measured in situ with the records taken by the monitoring team.

In addition, as part of the visit, interviews were conducted with project staff and stakeholders (View Table 2).

For the second validation and verification process, the information from the visit was taken and all documentary information was re-evaluated under the BCR 3. standard, and the GHG Emission Reduction Quantification methodology. Removal Activities. - BCR0001 Version 3.0. Given that the initial validation and verification process was carried out under NTC 6208 the guidelines of the ProClima standard, and the calculation methodology AR-ACM0003 v2.0, this second process was required to perform a gap analysis between this standard and the BCR 2.0 standard, to establish the differences between the first and the second validation, which was required to the project proponent in CL1.

4.5 Clarification, corrective and forward actions request.

During the first validation process, non-conformities and requests for clarification were generated, which were rectified. For the second validation and verification process, 8 requests for clarification were generated and 2 NC/CAR which corresponded to the inclusion of the requirements of the BioCarbon Registry v.02 program and updating of the land tenure supports, and specifically to the requirements in the GHG Emission Reduction Quantification Methodology. Removal Activities. - BCR0001 V3.0. These were fully addressed. This information is detailed in Annex 2 of this report.

All the findings of the AENOR audit team during the validation and verification process have been resolved and closed.

4.5.1 Clarification requests (CLs)

8 clarification requests were generated during the audit process and were resolved adequately by the project holder.

4.5.2 Corrective actions request (CARs)

A total of 2 NC/CARs were delivered during the validation and verification process. In Annex 11.2 of this report, complete information concerning the assessment process and the input for their closure is found.

4.5.3 Forward action request (FARs)

Throughout the validation and verification process, no forward action request was presented.

5 Validation findings

The PP provided the information contained in the PD; the assessment to validate the project was based on the BCR standard v3.2 and the Validation and Verification Manual v2.3. During the validation phase, AENOR reviewed the project design documentation and information to ensure compliance with the BCR standard and the BCR002 methodology. For that, CAB considered the following:

- Through the crosscheck ex ante calculation /4/, it was evaluated GHG mitigation and results.
- Across the documentation described in the PD /1/ and the calculation provided by the PP /4/, AENOR verified the applicability of the methodology to confirm its appropriate use.
- AENOR validated the compliance with the uncertainty indicated in Section 3.5 of the PD.
- The baseline scenario was assessed (CAR₂), the detailed is described in Section 5.5.4 of this report.
- AENOR assessed criteria and steps to determine the additionality, see detailed in Section 5.5.5 of this report.
- The ownership and carbon rights were assessed through the documentation and complemented with the interviews conducted. Likewise the consultation's stakeholder were confirmed.
- The environmental and social aspects were evaluated.
- The PP included the contribution to SGD's, and AENOR assessed the SGD tool and its compliance.

In conclusion, the CAB made the validation according to the BCR standard, and the details of the assessment are in the following sub-numbers of this report.

5.1 Project description

The Carbono Forestal Vichada Alianza Fiduciaria S.A. project is an A/R project based on changing land use from the traditional extensive cattle ranching model to sustainable forestry production systems, to create a landscape of biological and productive corridors that promote multiple economic, social, and environmental benefits, including actions for climate change mitigation, regulation of water flows and conservation of the fauna and flora of the Upper Orinoquia. The main activity of the project is the planting and

commercial management of 1,641.7 ha of *P. caribaea* of the 1,645.85 eligible hectares of properties on which the project is developed.

The start date of the project initiative is January 01, 2018. It is estimated that the potential of the forestry project for net removals of anthropogenic emissions in the first 30 years of accreditation is in the order of 1,001,597 CO₂eq. The project holder generates net 30,654 tCO₂ GHG removals and 24,523 tCO₂ as carbon credits from ARR activities in the monitoring period (01/01/2018 –31/12/2019) that is being submitted for verification.

The project holder established the commercial model on managed pasture areas with extensive cattle ranching; for that, the *Pinus caribaea* species was selected to convert pasture areas on forest land. Technologies were applied to establish forest stands, corresponding to soil preparation, nursery production, plantation establishment, weed control, fertilization and pruning regimes, thinning, and harvesting. PP has described the process in detail in Section 2.3. of the PD-MR and Annex “Section 2 - General description of the project” /3-3.1-3.2-3.2.1/.

AENOR has validated that the Project Description document, which includes the Monitoring Report, accurately reflects the proposed project, which consists of the implementation of A/R activities through the planting and management of commercial species. Through the on-site visit, interviews with key personnel, and documentary review, the auditor's team confirmed the main objectives of the project activity and the implementation of the project.

As explained and detailed in Section 4 of this report, the audit team assessed the PD and compliance with the requirements and tools of the standard; likewise, the audit team conducted interviews with the staff of the project to confirm the procedures described in the PD; furthermore, the calculations were assessed and contrasted with the baseline established in the project.

Therefore, AENOR can confirm that the implementation of the project has been carried out in accordance with the validated PD-MR. There are no material discrepancies between the project implementation and the PD-MR.

5.2 Project type and eligibility

The Vichada Forest Carbon Project initiative, Alianza Fiduciaria S.A., is developed under activities in the Agriculture, Forestry and Other Land Use (AFOLU) sector, other than REDD+.

The audit team verified the SIG information to confirm the area eligibility, this assessment was complemented by the visit on field, likewise the audit team assessment the information based on the Validation and Verification Manual, and the procedures and steps are detailed in Section 5.5.3.1.

The project is located in the municipality of La Primavera, department of Vichada. The following table includes the specific location of the sites that are part of the project:

Table 3. Project type and eligibility

Eligibility criteria	Evaluation by validation body
Scope of the BCR Standard	Validation/Verification
Project type	AFOLU
Project activity(es)	AR
Project scale (if applicable)	Not applicable

5.3 Grouped project (if applicable)

No applicable.

5.4 Other GHG program

The audit team has not found evidence that the project has been registered nor is seeking registration under other GHG programs, nor has it been rejected by other GHG programs.

Therefore, AENOR confirms that the project holder complies with the requirements in section 25 of the BCR Standard and verifies that the project is no registered under other GHG program.

5.5 Quantification of GHG emission reductions and removals

5.5.1 Start date and quantification period.

The start date of the project is 01 January 2018 in which the contract was signed for technical assistance in the maintenance work of the project /4.3/. The project submitted the project for validation and verification in November 2019, where the AENOR audit team reviewed the documentation provided /14/. The documentary review carried out for the present (February 2023) validation and verification report corroborated what was observed and assessed during the first validation process by AENOR in 2019. Notice that sowing began in 2015, thus the project holder considered it when making the estimates; nevertheless, the project's removals, both ex ante and ex post, began in 2018.

The duration of the project is 30 years, starting on 01 January 2018 until 31 December 2047; and a first verification period from the start of the accredited period until 31 December 2019.

AENOR, after reviewing the supporting documents and the information gathered during the visit, considers that the start date of the project and its duration is appropriate.

5.5.2 Application of the selected methodology and tools

5.5.2.1 Title and Reference

The climate change mitigation initiative is developed under the requirements of the Agriculture, Forestry and Other Land Use (AFOLU) projects, and the BCR001 V3.0 methodological guidelines Quantifying GHG Emission Reduction removal activities. The project also follows the methodology AR_ACM0003 "Afforestation and reforestation of lands except wetlands".

AENOR was able to verify the relevance of these methodologies for the baseline, removal of emissions, project emissions and leakage. This verification was based on information provided by the project developer, verified during the audit process.

AENOR verified that the use of this methodology is consistent and that the conditions for its applicability are met and that it complies with the provisions of the BioCarbon Registry Standard v3.2, the Quantification Methodology BCR001 v.3.1.

5.5.2.2 Applicability

Table 4 explains the methodology's applicability and the process assessment for it.

Table 4. Applicability BCR001 Methodology

Condition	Applicability	Assessment
a) The areas within the project boundary must not correspond to the category of forest (according to the definition adopted by the country in which the project activity is proposed), nor to natural vegetation other than forest, neither at the beginning of the project activities nor five years before the project start date.	The areas to be reforested do not meet the forest condition established by the national government.	Audit team verified the information through the PD-MR, SIG information /2/ and official supports of use land /4.1/.
b) The areas within the project boundary must not be under wetland category.	This condition is applicable, since the areas to be reforested do not link wetlands, flooded	

Condition	Applicability	Assessment
	lands or lands susceptible to flooding	
c) The areas at the project boundary must not contain organic soils.	<p>The Project Holder provided following arguments:</p> <ul style="list-style-type: none"> - The soils in which the project activities will be implemented do not consider organic soils. The project area is dominated by Typic haplustox isohyperthermic, kaolinitic soils, with a high presence of iron oxides, giving the special characteristics of Oxisols. - These soils are poor in organic matter, and because of the inadequate use of the soils under baseline conditions (extensive cattle ranching without pasture management or improvement), the soils in the project area have serious restrictions for agricultural use, due to their high susceptibility to degradation (Amezquita, 1999). - Degradation is understood as the loss of some physical, chemical and biological qualities of - the soil due to poor human intervention, which become negative production factors and, in the future, will affect 	<p>Audit team verified the information through the PD-MR (joint bibliography references), SIG information /2/</p>

Condition	Applicability	Assessment
	agricultural sustainability.	
d) Carbon stocks in soil organic matter, litter and dead wood decrease or remain stable, in the absence of project activities, i.e., relative to the baseline scenario.	The baseline as described are areas dedicated to the production of unmanaged pastures which are periodically subjected to burning. According to the IPCC, 2003 guidelines, an area that is subject to periodic slash and burns is considered to have a baseline of zero (o), so that soil, litter and dead wood stocks remain stable at zero (o).	Audit team verified the information IPCC, 2003 guidelines. PD-MR
e) Flood irrigation is not used.	The project does not implement flood irrigation; the proposed species do not support this type of conditions.	Audit team verified the information through the PD-MR and interviews conducted in the field visit (2019).
f) The effects of drainage are negligible, so that GHG emissions, other than CO ₂ , can be omitted.	In the project area effects of drainage are negligible, so that GHG emissions, other than CO ₂ , can be omitted, as shows the carbon pools and sources included	Audit team verified the information through the PD-MR (joint bibliography references) and interviews conducted in the field visit (2019).
g) Soil disturbance due to project activities, if any, is carried out following appropriate soil conservation practices and has not been repeated in less than 20 years	The established areas stand out for being degraded soils due to the historical burns to which they have been subjected for the annual renewal of pastures, depleting the organic layer	

5.5.2.3 Methodology deviations (if applicable)
N/A.

5.5.3 Project boundary, sources and GHGs

To verify the project boundary and sources, the audit team confirmed the compliance with the Methodology, and verified through the national legislation and contrast this information from the visit field.

Considering the sources identified to the Methodology BCR001 in Table 2, Section 8.2, AENOR confirmed that:

Table 5. Sources GHG emissions from project implementation

Source or reservoir	GHG	Assessment
Burning woody biomass	CO ₂	According to Table 2, Section 8.2 of the Methodology BCR001, the emissions from biomass burning are not accounted for as a change in carbon content. For that reason, it is adequate that the PP does not select this source of GHG.
	CH ₄	The methodology allows the burning of woody biomass as part of site preparation and as part of forest management. However, these sources are not considered by the PP, given that the project complies with DECREE NUMBER 4296 OF 2004, which this activity is sanctioned by the environmental regional authority. This information was confirmed in the field visit.
	N ₂ O	

The project holder has selected adequately the sources GHG emissions, according to the methodology, as can see in the above table. The use of this sources were confirmed in the calculation developed by the PP.

The following table shows the carbon reservoirs considered in the accounting of carbon stocks in the Project according to the BCR001 Methodology:

Table 6. Reservoirs considered in the accounting of carbon stocks in the Project.

Carbon reservoir	Selection according to methodology.	Justification of the choice
Above-ground biomass	Yes	Included. Hosted because it is the main carbon pool in land-change activities in the transformation from grassland to forest. The parameter is according to methodology. Audit team confirmed the supplementary

Carbon reservoir	Selection according to methodology.	Justification of the choice
		bibliography used to select the value and considers that it is a reliable source. /13.1/
Below-ground biomass	Yes	Included. This is accepted because with the project proposal the carbon content will be higher than those defined in the baseline. Audit team confirmed the supplementary bibliography used to select the value and considers that it is a reliable source. /13.1/
Biomass in dead wood, litter and soil organic carbon.	Optional	Included. The areas to be intervened (unmanaged pastures) do not have significant leaf litter or dead wood on the soil surface due to periodic burning, eliminating the possibility of organic matter accumulation. Likewise, the organic matter in the soil is extremely low or non-existent in some areas, which is why this reservoir will be increased with the project proposal.

The audit team assessed the supplementary bibliography /13.1/ based on consistent sources and institutional information to confirm the reservoirs of the project; likewise it was compared to the applicability of the equations used on the baseline to conclude that the project holder included the sources per the BCR Standard's methodology and requirements; additionally, this information is consistent with the ex-ante calculator /4/.

5.5.3.1 Eligible areas in the GHG project boundaries (for AFOLU projects)

The methodology document states that the GHG project holder must demonstrate that the eligible areas do not correspond to the forest category at the start of the activities, and at least five years before the project start date.

Section 3.7.1 of the PD-MR and Annex "Section 1 - Project type and eligibility" /2/ describe in detail the steps of the multi-temporal analysis carried out for the identification of land cover using satellite imagery (LANDSAT 7), which were selected and downloaded from the server of the Earth Resources Observation and Science Center - EROS of the United States Geological Survey – USGS through of the Glovis viewer for the years 2013, 2018 and 2019.

The project holder applied the Corine land cover to identify the covers through the supervised classification. The project excluded the no eligible areas considering the

standar conditions, which than: Very dense vegetation (class 3.1.4. Gallery and riparian forest), Wetland Zone and Areas RES1130/2011.

AENOR verified that the areas in the geographical boundaries of the project correspond to the non-forest category at the beginning of the project activities and ten years before the project start date and confirmed through the GIS information that the project boundaries are correctly determined and comply with the eligibility requirements set out in the methodological document BCR0001. Version 3.2 and national legislation.

5.5.4 *Baseline or reference scenario*

During the assessment of the baseline, the audit team confirm that the assumptions and justification provided by the holder project be adequate, for that, it was evaluated the steps mentioned in the BCR001 methodology:

- Step 0: Start date: the conclusion of this step is described in Section 5.5.1 of this report.
- Step 1: Identification of alternative land-use-scenarios: The project holder adequately defines the identification of land-use scenarios, given that they use the reference base as the continuation of economic activities that have occurred historically, exist today, and are unlikely to change in the absence of the project activity. To the above, the project established the following sub steps:
 - *Sub-step 1a*. Identification of probable land use alternatives in the project areas: The project holder made the characterization and provided general information about possible scenarios. The extensive cattle grazing has been the common land use historically in the project area; the project holder also indicates that Primavera municipality is dedicated to extensive, non-technician cattle ranching. As argued, 2% of the municipality's soils are being exploited for agricultural activities, many of which are in the valleys of the Meta River, which are more than 60 km from the project area. The characterization of the project area was established under official information, which could then be corroborated by the audit team.

Project holder demonstrated that the forestry and agricultural activities are not developed effectively in the project area, although there are national policies, likewise the project holder indicated with official information that occurs financial barriers to developed reforestation project. For the above conditions, the most viable land use in the planned project regions would be grasslands on deteriorated soils that sustain substantial livestock systems. Similarly, agricultural activity appears to be another feasible alternative. Forestry is a feasible alternative land use due to government financial backing, early development in the 2000s, and lengthy production cycles. All information is adequately supported by the project holder /13.1/.

- *Sub-step 1b.* Consistency of land use alternatives with applicable laws and regulations: The activities mentioned in substep 1a have the respective regulations, given that the project decided to go to step 3 corresponding to barrier analysis. This procedure is according to BCR Additionality Guidelines v1.2, and it is described and assessed in Section 5.5.5 of this report.

According to the above, AENOR considers that the procedure to identify the scenarios of baseline is consistent with the standard BCR and the BCR001 methodology.

In addition, the audit team conducted an intensive review of the parameters, equations and calculations provided by the project proponent. The calculation procedure used by the project proponent for the ex-ante quantification of GHG removals as a consequence of project implementation during the GHG emission removal quantification period and its result is summarized below.

- ***Estimation of carbon embodied in the baseline scenario (unmanaged pastures)***

The carbon stocks in the Baseline scenario correspond to those stored in the biomass of plant species present in the areas identified as eligible (areas covered by unmanaged grassland or savannahs that have historically been subject to continuous burning and no trees or shrubs are evident).

The removal balances for the baseline are defined by:

$$\Delta C_{BSL,t} = \Delta C_{TREE_BSL,t} + \Delta C_{SHRUB_BSL,t} + \Delta C_{DW_BSL,t} + \Delta C_{LI_BSL,t}$$

$\Delta C_{BSL,t}$ = Net removals of greenhouse gases by sinks (GHGs) at the baseline in year t ; t CO₂-e

$\Delta C_{TREE_BSL,t}$ = Changes in carbon stock of Arborea biomass in the baseline for the project area. Apply the methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO₂-e

$\Delta C_{SHRUB_BSL,t}$ = Change in carbon stock of shrub biomass in the baseline, for the project area. Apply the methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO₂-e

$\Delta C_{DW_BSL,t}$ = changes in the baseline carbon stock of dead wood above ground in year t . Apply the tool, "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO₂-e

$\Delta C_{LI_BSL,t}$ = Change in baseline carbon stock of above-ground litterfall in year t . Apply the tool, "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO₂-e

The project proponent justifies in section 3.7.3 of the PD-MR that the carbon stocks correspond to those stored in the biomass of the plant species present in the areas identified as eligible.

Furthermore, the project holder contends that, taking into account the biomass both above and below ground, the productivity ranges of the native savannah grasses of the Orinoquía range on average between 3.60 and 5.22 tons of dry matter per hectare (t MSha-1). According to the Intergovernmental Panel on Climate Change (IPCC), 2003, these covers contain 1.80 and 2.61 tons of carbon per hectare (t C ha-1), respectively, assuming that carbon makes up 50% of the biomass' weight. In addition, the project holder has applied the the recommendation of the AR-Tool14 tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" and its indicates that the removals of the baseline as zero when "soils are subject to cyclical periods of slashing and burning, causing biomass contents to oscillate between a minimum and maximum baseline value". Accordingly, changes in baseline removals are assumed to be zero.

Taking into account the above, the project proponent complies with the BCR standard, so it can be said that the carbon pools, variables and parameters used for the estimates of GHG emission reductions were appropriate and justified based on appropriate international references, also, the estimates of reduced GHG emissions were based on the use of data, variables and models, from recognized and technically supported sources.

- ***Current net removals of Greenhouse Gases by sinks in the project scenario***

The project defined the net removals balance as the relationship between changes in net removals from the project activity and the emissions generated by its implementation. The BCR standard assumes that accounting in terms of carbon balances for the establishment of forestry systems will be supported by individual contributions from above and below ground biomass sinks, litter, dead wood, shrubs and soil organic carbon. AENOR is agree with the project holder about the emissions are valued as zero, based on the standard BCR which establishes that emissions derived from the removal of herbaceous vegetation, burning of fossil fuels, application of fertilizers among other sources, not related to the elimination of tree or shrub components for soil preparation, can be considered NOT significant.

The project proposal follows The BCR0001 methodology for calculating net anthropogenic removals:

$$\Delta C_{ACTUAL,t} = \Delta C_{P,t} - GHG_{E,t}$$

$\Delta C_{ACTUAL,t}$ =Current net GHG removals by sinks in year t; t CO₂-e

$\Delta C_{P,t}$ =Changes in carbon stock in the Project and occurring in selected sinks in year t; t CO₂-e

$GHG_{E,t}$ =Increases in GHG emissions, other than CO₂, in the Project area as a result of implementation, in year t . Estimated with the tool "Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; t CO₂-e

The changes in carbon stock are defined by:

$$\Delta C_{P,t} = \Delta C_{TREE_PROJ,t} + \Delta C_{SHRUB_PROJ,t} + \Delta C_{DW_PROJ,t} + \Delta C_{LI_PROJ,t} + \Delta SOC_{AL,t}$$

$\Delta C_{P,t}$ =Changes in carbon stock in the Project occurring in the selected pools, in year t ; t CO₂-e

$\Delta C_{TREE_PROJ,t}$ =Changes in carbon stock in the biomass of trees in the Project in year t , estimated with the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO₂-e

$\Delta C_{SHRUB_PROJ,t}$ =Changes in carbon stock in shrub biomass in the Project in year t , estimated with the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO₂-e

$\Delta C_{DW_PROJ,t}$ =Changes in carbon stock in dead wood above ground in year t , estimated with the tool, "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO₂-e

$\Delta C_{LI_PROJ,t}$ =Changes in carbon stock in litter above ground in year t , estimated with the tool, "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO₂-e

$\Delta SOC_{AL,t}$ =Changes in soil organic carbon stock in year t , in areas of land that meet the applicability conditions of the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities"; t CO₂-e

- **Balance Anthropogenic Removals Derived from the Implementation of the Project**

The balance Anthropogenic Removals Derived from the Implementation of the Project was defined under the following equation:

$$\Delta C_{PROJ,t} = \Delta C_{ACTUAL,t} - \Delta C_{BSL,t} - LK_t$$

$\Delta C_{PROJ,t}$ =Net anthropogenic GHG removals by sinks, in year t ; t CO₂-e

$\Delta C_{ACTUAL,t}$ =Current net GHG removals by sinks, in year t ; t CO₂-e

$\Delta C_{BSL,t}$ =Baseline net GHG removals by sinks, in year t ; t CO₂-e

LK_t =GHG emissions due to leakage, in year t ; t CO₂-e

Regarding to the uncertainty, the holder project used Table 3 "Discounts for quality and applicability of GHG estimation models" of the BCR001 methodological tool was taken

into account in the project calculations, where it indicated the quality discount factors associated with GHG removal data, applying a discount value of 20%, for national aboveground biomass data and (R:S) factor for belowground biomass. The percentage applied is according to BCR requirements.

- **Estimation for trees**

It is assumed as good practice (IPCC, 2003) to develop projections from their mean annual increment (MAI), or from growth curves by forest species and stand model in volume ($m^3ha^{-1}yr^{-1}$), which is converted by expansion factors to carbon. Estimates were developed with information sources for IMA ($m^3ha^{-1}year^{-1}$) and wood density from Roncancio et al (1998). From the information, carbon accumulation curves were generated for each of them after assuming 50% according to the National Forest Inventory (IPCC 2003). In order to estimate the carbon content stored by them at different ages. The von Bertalanffy model was parameterised:

$$C = A[1 - \exp(-bt)]^{1/(1 - m)}$$

C is carbon ($t\ ha^{-1}$),

t is time (years)

A, b and m are parameters of the equation.

exp: denotes the exponential operator and A is the asymptote or maximum amount that the organism can reach as time progresses, which controls the maximum growth rate of the species.

- **Belowground biomass**: It was estimated using expansion factors defined by default in the IPCC 2003.

In accordance with the information provided in PD-MR about the parameters, equations, and variables, AENOR verified that the information used in the ex-ante estimation is complete and consistent and therefore considers these equations validated.

- Tools Applied

According to the AR-TOOL₁₄ Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities in the eligible area on baseline, the holder demonstrated that the value for this sink is Zero, considering the activities developed before the start date of the project. However, it is appropriate to calculate on the project scenario, which described the project holder.

ARTOOL₁₂ “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”, to baseline the same concept of the non-presence or accumulation of leaf litter is based on the periodic burning processes. However, in project

activities promote the formation of a layer of leaf litter that remains on the ground for long periods, and the sinks are considered of importance in the carbon balances for the project.

To estimate the Soil organic carbon (SOC), project holder used the file ARWG30_SOC_Tool_Multizones /4.2.1.1/ according to A/R CDM project activities to calculate the results, and the default values were used as conservative way.

The results of the ex-ante analysis were developed for all sinks considered with projection to 30 years of implementation. The calculation document /4.2.1/ linked to the annexed documentation was reviewed. The results are as follows:

Table 7. Summary of Results Ex ante

#	Year	Estimated carbon removals for the baseline		Carbon removals project	Leakage		Net carbon removals by the project		Buffer	Final balance
		t CO ₂	t CO ₂ /year	t CO ₂	t CO ₂	t CO ₂ /year	t CO ₂	t CO ₂ /year	t CO ₂ /year	t CO ₂ /year
1	2018	0,0	0,0	19,550.5	0	0	19,550	19,550	3,910	15,640
2	2019	0,0	0,0	46,327.1	0	0	46,327	26,777	9,265	37,062
3	2020	0,0	0,0	79,839.2	0	0	79,839	33,512	15,968	63,871
4	2021	0,0	0,0	118,871.2	0	0	118,871	39,032	23,774	95,097
5	2022	0,0	0,0	161,968.5	0	0	161,969	43,097	32,394	129,575
6	2023	0,0	0,0	207,684.6	0	0	207,685	45,716	41,537	166,148
7	2024	0,0	0,0	254,729.2	0	0	254,729	47,045	50,946	203,783
8	2025	0,0	0,0	297,947.5	0	0	297,948	43,218	59,590	238,358
9	2026	0,0	0,0	342,935.8	0	0	342,936	44,988	68,587	274,349
10	2027	0,0	0,0	385,812.6	0	0	385,813	42,877	77,163	308,650
11	2028	0,0	0,0	422,312.1	0	0	422,312	36,500	84,462	337,850
12	2029	0,0	0,0	459,307.8	0	0	459,308	36,996	91,862	367,446
13	2030	0,0	0,0	495,554.8	0	0	495,555	36,247	99,111	396,444
14	2031	0,0	0,0	530,358.3	0	0	530,358	34,803	106,072	424,287
15	2032	0,0	0,0	563,076.0	0	0	563,076	32,718	112,615	450,461
16	2033	0,0	0,0	593,750.6	0	0	593,751	30,675	118,750	475,000
17	2034	0,0	0,0	610,243.7	0	0	610,244	16,493	122,049	488,195
18	2035	0,0	0,0	621,680.3	0	0	621,680	11,437	124,336	497,344
19	2036	0,0	0,0	631,863.1	0	0	631,863	10,183	126,373	505,491
20	2037	0,0	0,0	647,020.5	0	0	647,021	15,157	129,404	517,616
21	2038	0,0	0,0	668,958.3	0	0	668,958	21,938	133,792	535,167
22	2039	0,0	0,0	697,643.2	0	0	697,643	28,685	139,529	558,115
23	2040	0,0	0,0	731,859.5	0	0	731,860	34,216	146,372	585,488
24	2041	0,0	0,0	770,141.2	0	0	770,141	38,282	154,028	616,113
25	2042	0,0	0,0	811,041.6	0	0	811,042	40,900	162,208	648,833
26	2043	0,0	0,0	853,270.6	0	0	853,271	42,229	170,654	682,616

#	Year	Estimated carbon removals for the baseline		Carbon removals project	Leakage		Net carbon removals by the project		Buffer	Final balance
		t CO ₂	t CO ₂ /year	t CO ₂	t CO ₂	t CO ₂ /year	t CO ₂	t CO ₂ /year	t CO ₂ /year	t CO ₂ /year
27	2044	0,0	0,0	891,673.2	0	0	891,673	38,403	178,335	713,339
28	2045	0,0	0,0	931,846.9	0	0	931,847	40,174	186,369	745,478
29	2046	0,0	0,0	969,910.0	0	0	969,910	38,063	193,982	775,928
30	2047	0,0	0,0	1,001,596.8	0	0	1,001,597	31,687	200,319	801,277
	Total	0,0	0,0	15,818,774.9	0,0	0,0	15,818,775	1,001,597	3,163,755	801,277
		Average						33.387		26.709

AENOR reproduced the calculations and considers that no significant material discrepancies were found that could affect the results, and therefore considers that they are clearly and correctly represented in the spreadsheets provided. The formulae used comply with the monitoring plan and as reflected in the PD-MR document, and the methodology and default values used are appropriate. Therefore, the ex-ante estimated net GHG emission removal amount is considered accurate and realistic.

AENOR found no inconsistencies between the information in the PD-MR, the technical annexes, and the spreadsheets.

After a thorough and exhaustive review and reproduction of the calculations, AENOR considers that the parameters available in the validation are correct, credible and consistent and that the estimates are consistent with the emission factors and activity data from the national inventories. The quantification complies with that expressed in the PD-MR, the calculations provided, and the methodology applied. Therefore, AENOR considers that the ex-ante estimation results shown in the PD-MR are credible, consistent and accurate.

5.5.5 *Additionality*

The project complies with the additionality criteria established in BCR standard v3.2 “*Baseline and Additionality Guidance*” by producing GHG removals and the implementation of GHG removal forestry activities which were developed in areas other than natural forest demonstrating the net positive change of carbon stocks in the area of development of the activity.

In accordance with this process the audit team notes the following:

- The project proponent presents alternatives or likely land use scenarios, based on the description of constraints that demonstrate that the GHG removals associated with the forestry project would not have occurred under baseline conditions, given

that these constraints would allow the continuity of extensive livestock farming in the territory. AENOR considers that the arguments developed in sections 3.2.1 and 3.2.2 of the PD-MR are coherent and come from reliable sources /13/.

- The project proponent has carried out a barrier analysis (*Step 3. Barrier analysis*), which is sufficiently well argued, given the lack of investment in the sector and the social and infrastructure conditions in the project's area of jurisdiction. Furthermore, these barriers do not prevent the continuation of activities other than forestry that have been carried out historically.
- The barriers of political nature: The project holder detailed the main national and local politics from different institutions, such as CORPOICA, the Department of Vichada, and various studies made by several organizations that are trying to consolidate the forestry potential; however, the most significant limitation to developing the projects in the department corresponds to vial infrastructure. The bibliography /13.1/ provided by the holder project is from official institutions, and the visit made complemented the information related to the deficient vial infrastructure.
- Investment barriers: the forestry development in Colombia and specifically, Vichada Department, is an activity that less contribute to the country economy, although Colombia has a great potential, there are barriers of investment. That information can be corroborated in the UPRA institution /13.1/. The studies were assessed by the audit team.
- Barriers due to social and infrastructural conditions: The PP revealed that the biggest impediment is vial infrastructure, which has an impact on socioeconomic situations. There is formal documentation /13.1/, and the greatest evidence is an on-site inspection when the situation is clear.
- The PP developed the follow steps according to the “Baseline and Additionality Guidance”, and in the sub step 3, PP states that “extensive livestock farming continues to be the most feasible scenario, both from the point of view of public policies, due to the great agricultural vocation of the country, and of the department; Likewise, being one of the most predominant activities in the rural area of the country, this scenario is not affected by investment and cultural barriers”. Which is realistic and verifiable through the local and national documentation, as well as is confirmed on-site visit.
- Consequently, the PP could demonstrate that the policies alternatives no prioritize commercial reforestation as an alternative for soil recovery and protection, mechanisms to reduce pressure on ecosystems, improve livelihoods, or employment alternatives for the region. For that, the policies are not coherent with

the potential land soil, given that the investigations¹ have demonstrated that the main potential in Vichada are the forestry activities.

- The project demonstrates that the project area does not correspond to compensation attributable to any legal obligation, such as concessions or requests for subtraction of national forest reserves, nor is it the result of preservation and restoration activities in strategic areas and ecosystems for which payments for environmental services for GHG reduction and capture are available.
- The project adequately supports the impact of the project registration, and is therefore considered additional, according to the guidelines of the methodological document BCR001. Version 3.2.

Taking the analysis above, AENOR considers that the project complies with the additionality criteria established in the methodology applied, by producing a net benefit to the atmosphere in terms of reduced emissions and that the mitigation result would not have occurred in its absence. Likewise, the audit team considers that once the documentary annexes supporting, in addition have been evaluated the compliment of the national legislation.

5.5.6 *Conservative approach and uncertainty management*

The project holder has managed the uncertainty correctly way, and it applied the requirement established in BCR Standard, Section 14, this demonstrated in the quantification, which the project holder applied the 20% for national aboveground biomass data and (R:S) factor for belowground biomass, according to table 3 "Discounts for quality and applicability of GHG estimation models" of the BCR001 methodology.

AENOR confirms that the project holder applied adequately the procedure adequately to uncertainty management and considers that it is conservative given that the project holder employed national parameters for the ex-ante and ex-post quantifications /4.2/.

5.5.7 *Leakage and non- permanence*

The project proponent conducts the leakage analysis and identifies that the project complies with BCR001 document 15.3 (a), which states that a) Animals are moved to

¹ UPRA. (2015). Zonificación para Plantaciones Forestales con Fines Comerciales Escala 1:100.000. Ministerio de Agricultura y Desarrollo Rural MADR. <http://bibliotecadigital.agronet.gov.co/handle/11438/8496>

existing grazing land and the total number of animals on the grazing land to which they are moved does not exceed the carrying capacity of the grazing land. As expressed in section 3.6 of the PD-MR, the project does not foresee leakage from displacement activities, as it focuses on a land use change model in areas dedicated to extensive livestock farming, with very low livestock units per hectare, in addition, the project owners are not intervening in all areas of the properties, allowing for livestock rotation areas as the remaining heads are sold. These livestock are not expected to be replaced in the future in the project areas. Consequently, the leakage emissions are zero.

The assessment of non-permanence is consistent with that described in the PD-MR. According to the BCR standard, to assurance the permanence of the project activities the project holder applied the BCR Tool “Permanence and Risk Management” v1.0. The PP detailed the information in Section 7. The PP identified risks to affect the project and, likewise, defined the action to maintain the project over time; these actions are detailed in Table 37 in Section 7. During the assessment, the audit team confirms that the actions stated are achievable, coherent, and adequate to avoid or manage the project risks identified.

Therefore, the AENOR audit team can verify that the project proponents ensure the permanence of the project activities during the period of quantification of emission reductions by removals.

5.6 Monitoring plan

Following the audit team present the summarize about the process to assess the monitoring plan of the project:

The project holder described adequately the project boundaries monitoring, and indicated that to define these limits, it taken the criteria mentioned in the section of eligibility areas (3.2.1 of the PD and Monitoring Report). Likewise, the project holder described the procedures to comply with the monitoring of the execution of project activities, which ones must it be followed during the three years after establishing each lot and with longer periods, especially when pruning, thinning and final harvesting activities are carried out for each lot. The activities are described in Section 17.2 of the PD and MR Report.

It is appropriate that the project holder to consider forest management monitoring, which includes activities such as cleaning of plots after sowing (biomass removed and left within the plots), pruning (intensity, biomass, or volume removed), thinning, or harvesting (intensity, biomass, or volume removed), replanting of stands that are in several rotations over the duration of the project, monitoring disturbances such as burning, diseases, and biomass loss, and therefore evaluating the development of the trees through growth monitoring plots. The monitoring plots is realized through stratification of the stands of following way: Low, Regular, Half and High.

In general, the project holder has described in detail in Section 17.5 of the PD-MR report the procedures for verifying field data, developing the quality control and assurance procedures, and finally presenting the data required to comply with the BCR standard's monitoring plan, in addition, the project holder provided the Annex Section 17 - Monitoring plan /12/ that complements the information.

Likewise, the procedures set out for monitoring project activities and GHG emission removals at the project level were verified. It was also verified how the monitoring plan is sufficient to perform the collection of all data necessary to meet the applicability conditions of the methodology used; that they give sufficient information on carbon stock changes in the selected pools; and sufficient information to estimate project emissions and removals.

The data presented to be monitored it complies with the BCR requirements about the estimation of GHG removals during the quantification period, which described following table:

Table 8. Parameters and Data to be monitored. (Data to estimate GHG reductions or removals during the quantification period)

Data/ Parameter	Description	Source	Assessment
$APLOT, i$, $ASHRUB, i$, A_i	Area of the sampled plot; Stratum Area	Field Measurement	The Project Holder provided the data through the GIS files /2/. The calculation /4/ and procedures /12/ were assessment in desk reviewed and corroborated through the visit inspection.
To	Stratum I Area	Field Measurement	
$APLOT, i$	Total area of the sample plots in stratum i	Field Measurement	
ap, i	Area of shrub biomass estimation stratum i ; ha	Field Measurement	
$CCSHRUB, i$	Shrub cover in stratum i of shrub biomass	Field Measurement	
BLI_WET, p, i	Wet weight of leaf litter sample collected from plot p of stratum i ; kg		
DAP	Diameter at chest height of a tree. To determine this, equations (1) and (2) are proposed, DBH could be any diameter or dimension measurement (e.g., basal diameter,		

Data/ Parameter	Description	Source	Assessment
	root neck diameter, basal area, etc.) used as a data source for the model.		
Dn	Diameter of the n piece of dead (fallen) wood that intersects (or falls) with the transect. This applies to debris sampling.	Field Measurement on Sampling Plots**	
H	Tree Height		
T	The length of time between successive carbon storage estimates.	Time Logged	The Project Holder provided the calculation /4/ which could be evaluated the estimated values.

The audit team compared all parameters and indicators presented in the monitoring plan with the requirements of the methodology.

About the data and supplementary information for determining the baseline or reference scenario, it is important notice that according to BCRO01 methodology, the removals of the baseline as zero when “soils are subject to cyclical periods of slashing and burning, causing biomass contents to oscillate between a minimum and maximum baseline value”. For that, changes in baseline removals are assumed to be zero. Therefore, the analysis of the leakage is according to Section 15.3 BCRO001, then the leaks are considered zero (See Section 5.5.7 of this report).

The project holder established other elements to monitor related to the social and biodiversity components; the employment is main variable corresponding to social component, and periodic monitoring of biodiversity is carried out in compliance with the biodiversity component in the areas of influence of the project. The project applied adequately the tool for evaluating contributions to the fulfilment of the Sustainable Development Goals of the GHG projects. See (Section 6.4 of this report).

Appendix Section 17 - Monitoring Plan /12/ included the procedures and responsibilities for monitoring and reporting the variables used to calculate removals. This was confirmed

* In the absence of these, project holder will apply the manual published by SOPs, or that of IPCC GPG LULUCF 2003

by the audit team through the interviews conducted. Likewise, the PP included quality control (QA/QC) to protect the information taken in the field for each verification.

Following review of the evidence provided, the field visit and stakeholder consultations and communications with the project manager, AENOR confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design and that the means considered for implementation, including data management and quality control and assurance control processes are sufficient, likewise the assessment was made according to the ISO 14064-2. Similarly, the project holder has demonstrated compliance with the BCR v.3.2 standard, the BCR 001 V2.0 methodology and the tools used.

5.7 Compliance with applicable legislation

The audit team assessed the legal requirements in Section 4 of the PD-MR and the Annex Section 4 -Legislation /5/. AENOR considers that this legal analysis is complete and complies with national legal requirements. Furthermore, the project proponent includes the corresponding land tenure in Section 5 of the PD-MR and adequately supported in Annex Section 5 - Carbon ownership and rights /6/.

The AENOR audit team concludes that the Vichada Alianza Fiduciaria S.A. project complies with the regulations and legal requirements in force in Colombia for the implementation of this type of project.

5.8 Carbon ownership and rights

Section 5 of the PD-MR indicates that the properties that make up the project area are the Galicia and Andalucía properties and are registered under public instruments of the municipality of Puerto Carreño (Vichada). The project manager provided evidence of the real estate registrations, as well as the documents of usufruct in favour of ALIANZA FIDUCIARIA S.A. The project proponent presented to the audit team the corresponding land tenure, adequately supported in Annex Section 5 - Carbon ownership and rights /6/.

The project manager provided documentary evidence in Section 10 -Consultation with stakeholders demonstrating that the project area does not overlap with indigenous reservations. Specifically, a Resolution of the Ministry of Interior No. 0167- 2018, certifying the non-presence of ethnic groups in the project area, as well as cartographic evidence with information obtained from the Directorate of Ethnic Affairs attached to the National Land Agency, Colombia's highest land authority of the Ministry of Agriculture and Rural Development.

The audit team checked the administrative acts provided by the project proponent 100% and checked the information against the spatial database, confirming that the sources of information used for its construction were the official ones. Therefore, it considers that

the information provided corroborates the legal quality of the land tenure and land use rights and the area within the project boundaries.

5.9 Risk management

In Section 7 of the PD-MR, the project developer presented the analysis and management of project risks under the guidance of the PMBOK project management fundamentals and the requirements established by the BCR Tool Permanence and Risk Management v1.0. The project holder identified the risks in three dimensions: environmental, social, and financial. The guidance PMBOK allows the project holder to assess the potential risks and add the legal risk. The procedure developed guides the project holder to determine the impact variables and, in this way, reduce the uncertainty of the project.

“Risk and permanence” tool were assessed by the audit team and confirmed that the process is according with the requirements of the standard, likewise the holder project included the enough supports of each risk assessment /7/.

For that, AENOR considers that the procedure is adequate and allows for the establishment of measures and activities to reduce, mitigate, or prevent such risks, as well as reduce the uncertainty.

5.10 Environmental aspects

Section 8.1.1 of the PD presents a detailed description of the environmental conditions in the Department of Vichada and the project area in terms of climate, soil conditions, hydrography, physiography, topography, geology, soils, and ecosystems, including life zones, land cover, flora and fauna, and endangered species.

Following the documentary review and the information and documentation collected by the audit team during the visit, it was verified that the information collected in these sections comes from official and reliable sources from recognized institutional and research entities such as the National University of Colombia, IDEAM, CORPORINOQUIA and the Government of Vichada, among others.

Audit team assessed the developing of the tool o net Harm Environmental and Social Safeguards, and can corroborate that the project holder complies with the requirements following way:

The project activities do not violate local, state/provincial, national, or international regulations or obligations: AENOR confirmed through the document evidence and field visit.

- The project identifies environmental and social effects resulting from its implementation: The process can be corroborated through the environmental documents that the project must present to the regional authorities (as CORPORINOQUIA).

- The project conducts the assessment and the risk management: The project holder described the information in section 7 of the PD and it was complemented with Annex Section 7 - Risk management /7/.

Therefore, AENOR considers that the information expressed in relation to environmental conditions is credible and sufficient.

5.11 Socioeconomic aspects

Section 9 of the PD includes information on social and economic conditions in the project area, based on population and economic censuses, together with indices of living conditions. Furthermore, the project revealed the positive benefits of its development in terms of employment creation through forestry activities. Similarly, included as benefits the project's capacity building efforts for the rural people, as well as technical labor training, ensuring that staff are qualified in areas such as occupational safety and natural resource management.

To evaluate this section, the audit team verified the supplementary information and corroborated that it was obtained of the institutional sources. Audit team assessed the developing of the tool o net Harm Environmental and Social Safeguards, the was confirmed during the on-site visit. Also, the audit team conducted interviews with the staff on the on the project. AENOR reviewed the information contained in this section and considers that the information in relation to social conditions is credible and sufficient, given that it comes from official sources.

6 Verification findings

6.1 Project and monitoring plan implementation

6.1.1 Project activities implementation

The verification corresponds to the first monitoring period of the project from 01-January-2018 to 31-December-2019.

The project manager has a database that includes all relevant information for the proper monitoring of the implementation of its activities and the GHG emission removals attributable to them. Likewise, the audit team corroborated during the visit that the project does not differences between the PD-MR and the activities developed.

The audit team reviewed the documentation corresponding to this database, including Annex Section 1 - Project type and eligibility, also the information in Annex Section 17 - Monitoring plan which allows for the evaluation of internal processes and QA/QC management. Similarly, the audit team's review included evaluating the actions carried

out over the project term and ensuring their compatibility with the monitoring plan. To do this, the field auditor collected data from the field and conducted interviews with the personnel of the project. It is not found dissimilarities between project implementation and the project description, except for including passive regeneration, given that the cover was not significant to this period.

The activities to determine removals in the project area are similar procedure and this procedure is detailed in Section 3.8 of the PD-MR. The audit team verified the activities, as detailed following:

- Monitoring of physical limits of the project: The project holder Compared to the hectares established by each stand model, only the commercial one with the presence of forest cover was characterized for the species considered, *P. caribaea*. The process carried out in various steps: a) Study area identification; b) Search and acquisition of satellite imagery; c) Image Processing d) Comparison with primary information; and e) Results of stratification:

Stratum	Area (Ha)
Low	902.47
Regular	419.27
Total General	1,327.74

f) Field inventory results: according to the inventory procedures, the Project Holder presented de results including only the specie *P. caribaea*;

The area and the stratification were cross-checked through the GIS data /15/ and the visit on the field.

- Monitoring of net removals by sinks and data acquisition: to define the removals to the first period, Project Holder made following procedures: a) Belowground and Groundwater Carbon Estimates: the project holder used the data according to the literature reliable, and recommendations from the IPCC, likewise to estimate the sample quantify it was established 93 plots for the Low and Regular Stratum, which were determined with the CDM A/R Sample Plot Calculator Spreadsheet Tool; b) For the Soil Organic Carbon, the Project Holder applied the “*Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities*”. The PP also estimated other sinkholes: Shrubbery; Litter and Dead wood.

The statistics of the forestry inventory and the results of the carbon stocks were evaluated in the calculation ex-post /4.2/

The verification process was made in accordance the requirements of the VVM v2.3. According to the activities proposed and described in the PD-MR, they are consistent with

the documents assessed, the joint field visit and the interviews conducted. Therefore, AENOR considers that the implementation of the project is adequate and coherent with the information provided by the project holder.

6.1.2 *Monitoring plan implementation and monitoring report*

AENOR reviewed the monitoring documentation, comprised in section 17 of the Monitoring Report (as part of the PD-MR document), as well as the GIS database /2/ and found them to be in accordance with the procedures described in the validated monitoring plan. AENOR verified the monitoring plan contained in the validated PD-MR and compared it with the Monitoring Report to check if there were any differences that could cause an increase in the estimates of GHG emission removals in the current monitoring period.

The reported parameters, including their source, monitoring frequency and review criteria, as indicated in the Monitoring Report, were verified as correct and in line with the validated monitoring plan. The necessary management system procedures, including responsibility and authority for monitoring activities, have been verified to be consistent with the PD-MR. The knowledge of the staff associated with the project monitoring activities was considered satisfactory by the audit team.

6.1.2.1 Data and parameters

The monitoring of this component is carried out through temporary or permanent plots, in which the dynamic growth process of the plantation is evaluated in order to estimate the carbon content present in the aerial and underground tree biomass of the project.

The defined strata are monitored in a database that identifies the species, area, plot, date of planting, age, silvicultural management, possible variation in carbon sequestration, cost-effectiveness of the monitoring process and other disturbances (pests, fires, pathologies, etc.), which is stored in physical and digital format. This database is further supported by the respective cartography.

Sampling plots were established to identify the changes and evolution of carbon accumulation in the stands. These plots will be established based on cost-effectiveness criteria, maintaining a level of precision of $\pm 10\%$ of the mean, with a confidence level of 95%. The Calculation of the number of sample plots for measurements within A/R CDM Project activities v.2 was used to calculate the sample size. Details of the plots, as well as their location and survey are provided in Section 17 of the PD-MR.

The estimates of removals were made using equations available in the scientific literature for environmental conditions similar to those of the project, equations proposed by the IPCC good practice guidelines for stand models and their species. The recommendations

of the CDM tool Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities were also considered to define equations to be applied ex post.

From the monitoring plots the dendrometry variables are diameter at breast height (DBH) and total height (H). During the field visit, a demonstration of the monitoring data collection was attended by the responsible persons appointed by the project management.

The above-ground biomass expansion factors are those suggested by the IPCC Good Practice Guidance, in addition to the root-shoot ratios for the estimation of below-ground biomass. The detailed procedures and values used are detailed in the field sampling plan protocol in Annex Section 17. Monitoring plan.

The following table summarizes the data and parameters used by the project proponent to calculate the ex-post GHG emission removals for the monitoring period and which have been assessed by AENOR.

Table 9. Data and Parameters monitored.

Data/Parameter monitored	Purpose of the data/parameter	Value	Assessment procedure
A _i (ha)	Stratum area	Low 902.47 Regular 419.27	<ul style="list-style-type: none"> Review of the GDB of the project and consistency of the data with the spreadsheet and reported in the MI. Corroboration of equations used appropriately. Review of the procedure according to the quantification methodology applicable to the project. Field measurement. Correctly collected (initial audit) Field measurement on sample plots (initial audit)
APLOT _i (ha)	Total area of sample plots in the stratum	Total 1,327.74	
a _{p,i} (m ²)	Sampling area of the selected litterfall on plot p in the stratum	0.50 to 1m ²	
CC _{SHRUB,i}	Shrub cover in stratum i of shrub biomass	0,5	
B _{LL_WET,p,i} (kg)	Wet weight of the litter sample collected from plot p of stratum i; kg	Forestry Inventory (each tree)	
DAP (cm)	Diameter at breast height of a tree. (1,3)		
Dn (cm)	Diameter of the piece of dead (fallen) wood that intersects. This applies to debris sampling.		
H (m)	Tree height		
T (year)	Time period between successive carbon storage estimates.	Two years according this monitoring period 2018-2019	

In relation to quality control in the monitoring procedures, the verification team verified that the project established a management structure that allows visualising a scale of command and responsibilities to guarantee control over the quality of the information.

AENOR reproduced the calculations and obtained the same results, and therefore considers that they are clearly and correctly represented in the spreadsheets provided. The formulae used comply with the monitoring plan and as reflected in the PD-MR document, and the methodology and default values used are appropriate. Therefore, the net amount of GHG emission removals estimated ex post is considered accurate and realistic.

AENOR verified that the list of parameters to be monitored is complete and consistent with the information in the monitoring plan. AENOR found no inconsistencies between the information in the PD-MR, the technical annexes, and the spreadsheets.

After a thorough and exhaustive review and reproduction of the calculations, AENOR considers that the parameters monitored and available in the validation are correct, credible, and consistent and that the estimates are consistent with the emission factors and activity data from the national inventories.

In Section 17.5.3.6 of the PD-MR, the project holder indicates the procedure of Quality assurance and control in monitoring procedures to guarantee the quality of the information collected and its proper filing. The procedure was corroborated by the audit team in the visit field.

The information in the Monitoring Report complies with the PD-MR, the calculations provided, and the methodology applied. Therefore, AENOR considers that the results shown in the Monitoring Report are credible, consistent and accurate.

6.1.2.2 Environmental and social effects of the project activities

Following a review of the documents as well as the information and documentation gathered by the audit team during the visit, it was determined that the information presented in these sections is from official and reliable sources from recognized institutional and local government. As a result, AENOR believes that the information provided regarding environmental conditions is credible and adequate. Likewise, Sections 8.1.1 and 9 of the PD-MR includes information on social and economic conditions in the project area, based on population and economic censuses, together with indices of living conditions.

AENOR reviewed the information contained in this section and considers that the information expressed in relation to environmental and social conditions is credible and sufficient, given that it comes from official sources. And on the other hand, the interviews with the staff of the project and compliance with the requirements established by the CORPORINOQUIA (Forest Management Plan) are in accordance with the positive impact on the environmental and social criteria in the project area.

6.1.2.3 Procedures for the management of GHG reductions or removals and related quality control for monitoring activities

AENOR reviewed the monitoring documentation, which is included in Section 17.7 of the Monitoring Report (as part of the PD document), as well as Annex Section 17 Monitoring Plan/12/, to verify the procedures for control and quality assurance. They found that these procedures were in accordance with the procedures described in the validated monitoring plan. The information was also corroborated through interviews conducted during the field visit. AENOR verified the protocol for taking and storing information and considered that the procedure is appropriate and consistent with the monitoring plan and the BCR Standard requirements.

6.1.2.4 Description of the methods defined for the periodic calculation of GHG reductions or removals, and leakage.

The audit team reproduced the calculations of selected samples to ensure the accuracy of the results. Where appropriate, references for analytical methods or default values were verified with the relevant source. The monitoring plan provides for monitoring of the data and parameters for project control and accounting of GHG removals. The process is according to the Validation and Verification Manual of the BCR Standard.

After evaluating the calculations, confirming that the data and parameters were compatible with the methodology, and verifying the procedure in the field using sample plots, AENOR concluded that it was adequate and did not involve significant errors.

6.1.2.5 Assignment of roles and responsibilities for monitoring and reporting the variables relevant to the calculation of reductions or removals

The project includes responsibility and authority for monitoring activities, this process has been verified with the PD. The knowledge of the staff associated with the project monitoring activities was considered satisfactory by the audit team.

6.1.2.6 Procedures related with the assessment of the project contribution with the Sustainable Development Goals (SDGs)

The project applied adequately the tool for evaluating contributions to the fulfilment of the Sustainable Development Goals of the GHG projects, and tool was evaluated by the audit team, likewise, the information verified by the field visit complemented the assessment. AENOR considers that the project complies with the SDGs selected: 8;12;13 and 15. (See Section 6.4 of this report).

6.1.2.7 Procedures associated with the monitoring of co-benefits of the special category, as applicable.

Not applicable.

6.2 Quantification of GHG emission reductions and removals

The validation and verification team performed a review of all input data, parameters, formulae, calculations, conversions, resulting uncertainties and output data to ensure consistency with the criteria set out in Section 2 of this report, the calculation methodologies employed and the validated PD-MR.

The verification team reproduced the calculations of selected samples to ensure the accuracy of the results. Where appropriate, references for analytical methods or default values were verified with the relevant source. See table 9.

6.2.1 Methodology deviations (if applicable)

Not applicable.

6.2.2 Baseline or reference scenario

AENOR reproduced the calculations and considers that no significant material discrepancies were found that could affect the results, and therefore considers that they are clearly and correctly represented in the spreadsheets provided. The formulae used comply with the monitoring plan and as reflected in the PD-MR document, and the methodology and default values used are appropriate. Therefore, the ex-ante estimated net GHG emission removal amount is considered accurate and realistic.

AENOR verified that the list of parameters used in the ex-ante estimation is complete and consistent and therefore considers this list validated.

AENOR found no inconsistencies between the information in the PD-MR, the technical annexes, and the spreadsheets.

After a thorough and exhaustive review and reproduction of the calculations, AENOR considers that the parameters available in the validation are correct, credible, and consistent and that the estimates are consistent with the emission factors and activity data from the national inventories. The quantification complies with that expressed in the PD, the calculations provided, and the methodology applied. Therefore, AENOR considers that the ex-ante estimation results shown in the PD-MR are credible, consistent, and accurate.

6.2.3 Mitigation results

AENOR reproduced the ex-post calculations /4.2.2/ and cross-checked that the data, parameters, and equations used were consistent with the parameters described in the PD-MR, and the audit team also checked for any errors that would affect the results of the abatement results. Therefore, the ex-post estimated net GHG emission removal amount is

considered accurate. The spreadsheet contains the default data and parameters, which allows recalculation and following the equations developed by the project holder, the information is clear as there spreadsheet as in the PD-MR.

AENOR considers that the holder project has complied with the procedures established in the BCR 001 methodology V.2. regarding the baseline emissions, project emissions and leakage (corresponding to zero) and the requirements of the BCR Standard v.3.2. to calculate the ex-post results.

6.2.3.1 GHG emissions reduction/removal in the baseline scenario

The audit team verified that the parameters and data used to the baseline scenario were taking into account in accordance with the BCR 001 Methodology, processes defined by the AR-ACM0003, tools AR-Tool14 tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM” and A/R Methodological tool, “tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities”. The data, parameters and equations were assessment and described in Section 5.5. of this report.

6.2.3.2 GHG emissions reduction/removal in the project scenario

To estimate the GHG emissions removal, the Project Holder developed each step according to the BCR 001 Methodology, and procedures of the AR-ACM0003.

First, the project holder established the project-developed area and separated the project area through the strata according to the ARACM0003 methodology. The project presented in the PD-RM shows the results of the stratification. For this verification, the project considered the *P. caribea* plantations. The PP took the steps to establish the eligibility area according to the process described in Section 3.7.1 of the PD-MR.

The results of the area obtained following results: Low strata 900.47 ha, Regular strata 419.27 ha, for a total verified area of 1,321.74 ha. The difference in area is that the eligible area within the project is 1,645.85 eligible hectares, however, it was estimated that by 2019, all areas of the commercial stand model should have been established. Now, as a conservative approach in remote sensing analysis, only the areas that demonstrate advanced development or are in replanting processes due to mortality were taken into consideration. This is also because the analysis of satellite images itself excludes the areas within the plots that exhibit mortality.

The audit team verified this information through the GIS information provided by the project holder and took checkpoints during the on-site visit made in 2019.

The stratification and its areas were used to develop a sample size distribution according to the UNFCCC for CDM reforestation project. The audit team visited the plots and verified the sample plots for re-measurement. It found no significant differences.

The PP estimates of accumulated carbon per hectare, using equations available in the literature, and following the default values and procedures established by the IPCC (2003, 2006). Audit team verified the values in the spreadsheet provided by the project holder in Annex Section 3 - Quantification of GHG emissions reduction in file Ex-post quantification /4.2.2/.

The carbon content in the underground component was estimated following the methodological recommendations of the IPCC 2003, which determines different factors to be applied according to the biomass contents per hectare and for each species, according to the IPCC Good Practice Guidelines (2003) specifically factors to make use of for root biomasses in coniferous plantations. AENOR considers that the information is correct and adequate, given that, the values are conservatives and complies with the BCR 001 Methodology.

For the estimation of Soil Organic Carbon, the project holder applied "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", for that, the PP provided the excel file "COS ARWG30_SOC_Tool_Multizones_FID.xlsx" /4.2.2.6/ as part of the calculations included in the ex-post results. This information was confirmed by the audit team, and it was considered that there was no inconsistent information.

Notice that the holder project complied with the percentages established in table 3 Quality discounts and applicability of GHG estimations models to uncertainly management according to Section 14 of the BCR 001 Methodology.

Project Holder estimated other sinks: Shrub, litter, and dead wood. To estimate the shrub, the project holder applied default factors determined by the methodological tools, which was identified in the validated information and the default value (0.5) provided in the file calculation /4.2.2.1/.

About the litter and dead wood, the project holder applied the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; the methodological tool recommends to litter a general factor, it suggests applying other values when these are based on analyses carried out specific to the project space under similar conditions. For leaf litter, the factor of 10% was assumed, which is the result of the average values identified in other studies for the species of Pinus sp. in the tropical region. The default value to dead wood is an expansion factor of 6%, which relates the dead wood above the ground to the above-ground carbon in each stratum according to the tool mentioned.

Table 10. General Balance

Stratum	AREA (ha)	tCO ₂ Above+belowground biomass (tCO ₂)	Shrubs CSHRUBS (tCO ₂)	Dead wood CDW (tCO ₂)	Leaf litter CLI (tCO ₂)	SOC (tCO ₂)	Total (tCO ₂)
Low	902.47	4,504	7,646	200	333	9,631	36,197
Regular	419.27	12,412		551	919		
Total	1,321.7	16,916	7,646	751	1,252	9,631	

The above values were confirmed in the file calculation /4.2.2.1/ and were applied adequately.

Table 11. GHG Removals during monitoring period (2018-2019)

Year	tCO ₂ Net	Buffer	Total CCV
2018	11,472	2,294	9,177
2019	19,183	3,837	15,346
Total (tCO₂e)	30,654	6,131	24,523

In accordance with the parameters evaluated, AENOR confirms that for the monitoring period from 01-01-2018 to 31-12-2019 the following removals are present for the Alianza Fiduciaria S.A. Forest Carbon Project.

6.3 Environmental and social effects of the project activities and no net harm

According with the not-net-harm tool, the Project holder developed the sections 7, 8 and 9 of the PD-MR, which included the risk management, environmental and social aspects respectively. Therefore, the project holder has complied with these requirements considering the following:

- (a) Section 8 of the PD-MR analyzed the environmental aspects which could be verified through the Annex Section 8 - Environmental Aspects, /8/ where there is information about the care of natural resources, in addition the holder project presented to CORPORINOQUIA the Environmental Management Plan, which identified the biodiversity species in the project area, likewise identified the procedure to care the threatened species. The project holder has monitored the natural corridors and considered this information to apply under the Environmental Management Plan.
- (b) Section 9 of the PD-MR includes the social aspects, and determines the effects over the community in the project area, and the PP indicates that the main social benefits are the generation of direct and indirect employment, the modernization of the workforce, the development of productive and social infrastructure that can

be used for other projects, the local demonstration of how reforestation activities contribute economically to development. Annex Section 9 - Socioeconomic Aspects /9/ provided the project employment information.

- (c) Section 7 indicates the risk and mitigation measures to prevent any risk social, environmental and others. Annex Section 7 - Risk management /7/ provided the supported information.

The audit team reviewed the documentation. Compliance was confirmed during the on-site visit.

AENOR believes that project activities do not cause any net-harm to the environment and communities, instead, the project holder demonstrated the benefits socioeconomic and environmental in the project area. Similarly, the project holder appropriately addressed the applicability of the tool “**No net Harm Environmental and Social Safeguards**” tool.

6.4 Sustainable Development Goals (SDGs)

The project presents the results in annex Q.ODS_TOOL_BCR and demonstrated compliance with the targets set for this monitoring. The SGD's identified were:

- SDG 8 – Decent work and economic growth: Through the information related to contracts /9/ and interviews with the employer, the audit team verified compliance with this goal.
- SDG 12 – Responsible consumption and production: Through the information related to the trainings /9/ and interviews with the employer, the audit team verified compliance with this goal.
- SDG 13 – Climate action: The PP contributed to the SGD 13, through the GHG removals, and these are demonstrated with the results of the quantifications during the monitoring period /1-4.2.2/.
- SDG 15 – Life on land: The project area has developed with the reforestation, which this was evidenced during the on-site visit.

6.5 Climate change adaptation

The holder project considered the strategic line under National Climate Change Policies, this it demonstrated through the assumption that the project objectives to promote climate change management that contributes to advancing a path of climate-resilient and low-carbon development (IDEAM, 2018), this being a project framed in strategies for the reduction of GHG emissions.

The project improves conditions for the conservation of biodiversity and its ecosystem services, and its activities generate sustainable and lowcarbon productive landscapes, considering that it is a commercial plantation developed in a non-forest area, the above is argued and supported by Section 8 of the PD-MR.

The project has implemented activities that generate sustainable and low-carbon productive landscapes through actions that assist in the efficient use of soil, including land use consistent with land vocation and agroecological conditions that increase competitiveness by reducing vulnerability to climate change, as the project activities description evidence.

Summary: The project has demonstrated compliance with the requirements described in Section 10.8 of the BCR Standard; the evidence was assessed during the review document and supported by the interviews conducted on-site.

6.6 Co-benefits (if applicable)

Not applicable.

6.7 REDD+ safeguards (if applicable)

Not applicable, it is not a REDD+ project.

6.8 Double counting avoidance

AENOR verified the database developed by the project manager and confirmed that it allows tracking of forestry areas and activities, as well as reductions that are allocated and/or traded in a way that ensures that there is no double counting of removals or overestimation of removals by the project's mitigation actions. According to the "Avoiding Double Counting (ADC) tool," the audit team assessed through other platforms and the registry of the web BCR that this project does not overlap with other projects.

AENOR found no evidence of double counting or that the project has or will participate in another GHG program or that the GHG emission reductions or removals generated by the project are included in an emissions trading program or any other mechanism that includes GHG emissions trading.

6.9 Stakeholders' Consultation

Alianza Fiduciaria S.A. is solely responsible for the Vichada Forest Carbon Project Alianza Fiduciaria S.A., and during the initial audit process the professionals in charge were interviewed, who have full knowledge of the activities, objectives and general development of the project.

6.9.1 Public Consultation

The project was in public consultation period during 24/02/2022/ - 26/03/2022 and did not receive any comment during its public consultation.

7 Internal quality control

To give a fair level of assurance of conformance against the specified audit criteria and materiality thresholds within the audit scope, the evaluation was carried out. A positive evaluation statement fairly guarantees that the project's GHG claims are accurate and fairly represent the GHG data and information, based on the audit findings.

Following the completion of the assessment process by the validation team, all documentation undergoes an internal quality control through a technical review before submission to BCR. The technical reviewer is a qualified member of AENOR, independent from the team that carried out the validation of the project activity. The technical reviewer or the team appointed for the technical review are qualified in the technical area(s) and sectoral scope(s) of the project activity.

As part of the validation and verification process, AENOR plans the field visit in the project area to assess its implementation status, the quality of field data collection techniques, compliance with the monitoring plan, the views of stakeholders, and the management of the forest plantation. The validation and verification process is carried out through a combination of initial meetings, desk assessments, and on-site inspections, and interviews are conducted with the community and other stakeholders (local government, local environmental entities, and other institutions present in the production area).

AENOR carries out a meticulous review of the spreadsheets to verify the correct application of the methodology (formulas, equations, and spreadsheets) and checks that the necessary data for the calculation of GHG removals is provided properly. Based on the evaluation carried out, AENOR confirms with a reasonable level of safety that the emission reductions and removals claimed are free from errors, omissions, or material inaccuracies and generates the necessary findings for the proposer so that it responds adequately and meets the requirements of the standard and the methodology to give them corresponding closure.

8 Validation and verification opinion

AENOR has validated and verified that the Carbono Forestal Vichada Alianza Fiduciaria S.A. project complies with the BioCarbon Registry Standard v3.2. The project has been implemented in accordance with the Project Description. The findings of this report show that the project, as described in the project documentation, is in line with all applicable criteria for validation and verification.

The validation and verification consisted of the following three phases: i) desk review of the project design, monitoring plan and ex-ante and ex-post estimation of GHG reductions; ii) on-site audit and stakeholder interviews; iii) resolution of outstanding issues and the issuance of the final validation and verification report and opinion. In the

course of the validation and verification process, clarifying and corrective actions were raised; all have been successfully closed as shown in the report annexed to this report.

The review of the PD and MR documentation and additional documents related to the ex-ante estimation and monitoring methodology; and the subsequent background research, follow-up interviews and review of the parties' comments have provided AENOR with sufficient evidence to validate compliance with the established criteria.

The validation conclusions can be summarized as follows:

The ex-ante analysis of the project's GHG reductions has been carried out in an accurate, transparent and conservative manner, estimating total net GHG removals of 1,001,597 tCO_{2e} and an annual average of 33,387 tCO_{2e}, which with the discounts for non-permanence risk results in 801,277 tCO_{2e} for a GHG emission removal quantification period of 30 years, from 01-January-2018 to 31-December-2047.

The verification assessment covered the monitoring period from 01, January 2018 to 31, December 2019 and verified that calculated emission removals were achieved during the monitoring period with a reasonable level of assurance.

AENOR can issue a positive verification opinion for verified GHG emission removals of 30,654 tCO_{2e} for the monitoring period (01-01-2018 to 31-12-2019), a 20% reserve of 6,131 tCO_{2e}, for a total of 24,523 verifiable marketable verified removals. AENOR has verified a reasonable level of assurance that these removals reductions have been achieved.

AENOR considers that the project manager carries out the monitoring and reporting of its GHG mitigation actions in accordance with the requirements of the BCR standard and the results of the quantification of emission reductions are verifiable in the framework of the ISO 14064-3:2020.

9 Validation statement

The scope of the validation audit of the GHG mitigation project is to validate the project activities, its monitoring plan, its GHG Greenhouse Gas sources, sinks and/or reservoirs, its period of quantification of GHG emission reductions by removal activities, its baseline scenario, its legal and information requirements management processes, maximum mitigation potential and the BioCarbon Registry guidelines and methodological documents.

The scope of the project validation audit of the Proyecto de Carbono Forestal Vichada Alianza Fiduciaria S.A. was to carry out an independent assessment of the project in order to determine:

- That the project complies with all the requirements of the BioCarbon Registry Standard Version 3.2. September 23, 2023.
- That the PD (Project Description) and supporting information comply with the requirements of ISO 14064-2:2019 and the Colombian Legal Framework.
- That the project complies with the rules and criteria of the Colombian carbon market.
- That the project, its activities, methods and procedures, described in the PD document and its corresponding annexes, including the monitoring plan, comply with the criteria established in this report;
- That the activities, methods, and procedures, including monitoring procedures, have been implemented in accordance with the PD; and follow the national regulations that apply to climate change mitigation initiatives.

In addition, the following documents were used as reference during the audit process:

- Good practice guide for land use, land use change and forestry. IPCC, 2003
- Good Practice Guidance for Land Use, Land Use Change and Forestry. IPCC, 2006
- AFOLU non-permanence risk tool. V.04
- Estimation of NON-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity.
- ISO 14064:2019
 - Part 2: Specification with guidance, at project level for the quantification, monitoring and reporting of emission reductions or enhancements in greenhouse gas removals.
 - Part 3: Specification with guidance for the verification and validation of greenhouse gas declarations (2019)
- ISO 14065:2013 (EN) Greenhouse gases - Requirements for bodies performing validation and verification of greenhouse gases, for use in accreditation or other forms of recognition.

The following criteria were used to evaluate this project:

- Methodological Document. AFOLU Sector. Bcroo01 Quantification of GHG Emission Reductions. GHG Removal Activities. Version 3.1.
- BCR Standard from differentiated responsibility to common responsibility. Version 3.2. September 23, 2023.
- Validation and Verification Manual Greenhouse Gas Projects. V2.3. January 2024.
- Permanence and Risk Management. BCR Tool. V1.0. March 7, 2023.
- Objectives of the SDG Tool v1.0. July 2023.

The ex-ante analysis of the project's GHG reductions has been carried out in an accurate, transparent, and conservative manner, estimating total net GHG removals of 1,001,597 tCO₂e and an annual average of 33,387 tCO₂e, which with the discounts for non-permanence risk results in 801,277 tCO₂e for a GHG emission removal quantification period of 30 years, from 01-January-2018 to 31-December-2047.

The audit was conducted to provide a reasonable level of assurance in accordance with the criteria defined within the scope. The nature and extent of the validation activities have been designed to provide a high, but not absolute level of assurance on the data and information supporting this statement, which are by their nature historical. The level of assurance used in the audit was not less than 95% and the maximum material discrepancy in the data accepted was ±5%.

10 Verification statement

The scope of the project verification audit of the Proyecto de Carbono Forestal Vichada Alianza Fiduciaria S.A. was to verify GHG emissions removals, implementation of activities, and their reported impact for the monitoring periods from January 1, 2018, to December 31, 2019.

The nature and extent of the verification activities have been shaped so as to provide a high, but not absolute level of assurance in the data and information supporting this statement, which are by nature historical. The level of assurance used in the audit was not less than 95 per cent and the maximum material discrepancy of the accepted data was 5 per cent. The audit was performed to provide a reasonable level of assurance in accordance with the criteria defined within the scope.

AENOR can issue a positive verification opinion for verified GHG emission removals of 30,654 tCO₂e for the monitoring period (01-01-2018 to 31-12-2019), a 20% reserve of 6,131 tCO₂e, for a total of 24,523 verifiable marketable verified removals. AENOR has verified a reasonable level of assurance that these removals reductions have been achieved.

The project has demonstrated the contribution to SGD's, specifically 8, 12, 13 and 15.

The nature and extent of the verification activities have been shaped to provide a high, but not absolute level of assurance in the data and information supporting this statement, which are by nature historical. The level of assurance used in the audit was not less than 95 per cent and the maximum material discrepancy of the accepted data was 5 per cent.

AENOR considers that the project manager performs the monitoring and reporting of its GHG mitigation actions according to the results of the quantification of emission reductions are verifiable under ISO 14064-3:2020. The declaration that the GHG statement verification was conducted in accordance with ISO 14064-3:2020.

Madrid, a 20 de marzo de 2024.



Team Leader Name

Claudia Polindara

11 Annexes

Annex 1. Competence of team members and technical reviewers

- Claudia Polindara. Lead Auditor

Claudia Polindara is a Forestry Engineer from the Universidad Distrital Francisco José de Caldas, specialist in Environmental Law and master's in environmental law and management from the Universidad del Rosario. She has 13 years of experience in Environmental and Forestry Management, and in the last 4 years she has been working as an auditor of projects for climate change mitigation activities under different carbon standards, such as: CERCARBONO, BioCarbon Registry, VCS and CCB, CDM, among others.

- Daniel Bermejo. Auditor

Daniel Bermejo is a Forest Engineer with a MSc in Sustainable Finance. He began his career in private consulting, specializing in climate risk analysis and TCFD risks, forestry development, agriculture and forestry banking standards, environmental footprint projects and others. Since 2022 he participates as an auditor in several AFOLU projects in different carbon schemes, such as VCS, CCB, GS, FCPF, Cercarbono and BCR. Daniel has a professional Certificate Program in Sustainable & Inclusive Landscapes from Wageningen University, understanding topics regarding Landscape Leadership, Governance, Finance and Climate Action. He has participated in several ISO lead auditor courses. He is an expert in Climate, Community and Biodiversity aspects and has worked in LATAM, North America, Africa, and Europe countries. He speaks Spanish, English and French fluently.

- Joao Barata. Auditor in training

Joao Pedro Barata is an environmental engineer from the forestry school of the technical university of Madrid. He is a native Portuguese and Spanish speaker with a high English level who has worked in several projects from different standards such as VCS, CCB, GS and others. He has received trainings and participated in projects working with GIS and currently, he works at the Climate Change Unit in AENOR and is seeking to become a validator/verifier under the ISO-14000 family requirements.

- Javier Cócera. Technical Reviewer

Javier Cócera holds a degree in Forestry Engineering from the Technical University of Madrid. He has a master's degree in forestry engineering from the Polytechnic University of Madrid with a stay at the University of Freiburg in Breisgau. Javier has 3 years of experience, which has always been linked to forest management and sustainability. He has worked in forestry consultancy companies, carrying out forest and forest resource

management projects, as well as forest inventories and the application of GIS and LiDAR systems.

Annex 2. Clarification requests, corrective action requests and forward action requests

Finding ID	¹	Type of finding	Clarification	Date 06/12/2022
Section No. General BCR Standard				
General, gap analysis of the relevant changes to new standard				
Description of finding				
Identify by gap analysis the relevant changes detected in the current document against the initially validated (unrecorded) report, taking into account the adjustment of the standard and tools required for compliance with it.				
Project holder response 23/03/2023				
A table is developed at the end of the report (Historical) where the most relevant changes between NTC 6208 to BRC V3.0 are detailed.				
	NTC 6208		BCR V.2.0.	impact of change
	Estimates based on the principles of the Clean Development Mechanism for AFOLU A/R.		Adjustment to the recommendations of document BC0001. V 3.0 Methodological Document of Sector AFOLU.	Carbon balances are affected because discounts defined by BC V2.0 are made when the equations used come from literature.
	Carbon factors provided by the Standard. It had a carbon content factor of 0.66 as a result of literature reports for the same species under similar environmental conditions.		The carbon factor is adjusted to the data recommended by the national forest inventory, which is 0.50.	Reduction in ex-ante and ex-post carbon estimates.
	Uses of IPCC default values for above-ground biomass - root biomass ratio.		Use of the above-ground biomass - roots equation set out in the methodology document.	Reduction in ex-ante and ex-post carbon estimates.

Contributions to the development objectives described in general terms and how during the reporting period some of these indicators were promoted.	Application of the SDG tool, developed by the BCR. The tool is developed with the indicators considered relevant for the project.	A new report is generated from the implementation of the SDG tool of BCR. This shows the results in percentage terms of the project's own contribution, but they are not contrasted with the country's indicators.
Documentation provided by the project holder		
na		
CAB assessment 10/04/2023		
The proponent performs a proper gap analysis, and changes are reflected in the report, calculations, and annexes.		

Finding ID	2	Type of finding	Clarification	Date 06/12/2022
Section No. 12.1 BCR Standard v3.2.				
12.1. Land ownership				
Description of finding				
Information on the Certificates of Tradition and Freedom was obtained in 2019. It is suggested to include updated certificates in the annexes.				
Project holder response 23/03/2023				
Certificates of tradition and freedom are updated and annexed as support.				
Documentation provided by the project holder				
Certificates of tradition and freedom. Dec 2022				

CAB assessment 10/04/2023
The information was updated. CL Closed

Finding ID	3	Type of finding	Clarification	Date 06/12/2022
Section No. 15.4 of BCR 001 Methodology				
Net anthropogenic GHG Removals by sink				
Description of finding				
The calculation sheet Carbon Balances 2015-2019_Vo1_OCT_04_2022_FID presents errors in the formulae, so it is not possible to corroborate the data and results of the ex post calculations.				
Project holder response 23/03/2023				
Each sheet of Excel is reviewed and errors are not identified in the formulas as mentioned. The same file is updated as Balances_carbon 2015-2019_Vo2_Mar_2023_FID				
Documentation provided by the project holder				
Sheet Excel Balances_carbono_2015-2019_V02_Mar_2023_FID				
CAB assessment 10/04/2023				
The parameters and equations are in accordance with the methodology, tools, and what is described in the PD and RM. CL Closed.				

Finding ID	4	Type of finding	of Clarification	Date 06/12/2022
Section No. Annex F. Analisis_Espaciales of the PD				
PD. Annex F. Analisis_Espaciales				
Description of finding				
<p><i>The eligible area information presented in Annex F. Analisis_Espaciales is inconsistent with what is described in the Monitoring Recommendation, nor with the worksheets in Annexes E. Ex-ante and G. Carbon Balances. Please clarify the cartographic data submitted by the project proponent.</i></p>				
Project holder response 23/03/2023				
<p><i>The remote sensor analysis database was adjusted. The areas that were within the GIS files did not have the discounts of areas that must be reserved by law, specifically Resolution 1130 of 2011, which dictates discounts of certain areas of removal for conservation, especially for wetland and river areas. GIS files are updated, with due discounts. This did not affect ex ante carbon balances and ex post estimates, as the only thing that did not present consistency was the GIS files.</i></p> <p><i>On the other hand, expost estimates were only those areas that showed a degree of development or existence. In the ex post GIS analysis, the areas that present mortality or do not have a good development are discounted. Thus, of the 1686.8 ha eligible, for current verification only 1352.1 ha are reported, in both strata (low and regular).</i></p>				
Documentation provided by the project holder				
<p><i>Updated GIS file, SHP of eligible areas with discounts by law. Updated map of eligible areas. The project report is updated.</i></p>				
CAB assessment 10/04/2023				
<p>The information was updated. CL Closed</p>				

Finding ID	5	Type of finding	of Clarification	Date 06/12/2022
Section No. 17 BCR Standard				
Section 17. SDG's				
Description of finding				
<p>The project makes the Description of the contributions to the Sustainable Development Goals, but there is no evidence of the applicability of the BioCarbon Registry Sustainable Development Goals Assessment Tool which is available at https://biocarbonregistry.com/es_es/ods/, and is part of the requirements set out in Section 17 of Standard BCR 2.0.</p>				
Project holder response 23/03/2023				
<p>The tool is implemented in the suggested indicators and for which data are specific to the information requested by the tool.</p> <p>The development objectives are carried out according to those recommended by the tool.</p> <p>Since the tool takes literally as indicators as they were built for countries, specific elements for project levels are not easy to understand and only those that have support and are assumed at the project level are processed, but not at the country level.</p> <p>Leave the contributions in descriptive form in the report, and add the results delivered by the implementation of the tool (see section)</p>				
Documentation provided by the project holder				
na				
CAB assessment 10/04/2023				
<p>The project properly implemented the ODS tool of the BCR program.</p> <p>CL Closed</p>				

Finding ID	6	Type of finding	of Clarification	Date 06/12/2022
Section No. 14 of BCR Methodology				
Section 14. Uncertainty Management				
Description of finding				
The project is not clear in the PD regarding compliance with the uncertainty requirement established in Section 14 of the AFOLU Methodological Document. Quantification of GHG Emission Reduction. Removal Activities. - BCR0001 V3.0.				
Project holder response 23/03/2023				
<p>As referred to in the methodological document, uncertainty discounts were applied as follows:</p> <p>For carbon content in biomass and ratio Aerial biomass - underground.</p> <ul style="list-style-type: none"> ✓ The Carbon Content factor present in aerial biomass corresponds to that recommended by the national forest inventory. See page 83. <div data-bbox="263 1123 587 1501" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center; font-size: small;">DOCUMENTO MARCO RECTOR DE IMPLEMENTACION DEL INVENTARIO FORESTAL NACIONAL</p> <p>Biomasa aérea por individuo La biomasa aérea de cada individuo se estima empleando la ecuación alométrica propuesta por Chave et al. (2014):</p> $BA = 0.0075 \cdot G^2 \cdot H^2 \cdot \rho$ <p>Donde: BA= Biomasa aérea (kg) G= densidad de la madera' DAP= Diámetro a la altura del pecho H= altura del árbol</p> <p>Biomasa aérea por subparcela (BA subp) $BA_{SP} = \sum BA_i$, BA,</p> <p>Donde: BA_i = Biomasa aérea del árbol No. i en la SP1 BA_n = Biomasa aérea del árbol n en la SPn</p> <p>Biomasa aérea por hectárea (BA/ha) $BA_{ha} = \sum (BA_{SP1} + BA_{SP2} + BA_{SP3} + BA_{SP4} + BA_{SP5} \dots)$ 0,333 ha</p> <p>8.4.2. Carbono Este carbono se entiende como la cantidad de carbono orgánico contenido en la biomasa aérea. Se le calcula con la siguiente fórmula: $C_{(biom\ a\ e\ a\ e\ a)} / ha = 0,5 \cdot BA$</p> <p>Donde: BA, Biomasa Aérea por Hectárea (toneladas); C, contenido de carbono (toneladas)</p> </div> <p>Olarte Villanueva, C. P., Merchán López, O. F., Linares Prieto, R., Quintero Cardozo, F., León Cruz, R., Rodríguez León, A., Montealegre J. O. (2021). Marco rector para la implementación del Inventario Forestal Nacional. Bogotá: Instituto de Hidrología, Meteorología y Estudios Ambientales (Ideam). 226 pp.</p> <ul style="list-style-type: none"> ✓ The ratio of aerial biomass - roots was taken from the equation recommended by Yepes, et al (2011) see page 88. 				

Yepes A.P., Navarrete D.A., Duque A.J., Phillips J.F., Cabrera K.R., Álvarez, E., García, M.C., Ordoñez, M.F. 2011. Protocolo para la estimación nacional y subnacional de biomasa - carbono en Colombia. Instituto de Hidrología, Meteorología, y Estudios Ambientales-IDEAM-. Bogotá D.C., Colombia. 162 p.

http://www.ideam.gov.co/documents/13257/13548/Protocolo+para+la+estimaci%C3%B3n+B3n+nacional+y+subnacional_1.pdf/11c9d26b-5a03-4d13-957e-0bcc1af8f108

2.2.2 Plantaciones forestales
Cuando la biomasa aérea es estimada a partir de datos de inventarios forestales y se cuenta con valores de diámetro (D) de los árboles, la biomasa de raíces se puede estimar utilizando la ecuación genérica sugerida por Cairns et al (1997) y recomendada por el IPCC (2003, 2006) para el caso de plantaciones forestales (Ecuación 31).
$$Br = a + (1.0387 * D.BI30) + BA$$
 Ecuación 31
Donde, Br es la biomasa de raíces y BA es la biomasa aérea estimada.

According to the BCR when the factors, parameters, etc., used in carbon balances, come from information for the construction of the national GHG inventory, it will not be necessary to apply discount percentages. As evidenced all the information of the parameters are those recommended for the national inventory.

Now, the equation used for estimating carbon present in aerial biomass applied the equation for pines in the tropical belt as recommended by the IPCC 2003.

$$BA = 0,887 + ((10486 * DAP^{2,84})) / (DAP^{2,84} + 376907)$$

Consistent with the BCR, making use of equations or IPCC data, the discount factor should be 40% of the standard deviation.

As seen in the 2015-2019 Carbon Balance tool, the discount is applied and the average biomass value is adjusted for the final estimates. (see annotations in the tool).

Estadísticos	Promedio	Stand Dev	Biomasa	Reducción de raíz	N	Error Estimar Medio	Error Medio Esperado	Incertidumbre	Descuento	Promedio Ajustado
	2.079	1.479	2.385	38%	74	0.17	0.29	11.9%	4.19	1.48
Stand (20%)		1.666								

Accordingly, due uncertainty discounts are applied to project estimates.

Documentation provided by the project holder

na

CAB assessment 10/04/2023

The project properly implemented the ODS tool of the BCR program.

CL Closed

Finding ID	7	Type of finding	Clarification	Date 16/01/2024
Section No. 3.3.2 of PD; 11 BCR 001 Methodology				
Section 11. Identification of the baseline scenario and additionality				
Description of finding				
<p>Holder must explain the following information corresponding to Section 3.3.2 of the PD:</p> <p>Step 1: Identification of alternative land-use scenarios:</p> <ul style="list-style-type: none"> - According to Methodology BCR001, the steps corresponding to Section 11 are the adaptation of the mentioned tool by the holder, therefore, it is important clarify if the holder use the total methodology or applies parts of the AR-ACM0003. - As to characterization and general information on possible land uses: Clarify the baseline, taking into account that before 2017, there were plantations (since 2015), and the holder mentions activities as extensive non-technified cattle ranching. 				
Project holder response 24/01/2024				
<ul style="list-style-type: none"> - Section 3.3.2 of the PD has been updated to clarify that the project applies the BCR0001 methodology to determine baseline scenario. - Sections 3.3.2 and 3.4.2 of the PD have been updated to clarify that the trees planted in the period 2015 - 2017 are part of the project, it is therefore assumed that they would not have been installed without the project and hence are not taken into account for the baseline scenario analysis. 				
Documentation provided by the project holder				
na				
CAB assessment 05/02/2024				
<p>The justification is clear and enough.</p> <p>CL Closed.</p>				

Finding ID	8	Type of finding	Clarification	Date 16/01/2024
Section No. 9 of BCR 001 Methodology				
Section 9. Eligible areas for GHG projects in the AFOLU Sector				
Description of finding				
<p><i>Eligibility area:</i></p> <p><i>The Holder presented the eligibility analysis; however, PP does not explain why the analysis included 2013, but did not include the analysis of the ten years prior to the start date.</i></p> <p><i>Likewise, the holder explains that statistics don't use all the plots and indicates that the holder didn't use all the strata for the calculations, so it is important to present the shapefile of the plots and the eligibility area in the annexes, to understand how it selected the "new eligibility area" and the strata.</i></p>				
Project holder response 24/01/2024				
<p><i>The eligibility analysis presented covers the year 2013 to demonstrate compliance with the BCR0001 v3.0 methodology applicability conditions. It is important to clarify that an analysis of the 10 years prior to the start date has not been considered, as the methodology establishes in several sections the 5 years prior to the start of the project as the scope of analysis.</i></p> <p><i>Besides, the shapefile of the plots and the eligibility area were attached as the CAB required.</i></p> <p><i>BCR0001 v3.0, section 5, literal a: "The areas in the project boundary shall not correspond to the forest category (according to the national definition adopted by the country in which the project activity is proposed), nor natural vegetation different to a forest, at the beginning of project activities <u>and not five years before the project start date</u>".</i></p> <p><i>Section 7, 'Eligible areas': "Areas that meet the absence of forest or natural cover other than a forest, on the reference dates established by the BCR STANDARD.</i></p> <p><i>Geographical limits of the Project's area are not in the forest category, or natural cover other than the forest, <u>neither at the beginning nor five years before the project starts [...]</u></i></p> <p><i>If the eligibility analysis is included in the project boundary's total since the validation, the holder of the GHG project <u>shall demonstrate the eligibility five years before and at the start date of the project activities [...]</u>"</i></p> <p><i>Section 9: "For activities other than restoration, recovery and rehabilitation, the holder of the GHG project shall demonstrate that the areas at the geographical boundaries of the</i></p>				

<p><i>Project do not correspond to the category of forest, nor to natural vegetation cover other than wood at the start of project activities, <u>nor five years before the project start date.</u></i></p> <p><i>This demonstration shall be by multi-temporal land cover analysis (on scales 1: 10,000 or higher) for the project start date and five years ago, (counting from the project start date), according to the land use and/or land cover classifications that apply for the country in which the project activities are proposed [...]"</i></p>
<p>Documentation provided by the project holder</p>
<ul style="list-style-type: none"> - Shapefiles/Elegible.shapefile* - Shapefiles/No_elegible.shapefile* - Shapefiles/Estratos.shapefile* - Shapefiles/Parcelas.shapefile* <p><i>* It is understood that the shapefile format does not exist, however it is used to represent the 8 files associated with vector GIS files (.cpg, .dbf, .prj, .sbn, .sbx, .shp, xml, .shx).</i></p>
<p>CAB assessment 05/02/2024</p>
<p><i>The justification is clear and enough, and the GIS file has assessment correctly.</i></p> <p><i>CL Closed.</i></p>

Finding ID	1	Type of finding	Corrective	Date 16/01/2024
Section No. PD 3.2.3.1 / Section 10.4 of BCR Standard V.3.2.				
Section 14.4 Start date.				
Description of finding				
Section PD 3.2.3.1 / Section 10.4 of BCR Standard V.3.2.				
<p><i>The holder explains that "the project start date is January 1, 2018, in which the contract was signed for technical assistance in the maintenance work of the project." and adds that "Therefore, the start date of the project in 2018 is defined within the 5 years prior to the start of validation." Finally, the holder clarifies that the removals (ex-ante and ex-post) are considered starting in 2018.</i></p>				
<p><i>However, according to Section 10.4 of the BCR standard, the PP does not comply with the definition of start date; therefore, it is imperative that the program clarify if there is an exception to the rule</i></p>				

for this project (considering the above process not resolved as the validation and verification in 2019). Failure to do so would prevent the CAB from accepting the project start date evidence.

Project holder response 24/01/2024

The project start date is in compliance with section 10.4 of the BCR Standard v3.2 taking into account that the contract with the CAB has been signed on 2022-08-09, as it could be seen in the attached file 'AENOR - Oferta 2022.pdf'.

Section 10.4 of BCR Standard V.3.2: "[...] Project owners can only certify and register, with the BCR STANDARD, projects whose start date is defined within the five (5)[footer 9] years prior to the start of validation[footer 13]."

Footer 9: " This applies for the registered projects in BCR, for projects migrating from other standards, the rules of the standard in which they originate apply"

Footer 10: "Validation begins once a commercial agreement has been signed with the CAB"

Documentation provided by the project holder

AENOR - Oferta 2022.pdf

CAB assessment 05/02/2024

The information is clear, the documentation provided is no applicable, but the argues have clarified the finding.

CAR Closed.

Finding ID	2	Type of finding	Corrective	Date 16/01/2024
Section No. 15.1 BCR0001 Methodology				
Baseline net GHG Removals by sinks				
Description of finding				
Section 15.1 BCR0001 Methodology				

Explain how to apply Section 15.1, literal c) of the BCR0001 Methodology, taking into account that the plantation is from 2015 and the start activities of the project begin in 2018.

Project holder response 24/01/2024

The project meets section 15.1, literal c) of the BCR0001 Methodology since the project start date of January 1, 2018 is established with the objective to comply with section 10.4 of the BCR standard regarding to the definition of the start date within 5 years prior to the start of validation. Although the quantification corresponds to the trees that were entirely planted in 2015, 2016 and 2017, only the removals from 2018 are claimed.

This means that, for quantification, purposes the project complies with section 15 of the methodology and does not include any removals prior to the established start date. Specifically for section 15.1 of the methodology.

It is clarified that there were no trees prior to the establishment of the plantations because the cover corresponded to unmanaged pastures and areas that were continuously burned as described in section 3.7.3 of the PD.

In addition, the modified start date does not affect the quantification (considering the principles of section 7 of the standard), since it is a particular case in which the project claims removals starting in 2018 and loses removals from previous years, so in order to comply with the standard it was necessary to modify the start date regardless of the establishment of the plantations.

Documentation provided by the project holder

CAB assessment 05/02/2024

The justification is clear and enough.

CAR Closed.

Annex 3. Documentation review

No.	Document Title / Version	Organization	Document provider (if applicable)
/1/	PD_Reporte_Monitoreo_Proyecto. V 2.1 Vichda_Alianza_Fiduciaria_V04_05_2023_AS_BC R	Alianza Fiduciaria SA - Fideicomiso	PP
/2/	Section 1 - Project type and eligibility	Alianza Fiduciaria SA - Fideicomiso	PP
/2.1/	<ul style="list-style-type: none"> - Outputs (maps) - Satellite images - Análisis de elegibilidad Alianza 	Alianza Fiduciaria SA - Fideicomiso	PP
/3/	Section 2 - General description of the project	Alianza Fiduciaria SA - Fideicomiso	PP
/3.1/	Location: <ul style="list-style-type: none"> - Andaluca.kml - Galicia.kml 	Alianza Fiduciaria SA - Fideicomiso	PP
/3.2/	Project activities	Alianza Fiduciaria SA - Fideicomiso	PP
/3.2.1/	<ul style="list-style-type: none"> - Activities 2018 - Forest Establishment and Management Plans - Forest Records 	Alianza Fiduciaria SA - Fideicomiso	PP
/4/	Section 3 - Quantification of GHG emissions reduction	Alianza Fiduciaria SA - Fideicomiso	PP
/4.1/	Additionality /4.1.1/. Financial Data /4.1.2/. Vocation and land use /4.1.3/. SIPRA - Forest suitability /4.1.4/. SIPRA - Suitability for livestock /4.1.5/. SIPRA- Agricultural frontier	Alianza Fiduciaria SA - Fideicomiso	PP
/4.2/	Quantifications /4.2.1/ Ex ante /4.2.1.1/ COSARWG30_SOC_Tool_Multizones_FID /4.2.1.2/ Exante-Alianza-FID V02.1 /4.2.1.2/ IPCC_GPG__Default_values /4.2.2/ Ex post /4.2.2.1/ Analisis Ex-post /4.2.2.2/ Datos de campo /4.2.2.3/ DFli_Hojarasca /4.2.2.4/ Estadísticos /4.2.2.5/ Monitoring activities	Alianza Fiduciaria SA - Fideicomiso	PP

No.	Document Title / Version	Organization	Document provider (if applicable)
	/4.2.2.6/ COSARWG30_SOC_Tool_Multizones_FID_Expos t /4.2.2.7/ Ex-post 2018 – 2019 Vo2.1 /4.2.2.8/ Sustentos del aporte de la biomasa de hojarasca a los contenidos totales en sistemas boscosos en Pinus sp /4.2.2.9/ Tamaño de muestra		
/4.3/	Start date	Alianza Fiduciaria SA - Fideicomiso	PP
/5/	Section 4 - Legislation	Alianza Fiduciaria SA - Fideicomiso	PP
/6/	Section 5 - Carbon ownership and rights	Alianza Fiduciaria SA - Fideicomiso	PP
/7/	Section 7 - Risk management	Alianza Fiduciaria SA - Fideicomiso	PP
/8/	Section 8 - Environmental Aspects	Alianza Fiduciaria SA - Fideicomiso	PP
/9/	Section 9 - Socioeconomic aspects	Alianza Fiduciaria SA - Fideicomiso	PP
/10/	Section 10 -Consultation with stakeholders	Alianza Fiduciaria SA - Fideicomiso	PP
/11/	Section 11 - SDGs	Alianza Fiduciaria SA - Fideicomiso	PP
/12/	Section 17 - Monitoring plan	Alianza Fiduciaria SA - Fideicomiso	PP
/13/	Supplementary bibliography	Alianza Fiduciaria SA - Fideicomiso	PP
/13.1/	1) Amezquita_et_al_2013.pdf	Centro Internacional de Agricultura Tropical (CIAT)	PP
	2) 11410_plan-ambiental-pda- vichadacorporinoquia-20172019	Corporinoquia	PP
	3) Zanne, et_al. 2009. Global wood density database.	https://opendata.eol.org/dataset/global-wood-density-database/resource/d1e2b018-a7ce-444b-ac8a-ac43b2355cc9	Open Data in the Web
	4) Woods of Colombia	WWF	PP
	5) Zonificación para Plantaciones Forestales con Fines Comerciales Escala 1:100.000.	UPRA	PP
/14/	Reporte val-ver Vichada Alianza_Fiduciaria v1 29oct	Alianza Fiduciaria SA - Fideicomiso	PP

No.	Document Title / Version	Organization	Document provider (if applicable)
/15/	SIG DATA -Shapefiles	Alianza Fiduciaria SA - Fideicomiso	PP /Finding CL8/
/16/	Reporte val-ver Vichada Alianza_Fiduciaria v1 29oct	AENOR	PP
/17/	AENOR - Oferta 2022.pdf	AENOR	PP /Finding CAR1/

Annex 4. Abbreviations

Abbreviations	Full texts
<i>AFOLU</i>	<i>Agriculture, forestry, and Other Land Use</i>
<i>AR</i>	<i>Afforestation Reforestation</i>
<i>AR-ACM</i>	<i>Afforestation/Reforestation Large-scale CDM Consolidated Methodology</i>
<i>BCR</i>	<i>BioCarbon Registry</i>
<i>CDM</i>	<i>Clean Development Mechanism</i>
<i>GHG</i>	<i>Greenhouse Gases</i>
<i>IPCC</i>	<i>Intergovernmental Panel on Climate Change</i>
<i>PD-MR</i>	<i>Project Description and Monitoring Report</i>
<i>SDG's</i>	<i>Sustainable Development Goals</i>