



AFFORESTATION OF DEGRADED GRASSLANDS IN CAAZAPA AND GUAIRÁ



Document Prepared by AENOR INTERNACIONAL S.A.U.

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Summary:

The Afforestation of degraded grasslands in Caazapá and Guairá project is in the Afforestation, Reforestation and Revegetation (ARR) category and aims to certify forest plantations managed by Felber Forestal S.A. (Felber) in the departments of Caazapá and Guairá, in Paraguay. In its first instance, the project consists of 2,716.71 ha established between 2016 and 2020 and 1,111.2 ha to be planted with the *Pinus ellioti*, *Pinus taeda*, *Eucalyptus urograndis* and *Eucalyptus urophila* species.

Miller Forest Investment AG (Miller) aims to establish sustainable forest plantations in eastern Paraguay. To achieve this, the company created a strategy to bring together more than 520 investors, guaranteeing the long-term investment required for the plantations and ensuring their permanence over time.

The purpose of the validation and verification was the independent evaluation of the project's compliance with the VCS Standard v4.1 and the assessment of the ex-post monitored anthropogenic GHG emissions removals that have occurred as a result of the project's activities. The process was performed through a combination of desk review, interviews and communications with relevant personnel and remote audit.

During the validation and verification 8 CLs and 2 CAR were reported. All these issues were appropriately closed by means of corrections, more clear explanations and other supported documents. Additionally,

AENOR carried out a final validation and verification report and deems with reasonable level of assurance that the project complies with all of the validation/verification criteria for VCS. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the validation criteria. Hence, the audit team concludes that the GHG emissions removals, for the lands included in the project boundary, have been quantified in accordance with VCS rules. AENOR can confirm that the total estimated GHG emission removals of 6,144,567 tCO₂e for the whole crediting period and the estimated net GHG emissions reductions/removals of 435,078 tCO₂e achieved during the monitoring period are accurate and free of material errors.

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1 INTRODUCTION

1.1 Objective

The purpose of the validation and verification audit activity was to conduct an independent assessment of the project in order to determine whether the project complies with the validation and verification criteria as set out in the guidance documents listed in Section 1.2 of this report, including the monitoring procedures and that the GHG emission reductions and removals reported in the monitoring report are materially accurate.

1.2 Scope and Criteria

The scope of the validation and verification audit is to validate and verify the emissions reductions of the proposed project activity in Paraguay against the Verified Carbon Standard, the identified methodology and associated tools, for the crediting period from 13-Jan-2016 to 13-Jan -2045 and the first monitoring period from 13-January -2016 to 19-November -2020.

The objectives of this audit included a validation of the projects estimated emission removals and the verification of the achieved emissions removals with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects, besides the assessment of the additionality and the non-permanence risk assessment report.

The scope was defined as follows:

- The project and its baseline scenarios.
- The physical infrastructure, activities, technologies and processes of the project.
- The GHG sources, sinks and/or reservoirs those are applicable to the project.
- The types of GHGs that are applicable to the project.
- The project crediting period.
- The project first monitoring period.

In accordance with Section 4.1.8 of the VCS Standard, the criterion for validation and verification was the VCS Version 4,1 including the following documents:

- VCS Standard v4.1
- VCS Program Guide v4.0
- VCS AFOLU Non-Permanence Risk Tool v 4.0
- AR-ACM0003 – “A/R Large-scale Consolidated Methodology Afforestation and reforestation of lands except Wetlands v2” and its associated tools.
- Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” version 04.2;
- “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities” version 03.1;
- “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities” version 01.1.0

- “Estimation of non-CO2 greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity” version 04.0;
- “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity” version 02.0;
- “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” version 01

Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS documents.

1.3 Level of Assurance

The assessment was conducted to provide a reasonable level of assurance of conformance against the defined audit criteria and materiality thresholds within the audit scope. Based on the audit findings, a positive evaluation statement reasonably assures that the project GHG assertions are materially correct and is a fair representation of the GHG data and information.

All the versions of the validation and verification report were subjected to an independent internal technical review before being submitted to the client to confirm that all validation activities had been completed according to the pertinent AENOR instructions required. The technical review was performed by a technical reviewer(s) qualified in accordance with AENOR’s qualification scheme for VCS validation and verification.

1.4 Summary Description of the Project

The Afforestation of degraded grasslands in Caazapá and Guairá project is in the Afforestation, Reforestation and Revegetation (ARR) category VCS sectoral scope 14 (AFOLU). It aims to certify forest plantations managed by Felber Forestal S.A. (Felber) in the departments of Caazapá and Guairá, in Paraguay.

Miller Forest Investment AG (Miller) aims to establish sustainable forest plantations in eastern Paraguay. To achieve this, the company created a strategy to bring together more than 520 investors, guaranteeing the long-term investment required for the plantations and ensuring their permanence over time.

The current instance is located in the department of Caazapá (municipalities of Caazapá, Maciel, Doctor Moisés and Bertoni) and the department of Guairá (municipality of Ñumi). This region is characterized by its farming economic activities, mainly of extensive livestock for meat production. Before the start of the project, 100% of the area was dedicated to this activity, whose management resulted in high soil degradation, mainly due to the overload of livestock units per hectare, trampling and the use of burning cycles for pastures renovation.

The aim of the ARR project is to produce solid wood and energy (charcoal and chips) in order to meet the country’s demand for forest products, hence reducing the pressure on natural forests. The project is expected to capture an average of 204,819 tCO2e per year, reaching a total of 6,144,567 tCO2e during the crediting period (2016-2045) as a result of the growth of forest biomass. Additionally, the project supports Paraguay’s Sustainable Development Goals (SDG) since, compared to the livestock scenario, plantations contribute to creating direct and indirect jobs, dynamizing the economy, increasing tree cover and strengthening research.

In its first instance, the project consists of 2,716.71 ha established between 2016 and 2020 and 1,111.2 ha to be planted with the *Pinus elliotti*, *Pinus taeda*, *Eucalyptus urograndis* and *Eucalyptus urophila* species.

The project crediting period is 30 years long, starting in 2016. This is a grouped project.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation and verification was performed through a combination of document review, interviews with relevant personnel and remote audit, as discussed in Sections 2.2 through 2.4 of this report. At all times, the project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.5, findings were issued to ensure that the project was in full conformance to all requirements.

2.2 Document Review

The Joint Project Description and Monitoring Report submitted by the Project Proponent (PP) was reviewed against the approved methodology and against VCS requirements. Additional background documents related to the project design, baseline and additionality were also made available before and during the remote Audit, along with the non-permanence risk report.

To address the corrective actions and clarification requests that arose from the desk review and remote audit, the PP revised the project description document version 1 (dated on 29 May 2021) and developed a final version 3 dated on 15 July 2021.

2.3 Interviews

The AENOR validation and verification team conducted remote interviews with project developers and owners of the project to confirm selected information and to resolve issues identified in the document review. The list of the interviewed people is below detailed.

Name	Title/Organization/Community
Carsten Felber	Director Felber forest/proponent
Jonas Hoennebeck	Manager Felber forest
Christian Santacruz	Monitoring Team Chief/ forest network Paraguay
Pablo Espinoza	Monitoring Staff/ forest network Paraguay
Sofia Sanchez	Monitoring Staff/ forest network Paraguay
Laura Paiva	Monitoring Staff/ forest network Paraguay
Rodrigo Burgos	Monitoring Staff/ forest network Paraguay
Jose Avalos	Monitoring Staff/ forest network Paraguay

Sindy Marsiglia	Carbon monitoring and certification/ South Pole
Alba Upegui	Social coordinator/ South Pole
Dahyana Osorio	Projects coordinator/ South Pole
Enrique Leon	Stakeholder/Universidad de Asuncion Paraguay
Jose Rockenbach	Stakeholder/neighbor
Angel Talavera	Employee/ Felber Forestal/ Plant nursery
Silvio Vazquez	Employee/ Felber Forestal/Saw mill
Alcides Araujo	Employee/ Felber Forestal/sprouts

2.4 Site Inspections

Due to the exceptional situation caused by the COVID-19 crisis and the travel restrictions established by governments for safety reasons, it was not feasible to carry out a site visit to verify the implementation of projects' activities and monitoring plans. The remote audit was based on the following auditing techniques:

- Document review and cross checks between the information provided the joint PD&MR and supporting information and evidence provided by the PP.
- Review, based on the selected methodologies, tools and the other applied methodological regulatory documents, of the appropriateness of formulae and accuracy of calculations.
- Telephone, teleconference and/or e-mail interviews with relevant stakeholders and personal responsible for the implementation of project activities and the elaboration of project's documents.
- Cross checks between information provided by interviewees to ensure that not relevant information has been omitted.

The remote audit procedure was agreed with the PP based on available means and safety procedures. Key stakeholders were interviewed as described in section 2.3.

2.5 Resolution of Findings

A total number of 2 CAR and 8 CLs were raised during this validation and verification process.

All findings issued by the AENOR audit team for this validation and verification process have been closed. In accordance with Sections 4.1.13 and 4.1.14 of the VCS Standard, all findings issued during the validation and verification process, and the inputs for their closure, are described in Appendix 2 of this report.

2.5.1 Forward Action Requests.

No FAR was raised for the next verification event.

3 VALIDATION FINDINGS

3.1 Project Details

3.1.1 Project type, technologies and measures implemented, and eligibility of the project

The project is classified under sectoral scope 14 “Agriculture, Forestry and Land Use (AFOLU)”. As described in Section A1.1 of the VCS Standard, the project is eligible under the category of Afforestation, Reforestation, and Revegetation (ARR).

The project aims to establish sustainable forest plantations in eastern Paraguay to be planted with the *Pinus elliotti*, *Pinus taeda*, *Eucalyptus urograndis* and *Eucalyptus urophila* species in order to increase carbon sequestration on previously abandoned and degraded grasslands.

3.1.2 Project design

The project is design as a single activity (commercial forest plantations) grouped project.

The PP has set the following eligibility of the new project activity instances:

1. Being part of the expansion area that was initially delimited.
2. Their activities must be under the control of the project participants.
3. Meeting all the applicability conditions listed in section 1.3 and described in the methodology.
4. Having a Forest Management Plan, being registered in the National Forestry Institute (INFONA) and complying with the Environmental Management Plans and other requirements described in section 1.14.
5. Being subject to the baseline scenario determined as per project description.
6. Demonstrate the income additionality from carbon credits sales.
7. Provide the ownership of each project instance from the beginning, either through purchase or leasing contracts with the land owners.
8. Have a start date equal to or later than the start date of the grouped project

The audit team considers that these eligibility criteria comply with VCS requirement, specifically with Sections 3.5.15 of the VCS Standard. Furthermore, the audit team confirms that the first instance of the project complied with the set eligibility criteria.

3.1.3 Project proponent and other entities involved in the project

The project is proposed by Miller Forest Investment AG. The other entities involved in the project are Felber Forestal S.A. and South Pole Carbon Asset Management Ltd.

The audit team finds that contact and entity information provided in the joint PD&MR conforms to the VCS requirements.

3.1.4 Ownership

The PP, has the project ownership in line with the Section 3. 6.1 of the VCS Standard.

The audit team has checked the evidence of the ownership and finds that the PP's project ownership is unconditional, undisputed and unencumbered, in accordance with VCS requirements.

3.1.5 Project start date

The project start date is 13/01/2016, which corresponds to the date on which Miller and Felber planted the first trees related to the first instance of project area.

This event corresponds to the first activity: the earliest activity that leads the GHG removal of the project. AENOR has checked with the submitted record, the note for planting in lot P3-18, Pozo Azul. That established date is appropriate and consistent. Then, in opinion of AENOR it is considered reasonable and correct based on the VCS requirements for start date established in Section 3.7 of the VCS Standard.

3.1.6 Project crediting period

The crediting period of the grouped project is 30 years-long, from 13-Jan-2016 to 12-Jan-2045.

According to Section 3.8.3 of the VCS Standard, the crediting period of AFOLU projects will have a minimum of 20 years and a maximum of 100 years. Therefore, the project activity is in line with the length of the crediting period.

In this regard, AENOR can confirm that PP have developed credible and robust plan for managing and implementing the project over the crediting period in compliance with Section 3.8.4 of the VCS Standard.

3.1.7 Project scale and estimated GHG emission reductions or removals

The project is classified as "project" according its scale (less than or equal to 300,000 tonnes of CO₂e per year), since it will remove an average of 204,819 tCO₂e per year during the 30 years of crediting period.

3.1.8 Project location

The project expansion area is located in the departments of Caazapá and Guairá, in eastern Paraguay. The first instance comprises an area of 2,716.7 ha that was planted in the 2016-2020 period and is located in the municipalities of Caazapá, Maciel, Doctor Moisés Bertoni and Ñumi.

The location of the project area of the first instance has been presented in GIS and KML files. The coordinates of project area have been provided.

3.1.9 Conditions prior to project initiation

Regarding conditions prior to the project initiation, the joint PD&MR describes in a complete way the climate, hydrology, topography, relevant historic conditions, soils, vegetation and ecosystems for the areas involved in the project. During the remote interviews with stakeholders, AENOR verified that project is being implemented in degraded grassland and with no forest cover.

3.1.10 Project compliance with applicable laws, statutes and other regulatory frameworks

Section 1.14 of the joint PD&MR provides information related the compliance with the applicable laws, statutes and other regulatory frameworks. The main and relevant Laws are detailed, and its enforcement analyzed in the joint PD&MR. According to the information provided and remote interviews, the project fulfils with laws mentioned in the joint PD&MR. Thus, AENOR deems that project complies with applicable laws, statutes, and other regulatory frameworks.

3.1.11 Participation under other GHG programs

GHG removals generated by the project will not be used for compliance with binding limits to GHG emissions since such limits are not enforced in Paraguay, and there is no emissions trading program in place in the country.

The project has not been registered nor is seeking registration under other GHG program, nor has it been rejected by other GHG program.

3.1.12 Other forms of credit

The project has not sought or received other forms of environmental credit.

3.1.13 Additional information relevant to the project

Leakage management for AFOLU projects:

The project does not displace pre-project agricultural activities. Thus, neither a leakage management plan nor leakage mitigation measures are required.

Commercially sensitive information:

No commercially sensitive information has been excluded from the public version of the joint PD&MR.

Sustainable development contributions:

The project is designed to contribute to Paraguay national plan (National Development Plan of Paraguay (PND) for 2030,) specifically by increasing gender quality, generating decent work and economic growth, climate action, industry innovation, life on land, promoting formal employment

In terms of UN SDG, the project contributes to SDG 5: gender equality SDG 8: Decent work and economic growth, SDG 9: industry innovation, SDG 13: Climate Action and SDG 15: Life on Land

AENOR assessed the sustainable contributions to the sustainable development through the review of the project design document but mainly through the review of evidence provided, and interviewing to the local stakeholders.

3.2 Participation under Other GHG Programs

As the project has not been registered under any other GHG program, this section is not applicable.

3.3 Safeguards

3.3.1 No Net Harm

The project is not expected to generate negative environmental nor socioeconomical impacts, since it is implemented in natural pastures degraded by livestock. Stakeholder consultation was carried and concluded that no negative impacts would take place. Additionally, prevention and mitigation actions were designed and included in the Forest Management Plan, in compliance with Paraguayan environmental and social regulations.

Documents supporting this information were provided to AENOR and confirms the explanations.

3.3.2 Local Stakeholder Consultation

The PP organized several local stakeholder consultation events in February and March 2021:

Due to the health emergency caused by COVID-19, most stakeholder consultations were conducted through virtual platforms such as Google Meet, with the exception of those held with employees and members of nearby communities, which were carried out in person. For each of these meetings, a PowerPoint presentation was elaborated based on the needs of every target audience.

Communication of the ARR initiative to key actors: institutional and educational sectors. February 11, 2021

Communication of the ARR initiative to employees of Felber Forestal S.A. February 10, 2021

From March 15th to March 19th Meetings for progress communication and workshop for information collection and validation were held with:

- Institutional and academic sectors.
- Institutional sector.
- Employees of Felber Forestal S.A.
- Middle management and operational employees of Felber Forestal S.A.
- Residents and producers from the areas neighboring the plantations.
- Institutional sector at the municipal and regional levels. Education sector at the regional level.
- Directors of Felber Forestal S.A.

The overall conclusion of the local stakeholder consultation is that local communities perceived the project has having a positive socio-economic and environmental impact. In general, local communities perceived project activities as an important driver for development of surrounding communities.

The project design has not been updated since no comments were received during the consultation

By means of documents reviewed and the interviews performed, AENOR considers that the summary of the the consultation process included in the joint PD&MR is complete. The main conclusions of the meetings and opinions collected from meetings are included in the the joint PD&MR.

Hence, in the opinion of the AENOR team the local stakeholder consultation process was suitability performed and the PP's response to the inputs was appropriate. The audit team deems that the PP communicated the information about the project design and implementation, risks, costs and benefits, relevant laws and regulations and the process of VCS Program validation in accordance with the requirements established by the VCS Standard.

3.3.3 Environmental Impact

The activities, socio-environmental impacts and mitigation measures for the project are identified. These impacts were obtained from the environmental management plans or environmental impact studies submitted to MADES by each of the properties

In order to comply with the requirements of Paraguay's environmental legislation, Felber S.A. has conducted environmental audits in each of the properties. In each audit, the environmental management plan proposed to the authority for each of the properties was monitored and controlled.

This evaluation showed that Felber S.A. has complied with the mitigation measures proposed and required by the authority and that they are enforcing their activities to accomplish with the requirements established by the authorities to comply. Related to the use of non-native species over native species, the PP, justified using non-native species over native species in section 1.11 of the PD.

It was concluded that the project is planned in line with the environmental legislation of Paraguay and, also, with standards and practices considered environmentally appropriate and accepted in international level.

The audit team had access to the EIA and considers that the environmental impact assessment process was suitability performed and that the PP is working to accomplish with the requirements established by the authorities to comply fully.

3.3.4 Public Comments

During the validation process no public comment was received in AENOR nor noticed from VCS Staff about the project.

3.3.5 AFOLU-Specific Safeguards

Stakeholders were determined through the stakeholder mapping and analysis methodology, which has the main objective to identify and characterize the stakeholders (sectors and actors) with their respective roles and interests regarding the Afforestation of degraded grasslands in Caazapá y Guairá project.

The methodological route to identify stakeholders consisted of the following stages:

- Elaboration of the draft list of actors based on secondary information.
- Review, adjustment and complement of the list with the project proponent and later with the identified sectors.
- Classification of the actors in the key variables defined based on the territorial study and the review of specialized literature about actors mapping and analysis.
- Establishment of minimum key variables for analysis and mapping: sector, role, interest and territorial scope of action

As a result of the methodology described in the joint PD&MR, the PP presents a list with the sectors and actors identified for the AR Miller project with their respective roles and interests. Subsequently, It identifies several actors within the following sectors; Employees of the Felber Forestal S.A. Group, Public Institutional , Educational, and Productive sector.

Both the stakeholder analysis and the development of the communication and appropriation strategy (EPCAP) made it possible to identify (by using participatory techniques) the perceptions of different interest groups on the possible risks and benefits of the initiative, as well as the measures that are currently being taken to mitigate these risks.

Risk identification requires the recognition of the socio-economic, cultural and political conditions of the territorial actors (mapping of actors and their level of vulnerability) as well as their relationship with threats from various sources (natural and anthropic phenomena).

The PP identified risks and mitigation measures that are correctly described in the PD.

The risks are associated to anthropic factors such as economic fluctuations due to market dynamics and the long time required for the return of the forestry activities investment. There are also factors caused by extreme weather events such as droughts, frosts, extreme rains and forest fires.

The project does not put the property rights of the communities or stakeholders at risk since the company's reforestation activities are carried out on properties that evidence land tenure.

Regarding the current and future actions and strategies that guarantee communication and consultation with local stakeholders, including a complaint procedure to resolve any tension, expectation or concern that may arise between local stakeholders and the project proponent, two mechanisms are considered.

Mechanism for Questions, Complaints, Claims and Suggestions and mechanism aimed at collecting and responding to those questions, complaints, claims and suggestions (or even congratulations) from interested parties, PQCS (for its Spanish acronym).

In this respect, the mechanism of participation and communication with key actors consists of the inclusion of tools for continuous contact with the interested parties along the project. For this, it is crucial to provide information on project design and implementation as well as means that allow receiving and addressing any concern communicated by stakeholders.

The proponent has a format for receiving the PQCS and has established a response time of 15 business days.

In opinion of AENOR, the project has been designed appropriately in order to ensure the project will not create any negative impacts on local stakeholders or mitigates such impacts where necessary.

3.4 Application of Methodology

3.4.1 Title and Reference

The methodology used is the CDM A/R Large-scale Consolidated Methodology AR-ACM003: Afforestation and reforestation of lands except wetlands v02.0. proposed by the United Nations Framework Convention on Climate Change (UNFCCC) in the sectorial scope 14 of Agriculture, Forestry and other Land Uses (AFOLU).

Besides the methodological document, the following tools were applied:

- "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" version 04.2;
- "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" version 03.1;
- "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" version 01.1.0;
- "Estimation of non-CO2 greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity" version 04.0;

- “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity” version 02.0;
- “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” version 01.

3.4.2 Applicability

The final the joint PD&MR states all evidence used to demonstrate each condition of the applicable methodology. Complete explanations are included in the joint PD&MR. In opinion of AENOR, the evidence and explanations confirm the fulfilment of the project with the methodology. The assessment was carried out for each applicability criterion and included, among others, the review of evidence and sources provided in the joint PD&MR and the compliance check of the local project setting with the applicability conditions in regard to baseline setting and eligible project measures as follows:

Applicability of the methodology

Applicability condition	Compliance
a) The land subject to the project activity does not fall in wetland category.	The first project instance does not include wetlands. According to the distribution map of RAMSAR Sites in Paraguay presented by the PP and to information provided by CIFOR, the project area is not within areas with wetland or peatland ecosystems This was confirmed by supported documents, including the descriptions in the joint PD&MR
b) Soil disturbance attributable to the afforestation and reforestation (A/R) project activity does not cover more than 10% of area in each of the following types of land, when these lands are included within the project boundary: i. Land containing organic soils. ii. Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 of the methodology.	The land in the project area are clay soils as described in Section 1.13 of the joint PD&MR and, thereafter, does not fall within the types of land referred in points (i) and (ii). This was confirmed by supported documents, including the descriptions in the joint PD&MR. The project area does not have soils classified as organic, according to the information in the database of the GLOSIS-GSOCmap V1.5.0 (soil organic carbon map) of (FAO) and in the international soil database ISRIC World Soil Information. Most of the soils are in the ultisol (Arquic Paleudul) category with a distribution of 98.23%, and only 1.77% are inceptisol (Oxyaquic Dystrochrept).

Applicability of the tools

Tool	Applicability condition	Compliance
Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (Version 01)	• Forestation of the land within the proposed project boundary performed with or without being registered as the A/R CDM project activity shall not lead to violation of any applicable law even if the law is not enforced. • This tool is not applicable to small – scale afforestation and reforestation project activities.	• The land afforestation activities will not lead to the violation of any applicable law (See section 3.5 Additionality and section 1.14 Compliance with Laws, Statutes and other regulatory frameworks). • N/A
Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities (Version 04.2)	This tool has no internal applicability conditions	N/A
Estimation of non-CO ₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity (Version 04.0.0)	• The tool is applicable to all occurrence of fire within the project boundary. • All non-CO₂ GHG emissions resulting from any fire that occurs within the project boundary will be accounted when it affects an area larger than the minimum established by Paraguay in its forest definition (0.5 ha), provided that the accumulated area affected by such fires in a given year is $\geq 5\%$ of the total project area. All non-CO emissions resulting from any fire that occurs within the project limits are accounted for and discounted, provided that the accumulated affected area in a given year is $\geq 5\%$ of the project area. •	All non-CO₂ emissions resulting from any fire that occurs within the project limits are accounted for and discounted, provided that the accumulated affected area in a given year is larger than or equal to 5% of the project area. This was confirmed through the review of the evidence provided, including the descriptions in the PD.
Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities	This tool is not applicable if the displacement of agricultural activities is expected to cause, directly or indirectly, any drainage of wetlands or peat lands.	Since the project area does not have wetlands or peatlands, the tool is applicable. In other words, the displacement of grazing activities (baseline) in the project

Tool	Applicability condition	Compliance
in A/R CDM project activity (Version 02.0)		area will not directly or indirectly cause the drainage of wetlands or peatlands. The project activity is not expected to cause, directly or indirectly, any drainage of wetlands or peatland. thus there is no displacement of any agricultural activities. This was confirmed through the review of the evidence provided, including the descriptions in the PD.
Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities – Version 1.1.0.	This tool is applicable when the areas of land, the baseline scenario, and the project activity meet the following conditions: a. The areas of land to which this tool is applied: (i) Do not fall into wetland1 category; or (ii) Do not contain organic soils as defined in “Annex A: Glossary” of the IPCC GPG LULUCF 2003; (iii) Are not subject to any of the land management practices and application of inputs as listed in the Tables 1 and 2. b. The project activity meets one of the following conditions: (i) Litter remains on site and is not removed in the A/R project activity; and (ii) Soil disturbance attributable to the A/R project activity, if any, is in accordance with appropriate soil conservation practices, e.g., follows the land contours; and it is limited to soil disturbance for site preparation before planting and such disturbance is not repeated in less than twenty years. .	Plantation activities are carried out for each forest shift. Therefore, given the soil preparation conditions and following the conservativeness principle, the soil organic carbon is not taken into account. This was confirmed through the review of the evidence provided, including the descriptions in the PD.
Estimation of carbon stocks and change in carbon stocks	This tool has no internal applicability conditions.	N/A

Tool	Applicability condition	Compliance
in dead wood and litter in A/R CDM project activities – Version 3.1.		

AENOR, based on records provided including spreadsheets calculations of the emissions reductions, has verified that applicability conditions of the different tools are complied. In conclusion, the project activity complies with the applicability conditions of the methodology, and any tools or modules selected by the PP.

3.4.3 Project Boundary

Regarding the Carbon Stock Changes and considering the applicable methodology, the chosen carbon pools and GHG accounted are the following:

Carbon pools		Selected?	Justification/Explanation
Baseline and Project scenario	Above-ground biomass	Yes	This is the major carbon pool subjected to project activity.
	Below-ground biomass	Yes	Carbon stock in this pool is expected to increase due to the implementation of the project activity.
	Dead wood Litter and	Yes	Carbon storage in this sink may increase as a result of the reforestation project activity
	Soil organic carbon	Excluded	Optional. Carbon stock in these pools may not increase due to implementation of the project activity.

Source		Gas	Included?	Justification/Explanation
Baseline	Burning of woody biomass	CO ₂	No	Potential emissions are negligibly small as there is no burning of woody biomass.
		CH ₄	No	
		N ₂ O	No	
Project	Burning of woody biomass	CO ₂	Yes	CO ₂ emissions from biomass burning are accounted for as a change in carbon stocks
		CH ₄	Yes	
		N ₂ O	Yes	CH ₄ . The project does not use biomass burning practices as part of its activities. In the case a fire event occurs, it

Source	Gas	Included?	Justification/Explanation
			will be reported and accounted for in the monitoring report
			N ₂ O. The project does not use biomass burning practices as part of its activities. In the case a fire event occurs, it will be reported and accounted for in the monitoring report.

According to the VCS requirements, sources of emissions that are expected to increase in the project scenario compared to the baseline case must be included if the exclusion would lead to a significant overestimation of the total net anthropogenic GHG emission reductions generated during the fixed baseline period. Furthermore, that sources considered insignificant according to the latest VCS Methodology Requirements can always be neglected. In this regard, the following GHG sources may be deemed insignificant and need not to be accounted for in the case of ARR projects, in accordance with Section 3.3.6 of the VCS Methodology Requirements:

- N₂O emissions from project activities that apply nitrogen containing soil amendments and N₂O emissions caused by microbial decomposition of plant materials that fixes nitrogen.
- GHG emissions from the removal or burning of herbaceous vegetation and collection of non-renewable wood sources for fencing of the project area.
- Fossil fuel combustion from transport and machinery use in project activities.

Taking into account the justifications, assumptions and supporting information provided and the design of the project, AENOR deems that project boundary is correctly defined and in compliance with the applicable methodology and VCS requirements.

3.4.4 Baseline Scenario

According to the additionality analysis of the joint PD&MR, using the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”, version 01, in the absence of the project, the most probable land use scenario is the continuation of the pre-project land use: abandoned grasslands, farming economic activities and extensive livestock activities.

Based on the combined tool, the following steps were applied and appropriately developed and justified in the joint PD&MR.

Step 1. Identification of alternative scenarios

Sub-step 1a. Identify credible alternative land use scenarios to the proposed project activity.

The following baseline scenarios were identified:

Alternative 1: Continuation of the pre-project land use (Extensive livestock)

The project areas were abandoned and without activities in the baseline situation. The shifting cultivation and extensive livestock activities are the only activities occurring occasionally in the area.

AENOR could verify by remote interviews and documentation that the areas surrounding the project area were mainly abandoned grasslands with extensive livestock and few small patches for the expansion of agricultural crops. The continuation of the pre-project land use i.e. the abandoned state is a realistic and credible alternative scenario.

Alternative 2: Agricultural crops

Soybean cultivation is a clearly defined business with a high export share. Considering that in 2019 the country was in the fourth position of the global ranking of soy exporters, the increase in its cultivation continues to be notable in many regions, and particularly in the Eastern region of Paraguay, where soybean production and growth has been evident during the last decades. This trend was also clear in the project expansion area, in the departments of Guairá and Caazapá, where an increase from approximately 3,568 ha to 138,737 ha was reported between 2001 and 2019. Farmers are organized into business associations and trade chains, and receive considerable support from the government. Due to the expansion this alternative is considered credible.

Alternative 3: The reforestation activity is not registered under the VCS.

Deforestation and the geographical conditions of the country make reforestation a strategic activity to meet the domestic demand for timber, create jobs and maintain rural contributions to GDP by reducing the use of natural forest resources. However, plantations are not considered as lucrative as other land uses like agriculture (especially soybeans cultivation) or cattle ranching given the long payback period and the high initial costs that they require.

Outcome of sub-step 1a: alternatives 1, 2 and 3 are plausible.

Sub-step 1b. Consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations

The proposed project activity complies with the applicable laws as identified in section 1.14 of the P.D. Also, alternative 1. Continuation of the pre-project land use (Extensive livestock) Alternative 2: Agricultural crops and Alternative 3: The reforestation activity is not registered under the VCS. comply with mandatory applicable laws and regulations.

Outcome of sub-step 1b: alternatives 1, 2 and 3 comply with applicable laws and regulations.

STEP 2. Barrier analysis

Sub-step 2a. Identification of barriers that would prevent the implementation of at least one alternative land use scenarios.

The following barriers were identified and justified by PP in the PD:

- I Investment barriers: Public banks and private banks have not implemented credit lines, most land owners are not interested in using their land as guaranty since they would limit the access to future alternatives with a higher profitability. One-time bonus for each afforested or reforested area in rural properties whose soils are classified as forest priority, however, these benefits are not available in practice since the country did not allocate the determined budget to comply with this law. Real estate tax and tax regime exemptions are not fully operational and have access barriers, the projected timber price (given the difference between supply and demand) is below the marketed value among others.
- II Institutional barriers: Limited capacity of the institutions to ensure compliance with forest management laws in force, the lack of knowledge of the State on the country's forestry sector, the deficit of research in the forestry sector, the lack of inter-institutional and academic agreements that strengthen innovation and research
- III Barriers due to local ecological conditions: These conditions cause cost overruns in the initial investment as the lands need greater adaptations to ensure the survival of the plantation as well as high growth and biomass production rates
- IV Technological barriers: The technical capacities of Paraguayan institutions to support reforestation activities are under development
- V Barriers related to local traditions: Local people still choose the most traditional land uses such as cattle ranching or agriculture

The PP has cited several documents (references in section 3.4 of the PD) that, based on this reliable and recognized sources, the justifications about the project activities and their nature, allows AENOR to deem that the identification of the barriers are appropriately justified and are credible.

Sub-step 2b. Elimination of land use scenarios that are prevented by the identified barriers.

Alternative 3: The reforestation activity is not registered under the VCS project activity faces several barriers. Meanwhile, the continuation of the current land-use as abandoned grasslands (Extensive livestock (alternative 1) does not face any of the identified barriers.

Outcome of sub-step 2b: only alternative 1 (pre-project activities) is not prevented by the barriers

Sub-step 2c: Determination of baseline scenario

Therefore, according to the decision tree of sub-step 2b of the tool, it is concluded that Scenario 1 (Continuation of the current situation) is the baseline scenario and Project participant continues with the Step 4 "Common practice analysis".

AENOR deems that assumptions, justifications and data used in the identification of the baseline scenario are appropriately justified and can be deemed reasonable.

Documentary evidence used in determining the baseline scenario is relevant, and correctly quoted and interpreted in the project description.

Relevant national and/or sectoral policies and circumstances have been considered and are listed in the PD.

The procedures for identifying the baseline scenario have been correctly followed according to the steps in the combined tool and the identified scenario reasonably represents what would have occurred in the absence of the project.

Thus, AENOR considers that the identified baseline scenario is correctly justified.

3.4.5 Additionality

According to the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”, the previous steps shall be complemented with an analysis of the extent to which forestation activity has already diffused in the geographical area of the proposed VCS project activity. This test is a credibility check to demonstrate additionality which complements the barrier analysis (Step 2) above conducted.

Step 4. Common practice analysis

Considering the paragraphs 32 and 33 of the “Combined tool to identify the baseline and demonstrate additionality in A/R CDM project activities”. The PP identified as common practice in the area, the agricultural and livestock activities making Paraguay one of the main exporters of products like meat and soybeans.

However, the additionality assessment was carried out to demonstrate that proposed grouped project activity is not common practice, It is not a common practice; the creation of a group of more than 520 investors, investment in infrastructure and technical capacity, training of internal qualified staff and creation of alliances with timber processing industries in order to ensure the demand. Also planting trees in larger scale is not as common as the repayment of the investment takes long time.

Hence, after the assessment of the explanations and justifications in the P.D and the review of the submitted evidence, also detailed in the project document, AENOR deems credible and reliable the supported documents provided. The information described in the P.D is consistent with them. Thus, it can conclude that there are several characteristics that make each activity different from activities developed in the surrounding area. Thus, the project activity is not the baseline scenario, it is not the common practice and hence, it is additional.

The incomes from VCUs will help to overcome the faced barriers by the project and will alleviate the expected long time period for revenues.

3.4.6 Quantification of GHG Emission Reductions and Removals

Procedures for quantifying the GHG emission reductions and removals generated by the project during the project crediting period were conducted in accordance with the methodology “AR-ACM0003: Afforestation and reforestation of lands except wetlands”, Version 02.0. The validation team performed an intensive quantification review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology modules, and the joint PD&MR.

Furthermore, the validation team reproduced calculations for selected samples to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by the PP in spreadsheet format to ensure all formulas were accessible for review. The validation team recalculated subsets of the analysis to confirm correctness. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice.

The net anthropogenic GHG removals by sinks shall be calculated as follows:

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

Where:

$\Delta C_{AR-CDM,t}$ = Net anthropogenic GHG removals by sinks, in year t ; tCO_{2-e}

$\Delta C_{ACTUAL,t}$ = Actual net GHG removals by sinks, in year t ; tCO_{2-e}

$\Delta C_{BSL,t}$ = Baseline net GHG removals by sinks, in year t ; tCO_{2-e}

LK_t = GHG emissions due to leakage, in year t ; tCO_{2-e}

Baseline net GHG removals by sinks

Procedures to be used for calculation of *ex ante* baseline net GHG removals by sinks are detailed in the AR-ACM0003 methodology (Version 02.0) under the section 5.4 “Baseline net GHG removals by sinks”. According to the methodology baseline net GHG removals by sinks are calculated with the following equation:

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

Where:

$\Delta C_{BSL,t}$ = Baseline net GHG removals by sinks in year t ; t CO_{2-e}

$\Delta C_{TREE_BSL,t}$ = Change in carbon stock in baseline tree biomass within the project boundary in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO_{2-e}

$\Delta C_{SHRUB_BSL,t}$ = Change in carbon stock in baseline shrub biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO_{2-e}

$\Delta C_{DW_BSL,t}$ = Change in carbon stock in baseline dead wood biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO_{2-e}

$\Delta C_{LI_BSL,t}$ = Change in carbon stock in baseline litter biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO_{2-e}

$+\Delta SOC_{BLS}$ Change in soil organic carbon (SOC) stock in the project, in year t ; tCO_{2e}.

Carbon stock in trees: According to the Section 5 of the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”, the carbon stock and change in carbon stock

in trees in the baseline can be accounted as zero, since the pre-project trees are neither harvested, nor cleared, nor removed throughout the crediting period of the project activity.

Carbon stock in shrubs: According to point 12 of the conditions under which carbon stock and change in carbon stock may be estimated as zero, the tool establishes that trees and shrubs in the baseline may be accounted as zero if conditions (a), (b) and (c) under paragraph 11 are satisfied (see above). Moreover, the degraded lands of the baseline scenario were subjected to slash and burn. On this basis, the carbon stock and change in carbon stock in shrubs in the baseline can be accounted as zero.

Carbon stocks in dead wood and litter: the carbon stocks in dead wood and litter are not in the project boundary. Thus, these pools are set to zero.

Therefore, the total baseline net GHG removals by sinks are considered as zero. AENOR deems that this assumption is correct and in accordance with the methodology, tools and the VCS requirements.

Project net GHG removals by sinks

Procedure to be used for calculation of *ex ante* actual net GHG removals by sinks are detailed in the AR-ACM0003 methodology (Version 02.0) under the section 5.5 “Actual net GHG removals by sinks”.

The actual net GHG removals by sinks is calculated as follows:

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

Where:

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

$\Delta C_{P,t}$ = Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; t CO₂-e

$GHG_{E,t}$ = Increase in non-CO₂ GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year t, as estimated in the tool “Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity”; t CO₂-e

Change in the carbon stocks in project, occurring in the selected carbon pools in year t is calculated as follows:

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

Where:

$\Delta C_{P,t}$ = Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; t CO₂-e

$\Delta C_{TREE_PROJ,t}$	=	Change in carbon stock in tree biomass in project in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO ₂ -e
$\Delta C_{SHRUB_PROJ,t}$	=	Change in carbon stock in shrub biomass in project in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” Marcador no definido. ; t CO ₂ -e
$\Delta C_{DW_PROJ,t}$	=	Change in carbon stock in dead wood in project in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO ₂ -e
$\Delta C_{LI_PROJ,t}$	=	Change in carbon stock in litter in project in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO ₂ -e
$\Delta SOC_{AL,t}$	=	Change in carbon stock in SOC in project, in year t , in areas of land meeting 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”, as estimated in the same tool; t CO ₂ -e

Estimation of carbon stocks in trees

The estimation was made based on section 8.2 of the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” of the AR-ACM0003 methodology.

The *ex-ante* estimates were made according to mean annual increments data taken from specialized literature, which provide a measure of stand development. These values were obtained from a literature review for the project area and the regions with plantations of commercial species of the same type and with similar ecological conditions to those used in the project activity, which can be consulted in the studies analyzed (table 25 PD)

The estimation of carbon stocks in trees was calculated according to equations 12 and 13 of the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” of the AR-ACM0003 methodology:

$$b_{TREE} = V_{tree} * BECF_t * (1 + R_{TREE})$$

$$B_{TREE} = A * b_{TREE}$$

$$C_{TREE} = 44/12 * C_{FTREE} * B_{TREE}$$

Where: C_{TREE}	Carbon stock in tree biomass (tCO ₂ e).
C_{FTREE}	Carbon fraction of tree biomass; tC (t d.m.).110
B_{TREE}	Tree biomass by area d.m.
b_{TREE}	Tree biomass strata per hectare.
R_{TREE}	Root-to-shoot ratio for trees.
A	Sum of areas of the strata (ha).
$BEFi$	Biomass conversion and expansion factor (dimensionless).
V_{tree}	Tree volume (m ³).

The estimates of the biomass conversion expansion factor, the carbon fraction, the carbon conversion factor and the root-to-shoot ratio are default values taken from the IPCC “Guidelines for National Greenhouse Gas Volume 4 Agriculture, Forestry and Other Land Use” (2006). The values of the root-to-shoot ratio (R) and the expansion factor (BECFI) were taken based on the type of vegetation (conifer and broad-leaved) and the ecological zone of the project area as stated in Table 26 of the joint PD&MR

Estimation of carbon stocks in dead wood and litter

Carbon in dead wood and litter is calculated using equations 9 and 15 of the tool “A/R Tool 12: Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM projects activities” of the AR-ACM0003 methodology, which accepts the use of a conservative default value by estimating the carbon content (in dead wood and litter) as a percentage of the total carbon of the tree biomass. See table 27 of the PD.

Estimation of carbon stocks in dead wood

$$CDW_{i,t} = C_{TREE,i,t} \times DF_{DW}$$

Where: $CDW_{i,t}$:

Carbon stock in dead wood in stratum i at a given point of time in year t ; tCO₂e.

$C_{TREE,i,t}$:

Carbon stock in tree biomass in stratum i at a point of time in year t ; tCO₂e.

DF_{DW}: Conservative default factor expressing carbon stock in dead wood as a percentage of carbon stock in tree biomass; tCO₂e

Estimation of carbon stocks in litter

$$C_{LI,i,t} = C_{TREE,i,t} \times DF_{LI}$$

Where: C_{LI,i,t} Carbon stock in litter in stratum *i* at a given point of time in year *t*; tCO₂e.

C_{TREE,i,t} Carbon stock in tree biomass in stratum *i* at a point of time in year *t*; tCO₂e.

DF_{LI} Conservative default factor expressing carbon stock in litter as a percentage of carbon stock in tree biomass; tCO₂e.

Estimation of non-CO₂ GHG emissions

The tool “Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity” considers that:

- Non-CO₂ GHG emissions resulting from any occurrence of fire within the project boundary shall be accounted for each incidence of fire which affects an area greater than the minimum threshold area reported by the host Party for the purpose of defining forest, provided that the accumulated area affected by such fires in a given year is ≥5% of the project area.
- Aboveground biomass of living trees shall be considered not to result in significant non-CO₂ GHG emission in case of fire, when:
 - A forest fire burns through the understory but does not climb into the tree canopy; or
 - A forest fire singes trees but does not cause mortality such that leaf regeneration can be observed within six months.

Burns for pasture or stubble removal are not part of the project forestry activities¹¹⁴. In the case that a fire event occurs in the project area, the impact of the disturbance will be estimated and reported in order to make the relevant discounts. Considering the above, the emissions due to non-CO₂ GHG emissions are zero.

AENOR has assessed the calculation of the project net GHG removals and considers it is correct.

Leakage

According the applied methodology the only leakage emissions that can occur are the GHG emissions due to displacement of pre-project agricultural activities. As described in the PD, no agricultural activities were displaced due to the project actives. Therefore, leakage is considered to be 0.

Pre-existing livestock units (before the start of reforestation activities) are sold gradually while others are kept in the project in a silvopastoral system, without exceeding the carrying capacity of the farms. Thus, project leakage is considered insignificant and is not accounted for.

Based on the interviews and the evidence provided, AENOR deems this consideration as credible.

Estimated Net GHG Emission Reductions and Removals

According the applied methodology the net anthropogenic GHG removals by sinks are calculated as follows:

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

Where:

$\Delta C_{AR-CDM,t}$ Net anthropogenic GHG removals by sinks, in year t; tCO₂-e

$\Delta C_{ACTUAL,t}$ Actual net GHG removals by sinks, in year t; tCO₂-e

$\Delta C_{BSL,t}$ Baseline net GHG removals by sinks, in year t; tCO₂-e

LK_t GHG emissions due to leakage, in year t; tCO₂-e

The $\Delta C_{BSL,t}$, LK_t and $GHGE_t$ estimates are considered zero, as mentioned in the sections above. The removals in the project crediting period are detailed below.

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
	First instance	First instance	First instance	First instance
2016	0	0	0	0
2017	0	68.703	0	68.703
2018	0	117.209	0	117.209
2019	0	137.541	0	137.541
2020	0	169.047	0	169.047
2021	0	185.984	0	185.984
2022	0	246.791	0	246.791
2023	0	229.647	0	229.647

2024	0	209.196	0	209.196
2025	0	229.701	0	229.701
2026	0	251.859	0	251.859
2027	0	260.953	0	260.953
2028	0	241.997	0	241.997
2029	0	204.151	0	204.151
2030	0	225.343	0	225.343
2031	0	191.981	0	191.981
2032	0	204.045	0	204.045
2033	0	233.726	0	233.726
2034	0	225.933	0	225.933
2035	0	232.845	0	232.845
2036	0	255.902	0	255.902
2037	0	229.647	0	229.647
2038	0	211.552	0	211.552
2039	0	230.999	0	230.999
2040	0	250.039	0	250.039
2041	0	241.219	0	241.219
2042	0	183.377	0	183.377
2043	0	250.506	0	250.506
2044	0	232.692	0	232.692
2045	0	191.984	0	191.984
Total	0	6.144.569	0	6.144.569

The Long-Term Average (LTA) was calculated as the total removals during the crediting period divided by the number of years (30). They were used the sections 3.2.20 and 3.2.21 of VCS standard 4.1 and the AFOLU Guidance: Example for Calculating the Long-Term Average Carbon Stock for ARR Projects with Harvesting to calculate the LTA.

The following equation was used to calculate the long-term average GHG benefit:

$$LA = \frac{\sum_{t=0}^n PE_t - BE_t}{n}$$

Where:

LA = The long-term average GHG benefit.

PE_t = The total to-date GHG emission reductions and removals generated in the project scenario (tCO₂e). Project scenario emission reductions and removals shall also consider project emissions of CO₂, N₂O, CH₄ and leakage.

BE_t = The total to-date GHG emission reductions and removals projected for the baseline scenario (tCO₂e).

Based on that, it is expected to have 583.256 tCO₂e available for their issuance. The removals to be issued in the crediting period are shown below in the projected scenario for the area planted in the first instance

Year	Annual change in GHG benefit (tCO ₂ e)	Expected total GHG benefit to date (tCO ₂ e)	Total credits available each year (tCO ₂ e)
2016	-	-	-
2017	45.150	45.150	45.150
2018	82.342	127.492	82.342
2019	21.817	149.309	21.817
2020	162.421	311.730	162.421
2021	184.190	495.920	184.190
2022	53.539	549.459	35.061
2023	63.892	613.351	-
2024	- 140.869	472.482	
2025	43.234	515.716	
2026	165.719	681.435	
2027	166.264	847.699	
2028	108.072	955.771	
2029	- 218.287	737.484	
2030	79.909	817.393	
2031	- 223.708	593.685	

Year	Annual change in GHG benefit (tCO2e)	Expected total GHG benefit to date (tCO2e)	Total credits available each year (tCO2e)
2032	- 151.564	442.121	
2033	97.398	539.519	
2034	10.952	550.471	
2035	- 32.155	518.316	
2036	217.310	735.626	
2037	- 27.269	708.357	
2038	- 73.595	634.762	
2039	34.558	669.320	
2040	105.210	774.530	
2041	51.915	826.445	
2042	- 334.198	492.247	
2043	233.176	725.423	
2044	81.208	806.631	
2045	- 230.024	576.607	
2046	- 20.206	556.401	
2047	- 48.166	508.235	
2048	70.683	578.918	
2049	95.679	674.597	
2050	120.812	795.409	
2051	- 161.961	633.448	
2052	- 99.676	533.772	
2053	- 88.010	445.762	
2054	75.894	521.656	
2055	- 333.804	187.852	
2056	60.391	248.243	
2057	52.326	300.569	
2058	- 44.212	256.357	
2059	- 48.855	207.502	
LA		530.981	530.981

AENOR deems that values are correct and consistent with the sources.

The values and estimates presented in the PD are considered reasonable based on the documentation reviewed, further references and the result of the interviews during the onsite visit.

The PD describes in an appropriate way with evidence and justifications how the project activity fulfils with the applicability conditions of the tool.

Based on the information reviewed, it can also be confirmed that the sources used are correctly quoted and interpreted in the PD and supporting documents. All assumptions and data indicated in the PD and all relevant sources were checked and confirmed.

In essence, the methodology was correctly applied following the requirements. All values in the PD are considered reasonable in the context of the proposed VCS project activity. Data sources are quoted correctly. Hence, the calculation of baseline emissions, project emissions and the estimated net GHG emission reductions are considered correct.

3.4.7 Methodology Deviations

No deviations were detected from the applicable methodology.

3.4.8 Monitoring Plan

The monitoring plan presented in the joint PD&MR complies with the requirement of the methodology. The assessment team checked all parameters presented in the monitoring plan against the requirements of the methodology. For the monitoring of carbon stock changes, the requirements and parameter list as per methodology and associated tools were followed.

The list of parameters available at validation and the values used was also checked by AENOR and it is deemed complete and consistent with calculations and assumptions considered. The following table summarizes the data/parameters available at validation:

Data/Parameter available al validation	Value	Assessment procedure and result
Avalidation Project validation area	3,827.91	Values is consistent with data provided
Avalidation_i Project validation area per stratum	Depending on the species and establishment year	Values is consistent with data provided
IMAs Volume mean annual increment	Mean annual increment depending on the species	Values are consistent with validated sources. *site index for the baseline treatment of traditional fertilization without irrigation (TNU) by Stape et al. (2010)116

Data/Parameter available al validation	Value	Assessment procedure and result
		*Plantation values in Brazil, taken from FAO (2011) *Plantation values in Paraguay, taken from Cubbage et al. (2010) *Plantation values in Paraguay, taken from Cubbage et al. (2010) and FAO (2001)
DE Basic density of Eucalyptus spp	0.54	Values are consistent with validated source: Da Cunha, T. Q. G., Santos, A. C., Novaes, E., Hansted, A. L. S., Yamaji, F. M., & Sette Jr, C. R. (2021). Eucalyptus expansion in Brazil: Energy yield in new forest frontiers. Biomass and Bioenergy, 144, 105900
DP Basic density of Pinus spp.	0.50	Values are consistent with validated source: Value taken from table 3A.1.9 of the IPCC GPG LULUCF 2003 document,
BEF Biomass expansion factor for the conversion of tree trunk biomass	1.2 for pines and 2.0 for eucalyptus	Value is consistent with validated source: IPCC GPG LULUCF 2003
R Root-to-shoot ratio	0.20 for subtropical humid forest with belowground and aboveground biomass <125 tons ha⁻¹ - 0.24 for subtropical humid forest with belowground and aboveground biomass >125 tons ha⁻¹	Value is consistent with validated source: 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4.
CFTREE Carbon fraction of tree biomass	0.47	Value is consistent with validated source: A/R tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” of the AR-ACM0003 methodology

Data/Parameter available al validation	Value	Assessment procedure and result
C to CO2 factor Carbon fraction to CO2	44/12	Value is consistent with validated source: A/R tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities” of the AR-ACM0003 methodology.
DFdw Value expressing the carbon stock in dead wood as a percentage of the carbon stock in tree biomass (tCO2e).	6	Value is consistent with validated source: A/R tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM projects activities
DFli Value expressing the carbon stock in litter as a percentage of the carbon stock in tree biomass (tCO2e)	1	Value is consistent with validated source: A/R tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM projects activities”.

The list of parameters to be monitored is the following:

- Averification. Project verification area
- Averification_i. Project verification area per stratum
- Api Sample plots
- Coordinates of sample plots. Location of every sample plot
- DBH. Trunk diameter at breast height
- H. Total tree height
- Form factor of Eucalyptus spp. Taper factor that relates a cylinder volume to the trees volume

The procedures described in section 5 of the joint PD&MR were reviewed by the AENOR team and cross-checked against the applicable methodology and associated tools. The audit team found to be in compliance with methodological requirements, and good practice as defined.

In the opinion of the AENOR team, all necessary parameters required by the selected methodology are contained in the monitoring plan. They are clearly described, and the means of monitoring detailed in the plan comply with the requirements of the methodology. Tables in section 5 of the joint PD&MR detail the different data variable to monitor along with the data unit, recording frequency, purpose of data, QA/QC, etc. Thus, the monitoring plan is in compliance with the applicable methodology

The sampling design is also detailed in section 5 of the joint PD&MR. Equations for the estimation of the sample size have been checked by the audit team. Permanent sampling plots will be used for sampling over time to measure and monitor changes in carbon stocks of tree biomass.

In opinion of the AENOR assumptions considered for sampling design are reasonable and credible and consistent with calculation. Thus, AENOR deems the sampling plan correct.

After the review of evidence provided by the PP, the interview and communications with PP, AENOR confirms that monitoring arrangements described in the monitoring plan are feasible within the project design and that the means considered for the implementation, including data management, quality and assurance control procedures, are sufficient to ensure that the GHG net anthropogenic removals achieved resulting from the proposed VCS project activity can be reported ex post and verified. Therefore, in opinion of the AENOR team, the PP will be able to implement the monitoring plan.

3.5 Non-Permanence Risk Analysis

PP has elaborated VCS Non permanence Risk Report for the validation process according to the AFOLU Non-Permanence Risk Tool v4.0.

Below, it is explained the assessment and the issues raised on regard the non-permanence risk rating determined by the PP in the report dated on 18th July 2021 version 03.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
Internal Risks			
Project Management: It is assessed using table 1 of the VCS AFOLU Risk Tool.	-2 (total may be less than zero)	a) All the trees species used in the project activities are not native The PP has provided documental evidence. Risk rating= 2 is justified. b) Continuous activities are not required to prevent the entry of external actors, because the neighbors are related to reforestation activities and the property is fenced Risk rating=0 is justified. c) In accordance with the evidence provided, Management team includes individuals with significant experience in all skills necessary to successfully undertake all project activities. Within its human team, it has trained personnel with more than 12 years of experience in the management of forest plantations. Risk rating=0 is justified. d) All parcels reforested are less than a day of travel from the office. Personnel live in around Risk rating=0 is justified.	No corrective actions or clarifications were requested

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		e) Management team (Southpole) includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting Risk rating=-2 is justified. f) There is adaptive management plan in place. Risk rating= -2 is justified.	
Financial viability: It is assessed using table 2 of the VCS AFOLU Risk Tool.	0 (total may not be less than zero)	a)-d) Project economic cash flow breakeven point is less than 4 years from the current risk assessment. N/A Risk rating=0 is justified e)-h) Project has secured 15% to less than 40% or more of funding needed to cover the total cash out required before the project reaches breakeven. Risk rating=2 is justified. i) Project has available as callable financial resources 76% of total cash out before project reaches breakeven. Risk rating=-2 is justified.	
Opportunity Cost: It is assessed using table 3 of the VCS AFOLU Risk Tool.	-6 (total may be less than zero)	a)-e) Baseline activities are subsistence-driven. Risk rating=0 is justified. f) It is expected that that project activities to be at least 50% more profitable than the most profitable alternative land use activity. Risk rating= -4 is justified g) Not applicable. h) Miller expects to continue establishing forest plantations over the full length of the project. To ensure this, it has issued a letter of intent stating its interest in continuing with the implementation of the activities for a period no less than 30 years. -2 is justified i) Not applicable.	No corrective actions or clarifications were requested.

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
Project Longevity: It is assessed using table 4 of the VCS AFOLU Risk Tool.	18 (total may not be less than zero)	a) The project participants hope to maintain the implementation of the project activities for the period of accreditation and for this, they have a letter of intent which establishes the interest to continue for a period of 30 years. Risk rating= 18 is justified b) Not applicable	No corrective actions or clarifications were requested.
Total internal risk= 10 (total may not be less than zero)			
External Risks			
Land Tenure and resources access/impact: It shall be assessed using table 6 of the Risk Tool.	2 (total may not be less than zero)	a) Not applicable b) Ownership and resource access/use rights are held by different entities. Risk rating=2 is justified. c-d) There are no disputes over land tenure or ownership of the project area in more than 5 % of the project area nor disputes over access/use rights (or overlapping rights). Risk rating=0 is justified. e) Not applicable. f) Carbon stocks are protected by a 30-year letter of intent generated by the project proponent Miller S.A. Risk rating=2 is justified g) Not applicable.	No Corrective Actions or Clarifications were requested.
Community engagement: It shall be assessed using table 7 of the Risk Tool.	-5 (total may be less than zero)	a) The project area consists of the plantation areas and, therefore, nobody is living in the project area no people live in the surroundings. Risk rating=0 is justified. b) Local stakeholder consultation meetings organized in the project area included direct participation, no more	No Corrective Actions or Clarifications were requested

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		than 20% of these households have been consulted. Risk rating=0 is justified. c) project generate net positive impacts such as Risk rating=-5 is justified	
Political Risks: It shall be assessed using table 8 of the Risk Tool.	2 (total may not be less than zero)	a-e) Paraguay presents -0.429 according to the World Bank Institute's Worldwide Governance Indicators. AENOR verified the value and reliability of source. Risk rating=4 is justified. f) The country is receiving REDD+ Readiness funding from the World Bank Forest Carbon Partnership Facility. Risk rating=-2 is justified.	No Corrective Actions or Clarifications were requested.
Total external risks= 0 (Total may not be less than zero)			
Natural risks			
Fire Risk: It shall be assessed using table 10 of the Risk Tool.	LS*M=1	Insignificant Less than every 10 years likelihood. Thus LS= 2 is reasonable. Mitigation (M) measures: There are fire barriers and an organizational structure in front of an event that serves for decision-making in order to avoid losses. The team is made up of a fire chief, crew chief, brigade members, logistics chief, among others.to prevent uncontrolled field fires. Then, M=0.5 is reasonable.	No Corrective Actions or Clarifications were requested
Pest and disease outbreaks: It shall be assessed using table 10 of the Risk tool.	LS*M=2	Insignificant. Less than every 10 years likelihood. Thus LS= 2 is reasonable. Mitigation (M) the project proponents have not implemented applicable measures to mitigate the identified risk Then, M= 1 is reasonable.	No Corrective Actions or Clarifications were requested
Extreme weather: It shall be assessed using	LS*M= 1	Insignificant Less than every 10 years likelihood. Thus LS= 2 is reasonable. Mitigation (M) measures:	No Corrective Actions or Clarifications were requested

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
table 10 of the Risk tool.		Although there is no described frost mitigation plan, Felber has implemented two methods of action: natural recovery and replanting or replanting of severely affected individuals. Then, $M=0.5$ is reasonable.	
Geological risks: It shall be assessed using table 10 of the Risk Tool.	$LS \cdot M=0$	No carbon stock losses expected to be caused by geological risks. Thus $LS=0$ is reasonable. Mitigation (M) measures: none. Then, $M=1$ is reasonable.	No Corrective Actions or Clarifications were requested
Total natural risks=4			
OVERALL RISK RATING=10+0+4=14. Then a minimum risk of 14% is considered.			

The non-permanence risk deduction to be applied for the project is 14%.

AENOR has checked that information provided in the Non-Permanence Risk Report is consistent with the support documents provided. AENOR deems that information provided is reliable and appropriate. Thus, the overall risk rating is credible and realistic.

4 VERIFICATION FINDINGS

4.1 Accuracy of GHG Emission Reduction and Removal Calculations

All calculations of greenhouse gas emission reductions and removals were checked by the audit team. No errors were discovered that materially affect the stated greenhouse gas emission reductions and removals of the project during the monitoring period. The methods used to estimate greenhouse gas benefits of the project were consistent with the methodology and the validated part of the project.

Baseline net GHG removals by sinks

In the Project, the baseline Net GHG removals by sinks is zero as it is explained in this validation and verification report.

AENOR has checked and confirmed that this amount of baseline removals are zero and are in conformance and have followed the methodology of the joint PD&MR.

Project net GHG removals by sinks

The actual net GHG removals by sinks is calculated as follows:

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

Where:

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

$\Delta C_{P,t}$ = Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; t CO₂-e

$GHG_{E,t}$ = Increase in non-CO₂ GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year t, as estimated in tool "Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; t CO₂-e

In accordance to the tool "Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", the emission of non-CO₂ GHGs resulting from burning of biomass and forest fires within the project boundary are considered zero, as there were no burning in the project area nor fire was used to prepare land during the monitoring period.

The steps to obtain the removal generated between 13/01/2016 and 19/11/2020, are; stratification, volume estimation, biomass estimation, sampling error and carbon quantification. The description of each item is presented below:

Step 1 Stratification

The stratification was made by type of genetic material and year, as follows

Strata	Species	Year	Area (ha)
1	<i>Eucalyptus urophylla</i> x <i>Eucalyptus camaldulensis</i>	2016	391.78
2	<i>Eucalyptus urophylla</i> x <i>Eucalyptus camaldulensis</i>	2017	362.46
3	<i>Eucalyptus urophylla</i> x <i>Eucalyptus camaldulensis</i>	2018	322.76
4	<i>Eucalyptus urophylla</i> x <i>Eucalyptus camaldulensis</i>	2019	75.44
5	<i>Eucalyptus urophylla</i> x <i>Eucalyptus grandis</i>	2016	701.00
6	<i>Eucalyptus urophylla</i> x <i>Eucalyptus grandis</i>	2017	217.96
7	<i>Eucalyptus urophylla</i> x <i>Eucalyptus grandis</i>	2018-2019	131.77
8	<i>Eucalyptus resinifera</i> x <i>Eucalyptus camaldulensis</i>	2016	3.29
9	Hibrido (<i>E. grandis</i> x <i>E. camaldulensis</i>) x <i>E. urophylla</i>	2018	14.38
10	Hibrido (<i>E. grandis</i> x <i>E. camaldulensis</i>) x <i>E. urophylla</i>	2019	16.46
11	hibrido (<i>E. urophylla</i> x <i>E. tereticornis</i>) x <i>E. pellita</i>	2017-2018	25.14
12	hibrido (<i>E. urophylla</i> x <i>E. tereticornis</i>) x <i>E. pellita</i>	2019	20.55
13	<i>Pinus elliotii</i>	2016	3.79
14	<i>Pinus taeda</i>	2016	90.82
15	<i>Pinus taeda</i>	2018	46.93
Total			2,424.52

Step 2 Volume estimation

Based on the tree DBH and height data, volume is estimated by means of a form factor for the eucalyptus species and of volume equations published in the technical literature for pine species.

the real volume is calculated for each of the cross sections using the Smalian formula as follows

$$V_s = \pi * h * (dl^2 + du^2) / 8$$

Where:

V_s	Volume of each section (m ³)
h	Height of each section (m)
dl	Diameter at bottom height (m)
du	Diameter at top height (m)

Subsequently, the commercial volume of each tree was calculated by adding the volume of all its cross sections. Finally, the form factor was obtained by dividing the total tree volume calculated based on the Smalian's formula by the cylinder volume calculated for each tree:

$$V_c = \pi * DBH^2 * h$$

Where:

V_c	Cylinder volume (m ³)
H_t	Total tree height (m)
DBH	Diameter at breast height (m)

To calculate the volume of the two pine species, a rigorous search for equations was carried out and their selection was based on the general adjustment level (R²), the location and the quality of the studies according to the primary information used. According to the A/R Methodological Tool "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities" (version 01.0.0), the equation presented is considered appropriate since it was derived from the growth of trees of the same species planted in the project. Additionally, these species are in edaphoclimatic conditions similar to those of the project area, the coefficient of determination (R²) resulted in a value higher than 0.85 and enough trees were used for its adjustment (225).

Based on the form factor for eucalyptus and the technical literature available for pines, the total commercial volume of every tree is calculated using the following equations:

Volume equations used.

Species	Equation	location	R ²	N	Source
<i>Eucalyptus Spp</i>	$(DBH^2 * H_t) / 40000 * \pi * 0,43$	Paraguay	NA		Monitored with project data
<i>P. elliotti</i>	$0,02732 * (DBH)^{(1,92678)} * (H_t)^{(1,22459)} / (103)$	Argentina	0.99		Kolln & Viola (1988)140
<i>P. taeda</i>	$0,02237 * (DBH)^{(2,01157)} * (H_t)^{(1,13125)} / (103)$	Argentina	0.99		Kolln & Viola (1988)140

Step 3 Biomass calculation

The calculated commercial volume for every tree within each sample plot was added and the total commercial volume of timber in every sample plot was obtained. Then, this volume was taken to units of m³ ha⁻¹ and finally the formula for the estimation of the total biomass proposed in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" of the AR-ACM0003 methodology was used as follows:

$b_{TREEj} = V_{TREE} * D_j * BEF_i * (1 + R_{TREE})$	Where:	
b_{TREEj}		Total tree biomass by sample plot (m ³ ha ⁻¹)
R_{TREE}		Root-to-shoot ratio (dimensionless)
BEF_i		Biomass expansion factor (dimensionless)
D_j		Wood density of each species (ton m ⁻³)
V_{tree}		Total commercial volume of trees by sample plot (m ³ ha ⁻¹).

$$b_{TREEj} = V_{TREE} * D_j * BEF_i * (1 + R_{TREE})$$

Default parameters used:

Root-to-shoot ratio: 0,20 for subtropical humid forest. Above-ground biomass <125 tons ha⁻¹
0,24 for subtropical humid forest. Above-ground biomass >125 tons ha⁻¹

Step 4. Sampling error

With the total tree biomass per sample plot (m³ ha⁻¹), the average and the standard deviation was calculated for each stratum (grouping the plots included in each one of them). Then, the sampling error was obtained using the A/R Tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" of the AR-ACM0003 methodology

$$b_{TREE} = \sum_{i=1}^m w_i * b_{TREEi}$$

$$u_c = \frac{t_{val} * \sqrt{\sum_{i=1}^m w_i^2 * \frac{S_i^2}{n_i}}}{b_{TREE}}$$

Where:

b_{TREE}	Mean tree biomass in strata (m ³ ha ⁻¹).
w_i	Ratio of the area of stratum i to the sum of areas of tree biomass estimation strata.
b_{TREEi}	Mean tree biomass in stratum i (m ³ ha ⁻¹).
u_c	Uncertainty (%).

t_{val}

Two-sided Student's t -value for a confidence level of 90% and degrees of freedom equal to $n - M$, where n is total number of sample plots within the tree biomass estimation strata and M is the total number of tree biomass estimation strata.

 s_i

Standard variance of mean tree biomass in stratum i .

 n_i

Number of sample plots in stratum i .

A sampling error of 3.91% was obtained, which indicates that the estimates of the carbon stock stored by the project have low uncertainty and meets the tool requirements

Step 5. Carbon estimation

Estimation of carbon storage (stock) in trees (ΔC_{TREE})

To estimate tree carbon storage, the formula proposed in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" of the AR-ACM0003 methodology was used.

$$B_{TREE} = A * b_{TREEi}$$

$$C_{TREE} = 44/12 * C_{FTREE} * B_{TREE}$$

Where:

 C_{TREE}

Carbon stock in tree biomass per stratum (tCO₂-equ).

 C_{FTREE}

Carbon fraction of tree biomass (tC)

 B_{TREE}

Tree biomass per stratum (ton)

 b_{TREEi}

Mean tree biomass in stratum i (m³ ha⁻¹)

 A

Area per stratum (ha)

Default parameters used: Carbon fraction_a = 0.47

Actual tree removals (tCO₂e) by stratum

Strata	Aboveground biomass (t/ha)	btree (t/ha)	Btree (t)	Ctree (tCO ₂ e)
1	126	156	61,005	105,132
2	83	100	36,249	62,469
3	47	57	18,289	31,519
4	31	37	2,794	4,815
5	130	161	112,795	194,383
6	112	135	29,418	50,696
7	53	64	8,434	14,534
8	98	118	388	669
9	49	58	838	1,444
10	24	29	472	814
11	52	62	1,556	2,682
12	10	13	259	446
13	17	20	77	133
14	15	19	1,688	2,908
15	2	2	104	180
Total				472,824

Estimation of carbon storage (stock) in dead wood and litter (ΔC_{DW} , ΔC_{LI})

Carbon in dead wood and litter was calculated based on the proposal of the AR-Tool 13 “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM projects activities”, version 3.1. of the AR-ACM0003 methodology, which relates the carbon content (in dead wood and litter) as a percentage of the total carbon in tree biomass by using the following equations:

$$C_{DW,i,t} = C_{TREE,i,t} \times DF_{DW}$$

Where:

$C_{DW,i,t}$:

Carbon stock in dead wood in stratum i at a given point of time in year t (tCO₂e).

$C_{TREE,i,t}$:

Carbon stock in trees biomass in stratum i at a point of time in year t (tCO₂e).

DF_{DW}:

Conservative default factor
expressing carbon stock in dead
wood as a percentage of carbon
stock in tree biomass (tCO_{2e}).

$$C_{LI,i,t} = C_{TREE,i,t} \times DFLI$$

Where:

$C_{LI,i,t}$	Carbon stock in litter in stratum i at a given point of time in year t (tCO _{2e}).
$C_{TREE,i,t}$	Carbon stock in trees biomass in stratum i at a point of time in year t (tCO _{2e}).
$DFLI$	Conservative default factor expressing carbon stock in litter as a percentage of carbon stock in tree biomass (tCO _{2e}).

Values to estimate dead wood and litter in the project:

$DFDW$ 6%	Tropical sites with elevation values less than 2,000 meters above sea level and rainfall greater than 1,600 mm/year due to the annual rainfall of 1,730 mm (according to the historical average of 2010-2019), and the average elevation of 101 meters above sea level
$DFLI$ 1%	

Actual deadwood and litter removals (tCO_{2e}) by stratum

Strata	Cdw (tCO _{2e})	Cli (tCO _{2e})
1	6,308	1,051
2	3,748	625
3	1,891	315
4	289	48
5	11,663	1,944
6	3,042	507
7	872	145
8	40	7
9	87	14
10	49	8
11	161	27
12	27	4
13	8	1
14	174	29
15	11	2
Total	28,369	4,728

Finally, the tree carbon stock was added to that of the litter and dead wood per stratum and the total project removals from the verification areas per stratum were obtained. Then, the values by stratum were added to obtain the total removals of the project with a non-permanence buffer of 14%. This risk was performed following the AFOLU Non permanence Risk tool V4.0

Actual total tCO₂e removals by stratum

Strata	C actual (tCO ₂ e)	C actual including buffer (tCO ₂ e)
1	112,491	96,742
2	66,842	57,484
3	33,724	29,002
4	5,151	4,429
5	207,989	178,870
6	54,245	46,650
7	15,551	13,373
8	715	614
9	1,544	1,327
10	871	749
11	2,869	2,467
12	476	409
13	142	122
14	3,111	2,675
15	192	165
Total	505,913	435,078

As mentioned above, AENOR reproduced the calculations and deems that equations applied are appropriate as they correspond to the ones indicated in the joint PD&MR monitoring section. Default equations to convert the Above to Below ground biomass and carbon fraction are also appropriately used.

AENOR verified that the project used the steps of the tool.

Increase in non-CO₂ GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity during the monitoring period

According to the tool "Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity", the emission of non-CO₂ GHGs resulting from burning of biomass and forest fires within the project boundary in year t is an estimate based in three sources: were considered to be zero, as the project activities did not include the use of fires to prepare land. Considering the previous description, non-CO₂ GHG emissions (GHG_{E,t}) are considered to be zero.

AENOR has checked the summary calculation spreadsheet and find it consistent with data in the joint PD&MR, monitoring section and consistent with data presented.

Calculation of Leakage

According the applied methodology the only leakage emissions that can occur are the GHG emissions due to displacement of pre-project agricultural activities. As described in the joint PD&MR section, no agricultural activities were displaced due to the project actives. Therefore, leakage is considered to be 0.

Pre-existing livestock units (before the start of reforestation activities) are sold gradually while others are kept in the project in a silvopastoral system, without exceeding the carrying capacity of the farms. Thus, project leakage is considered insignificant and is not accounted for.

Based on the evidence provided, AENOR deems this consideration as credible.

Net GHG Emission Reductions and removals due to the project

According to equation 5 of the methodology AR-ACM0003 v2.0, net anthropogenic GHG removals by sinks shall be calculated as follows:

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

Where:

$\Delta C_{AR-CDM,t}$	=	Net anthropogenic GHG removals by sinks. in year t; t CO ₂ -e
$\Delta C_{ACTUAL,t}$	=	Actual net GHG removals by sinks. in year t; t CO ₂ -e
$\Delta C_{BSL,t}$	=	Baseline net GHG removals by sinks. in year t; t CO ₂ -e
LK_t	=	GHG emissions due to leakage. in year t; t CO ₂ -e

Then, $\Delta C_{AR-CDM,t} = \Delta C_{ACTUAL,t}$

The $\Delta C_{BSL,t}$, LK_t and $GHG_{E,t}$ estimates are considered zero, as mentioned in the sections above. After discounting for non-permanence risk of 14% according to the results of the risk analysis, it is determined that the amount of credits to reserve is 70,835tCO₂e. Thus, the credits available in the project are 435,078tCO₂e as shown in the following table

The following table summarizes the results:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
2016	0	64,889	0	64,889	9,085	55,804
2017	0	95,878	0	95,878	13,424	82,454
2018	0	112,882	0	112,882	15,805	97,077
2019	0	116,131	0	116,131	16,261	99,870
2020	0	116,131	0	116,131	16,261	99,870
Total	0	505,913	0	505,913	70,835	435,078

The total GHG benefit calculated as the sum of stock changes along the monitoring period (13-01-2016 to 19-11-2020) is **505,913 tCO₂e**. The overall non-permanence risk rating was 14%. Therefore, the total number of credits to be deposited in the buffer account is **70,835 VCUs** and the total VCUs to be issued are **435,078 VCUs**.

AENOR reproduced the calculations to achieve the same results and deems they are depicted clearly and correctly in the provided sheets. The AENOR verification team was able to trace calculations directly from the data sources of inventory's field measurements. Formulae used are in compliance with monitoring plan, the joint PD&MR section and methodology. The default values used to determine the parameters are appropriate. Thus, the net amount of VCUs to be issued is accurate and realistic.

In order to calculate the above terms, the monitoring report details the data and parameters used during the verification process. For each of them, AENOR checked its accuracy, consistency and reliability by reproducing the spreadsheets calculations, verifying the correctness of formulae and methods used and crosschecking the data values with sources (Appendix 1).

AENOR carried out a deep review of the monitoring report section and the calculations.

AENOR verified the consistency and accuracy of each parameter detailed in the lists below by crosschecking the information in the MR section with the information in the joint PD&MR section, as well as checking values and reproducing the calculations in the spreadsheets calculation package, and did not find inconsistencies between them after the closing of CARs and CLs requested. Therefore, AENOR deems that values reported for the parameters are accuracy and consistent.

Moreover, AENOR also verified a complete GIS package provided to cross check the information with data values used in calculations and monitoring report. Other default values used are from sources well accredited and validated at validation stage.

AENOR did not find inconsistencies between the joint PD&MR and spreadsheet calculation.

The following table summarizes the data and parameters monitored during the monitoring period and used by the PP to calculate the GHG emission removals, which has been assessed by AENOR:

Data/Parameter monitored	Value applied	Purpose of data/parameter	Assessment procedure and result
Averification Project verification area	2,424.52	Calculation of project removals	• Correctly inputted in the calculation spreadsheets
Averification_i Project verification area by stratum	Multiple values	Calculation of project removals	• Correctly inputted in the calculation spreadsheets
Api Area of the sample plots	400	Calculation of project removals	• Consistent with monitoring QA/QC procedures. •
Coordinates of sample plots	Multiple values	Calculation of project removals	• Correctly inputted in the calculation spreadsheets. some sample plots were re-measured. According to QA/QC procedures applied.
DBH Trunk diameter at breast height	Multiple values	Calculation of project removals	• Correctly inputted in the calculation spreadsheets. QA/QC procedures applied.
H Total tree height	Multiple values	Calculation of project removals	• Correctly inputted in the calculation spreadsheets. QA/QC procedures applied.
Form factor of Eucalyptus spp.	0.43	Calculation of project removals	• Values correctly apply according to Measurement in the field through research work within the framework of an agreement with the University of Asunción

In order to verify the accuracy and consistency of parameters monitored and used to calculate the removals achieved for the monitoring period, the AENOR verification team reproduced the calculations checking the correctness of the formulae applied and assumptions used, when applicable and that values used matched with data sources.

AENOR checked that the list of parameters to be monitored was complete and consistent with information in the monitoring plan of the joint PD&MR.

After a deep and thorough review and reproduction of calculations and the corresponding tracks to the spreadsheets, AENOR deems the parameters monitored are correct, reliable and consistent. Information in the monitoring report and it is in compliance with the joint PD&MR, the calculations provided and the applicable methodology. Then, the results showed in the monitoring report are reliable, consistency and accuracy.

AENOR checked that the list of parameters to be monitored was complete and consistent with information in the monitoring plan of the joint PD&MR. And consequently GHG emission reductions and removals have been quantified correctly in accordance with the monitoring plan and applied methodology for this verification period.

4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

The actual GHG removals were calculated by applying QA/QC procedures in measuring the sample plots. These plots were randomly selected, and the sampling design is directly related with the number of strata.

Monitoring crew members were trained before the monitoring event. For measuring the DBH, the monitoring crews use measuring tapes and tree calipers, beside this, GPS equipment is used for locating the sample plots. Training to use the of this equipment is given in order to provide the monitoring crew members with the tools to make decisions in the fields.

By interviews AENOR has verified that monitoring crews implemented the monitoring plan as it is established in the validated joint PD&MR. Key workers seem to be fully involved in monitoring events (training, measuring, archiving, reporting, quality control, etc.). QA/QC procedures are considered strict at identifying, reviewing, and handling inconsistencies found. Furthermore roles and responsibilities are clearly identified in the monitoring report and QA/QC procedures.

QA/QC procedures are implemented, and the use of these procedures monitored to ensure that net anthropogenic GHG removals by sinks are measured and monitored precisely, and are credible, verifiable, and transparent. Training is held for all relevant personnel on all data collection and analysis procedures.

The PP presents several phases to assure quality such as: work team and responsibilities, the establishment of sample plots, the internal audit procedure and data processing

Work team and responsibilities

The system's structure involves a cyclical process of data collection, decision-making and evaluation of the results obtained in accordance with the responsibilities. Felber Forestal's role, as the plantation operator, is to coordinate the installation of the sample plots with the Forestry Manager, who is the person with the overall responsibility for the management and monitoring of the sample plots and lots and, therefore, for the Monitoring Plan (including selecting the subcontractor in charge of the sample plots, which in the case of the first verification period is Red Forestal)

The Forestry Manager, together with the staff of Red Forestal, is responsible for the managing the personnel for inventories and plantation management, the control and coordination of activities, as well as the supervision of field assistants and the elaboration of the forest inventory general report.

The field technicians participating in the preparation stage are responsible for recording in worksheets the information collected during the forest inventory and for the quality of the reported values. Additionally, they are in charge of transcribing the values contained in the paper forms to digital files (in Excel or Word formats). The information is delivered by Red Forestal to the Felber Forestry Manager, who reviews and groups it for later review by the Organization Manager. Finally, the President and other officials of the partner companies can verify compliance with the established commitments.

the establishment of sample plots

To estimate the growth of the trees planted in the entire project verification area, taking into account that it would be very difficult to measure each of them, samples with a statistical uncertainty of less than 10% must be carried out. For this, areas with similar conditions (strata) are considered, and a number of sample plots are randomly selected using ArcGIS 10.5 together with the tools for the creation of random points.

The following activities are conducted in order to collect data from the sample plots:

- Installation of the sample plot,
- Delimitation and access to sample plots
- Data collection
- DBH and H data collection
- Tree measurement

Regarding Internal audit and QA/QC procedures, the follow measures have been design:

The monitoring of plantations requires having quality assurance (QA) and quality control (QC) measures in place, including steps to minimize errors in measurements and data analysis, and providing the necessary information to follow the progress of the activities and be aware of the consistency of archived data over time.

- Collection of reliable field measurement data: The responsibilities of all staff members as well as the importance of certain field activities are defined in order to ensure that reliable results are produced. The company personnel who carry out the inventories is trained in the relevant tasks to guarantee data collection by using the appropriate instruments and applying the procedures required by the certifying standards. Likewise, the Field Technicians attend the general recommendations of the Forestry Manager to produce reliable data in forms and later in Excel databases
- Verification of methods used for field data collection: The relevance of the tools used for data collection and the quality of the instruments such as the tree caliper and the hypsometer are verified.
- Data storage: Data recorded in the printed form are transcribed into Excel files and accompanied with supporting site photographs and coordinates images. Felber Forestal uses Autocad to manage its GIS information, and it reviews synchronously with a database managed in other software developed by themselves. They have backup of the information every midnight on 2 servers in Paraguay and another in Germany.

- Procedures to ensure reliable field measurements: After monitoring, a document called “Information quality management” is generated, containing the re-measurement of the sample plots with data that are far from the averages per stratum and of some other sample plots that are randomly selected. Then, a comparison of averages is carried out through a t test for paired data to verify that no significant difference with a p-value of 0.05 exists. The software that Felber Forestal uses to manage the data bank was developed by themselves, where they have all the information on the forest parcels and clients
- This software is parameterized and has controls to prevent the entry of errors. With this software they do a cross control of the number of plants that come out of the nursery, planted plants, quantity of materials, plants planted by each person
- Procedures used for handle internal audit: new controls are constantly being implemented in the software to avoid errors, based on the inconsistencies that are identified. Errors are reviewed by the harvest supervisor and Jonas. If they find inconsistencies or outliers, the physical reports stored in the office are reviewed. Physical documents are stored for a minimum of 5 years. As it is already known what the average values per log of wood are, then it is verified that they have a behavior that is not strange. Constant efforts are being made to improve in this regard and to better document this information

Finally, data management and archival system is also detailed in the monitoring report.

Roles and responsibilities along with data management and archival system are also detailed in the monitoring report and other supported documents.

Interviews with the PP and inspection of data and results demonstrated that the PP possess all of the competencies required for reporting of GHG emissions reductions on accurate way.

Data presented to the audit team were clear and coherent and processing steps could be traced to the corresponding sections of the methodology and monitoring plan with transparency.

The monitoring plan provides means for internal data review and quality control, and the data presented by the project proponent included the results of these internal assessments. AENOR reviewed the different procedures applied by Felber and Miller and South Pole and AENOR considers that information provided is sufficiency and the quality of that information is appropriate to determine the GHG removals.

Furthermore, AENOR performed a consistency check in order to verify the consistency of the previous measurement and the re-measurement, and to verify the correctness of the reported results.

5 VALIDATION AND VERIFICATION CONCLUSION

AENOR has performed the validation and the verification of the ARR Grouped Project Afforestation of degraded grasslands in Caazapá and Guairá, and has verified that the project is in compliance with the Verified Carbon Standard version 4.1 without qualifications or limitations. The project is located in Paraguay and covers 2,716.71 hectares in the first instance.

The validation and verification process was performed on the basis of all issues and criteria of VCS. The conclusions of this report show that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation and verification.

The verification assessment covered the monitoring period from 13- January -2016 to 19-November-2020 and verified that calculated emission reductions and/or removals were achieved during the monitoring period with a reasonable level of assurance.

AENOR is able to issue a positive verification opinion for the **505,913**tonnes CO₂e as reported in the Joint project description and monitoring report Monitoring Report for the reporting period 13-Jan-2016 to 19-November-2020. The overall non-permanence risk rating was 14%. Therefore, the total number of credits to be deposited in the buffer account is **70,835** VCU and the total VCUs to be issued are **435,078** VCUs.

Verification period: From 13 January-2016 to 19-November-2020

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
2016	0	64,889	0	64,889	9,085	55,804
2017	0	95,878	0	95,878	13,424	82,454
2018	0	112,882	0	112,882	15,805	97,077
2019	0	116,131	0	116,131	16,261	99,870
2020	0	116,131	0	116,131	16,261	99,870
Total	0	505,913	0	505,913	70,835	435,078

Overall non-permanence risk rating: 14%

VCUs buffer to be deposited: **70,835 t CO₂e.**

Total VCUs to be issued 435,078 t CO₂e.

Date: 17 July 2021

A handwritten signature in dark ink, appearing to read 'Sergio Guzman', is written over a faint, light-colored rectangular background.

Sergio Guzman
Validation and Verification Leader

APPENDIX I: LIST OF EVIDENCE PROVIDED

1. VCS_Projec Description_AR Miller_English_V3
2. 210719_VCS-Non-Permanence-Risk-Report_Miller_V3_English
3. 210719_VCS-Risk-Report-Calculation_Miller_V3
4. SIG package
5. 20210407_Land_Cover_2013_2015_Miller_Plantation
6. 20201118_AR_Eligibility_Supervised_Classification_Miller_Plantation
7. Spreadsheet 20210512_Estimaciones_actuales
8. Spreadsheet 20210512_Estimaciones_proyectadas
9. Spreadsheet 210321_Gestión de la calidad de la información
10. Documento Soporte MAPA ACTORES
11. Documento Soporte_Estrategia de comunicación y PQCS
12. 08- Metodología Inventario Forestal_01_12_2020
13. Carpeta de tenencia de la tierra
14. Carpeta de planes de manejo
15. Carpeta de licencias ambientales
16. Carpeta de adicionalidad
17. 17- Formulario Plantación PS-18 (parcela mas antigua CO2) (inicio del proyecto)
18. CV Jorge Daniel Paiva Ávalos - Encargado de las Plantaciones

APPENDIX II: FINDINGS

VCS Corrective Action Requests (VCS CARs)

VCS CAR ID	01	Date: 31/05/2021
Description of CAR		
In section 2.3 as required by the VCS Joint Project Description & Monitoring Report: VCS template. Summarize any environmental impact assessments carried out with respect to the project, where applicable. Please refer to the environmental impact assessments presented for Curuzu, Moises Bertoni, and Ñumi.		
Project participant response		Date: 15/06/2021
The impact assessment carried out in the project document is summarized and the detailed impact assessment, the environmental management plans and the audit reports on these plans are attached as supporting documents.		
Documentation provided by project participant		
Supporting documents on the detailed impact assessment, environmental management plans and audit reports on these plans.		
DOE assessment		Date: 19/06/2021
The PP has provided the required information. CAR closed.		

VCS CAR ID	02	Date: 31/05/2021
Description of CAR		
In section 6.3 of VCS Joint Project Description & Monitoring Report: Table 37 states that a non-permanence buffer of 20% was used instead 14% Explain how it was calculated and refer to the tools used to achieve it. As required in section 6.3 of the template. For AFOLU projects, include quantification of the net change in carbon stocks. Also, state the non-permanence risk rating (as determined in the AFOLU non-permanence risk report) and calculate the total number of buffer credits that need to be deposited into the AFOLU pooled buffer account. Attach the non-permanence risk report as either an appendix or a separate document.		
Project participant response		Date: 15/06/2021
The correction is made in table 37, since the non-permanence risk rating for the project is 14% after performing the risk analysis		

Documentation provided by project participant	
54oThe analysis is attached as a support document to the project document. See for more details in the path: document management/NPRT.	
DOE assessment	Date: 19/06/2021
The PP has provided the required correction. CAR closed	

VCS Clarification Requests (VCS CLs)

VCS CL ID	01	Date: 31/05/2021
Description of CL		
Section 1.2 of the Joint PD & MR states that the implementation of the project followed the AFOLU requirements document VSC v4. This document does not longer exist. Clarify which document used.		
Project participant response		Date: 15/06/2021
The document is updated according to the VCS requirements. The VCS standard document version 4.1 is followed.		
Documentation provided by project participant		
DOE assessment		Date: 19/06/2021
The PP has provided the required correction. CL closed		

VCS CL ID	02	Date: 31/05/2021
Description of CL		
Section 1.11 as required by the VCS Joint Project Description & Monitoring Report: VCS template. Describe how the activities will achieve net GHG emission reductions or removals, provide description of how the various organizations, communities and other entities are involved. In the description of the project activity, state if the project is located within a jurisdiction covered by a jurisdictional REDD+ program		

Project participant response	Date: 15/06/2021
The Project is not under the jurisdiction of a national REDD program. The update is made in the joint PD&MR in section 1.11	
Documentation provided by project participant	
DOE assessment	Date: 19/06/2021
The PP has provided the required clarification. CL closed.	

VCS CL ID	03	Date: 31/05/2021
Description of CL		
Section 2.2 as required by the VCS Joint Project Description & Monitoring Report: VCS template. Describe How due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate how the project has or will communicate the following • The results of monitoring • The process of VCS Program validation and verification and the validation/verification body's site visit.		
Project participant response		Date: 15/06/2021
In section 4 of the EPCAP support document, the comments and answers given during the different socialization meetings are added. The communication strategy document presents information on how the project is and will communicate the results of the monitoring, validation and verification process.		
Documentation provided by project participant		
See supporting documents on the route: gestion documental/EPCAP/documentos soportes		
DOE assessment		Date: 19/06/2021
The PP has not provided the required clarification. CL open.		

Please briefly describe in the PD&MR and refer to the sections of the EPCAP support document, how due account of all and any input received during the consultation has been taken. Include details on any updates to the project design or justify why updates are not appropriate. If any	
Please describe in the PD&MR and refer to sections in the communication strategy document, how the project has or will communicate the following • The results of monitoring • The process of VCS Program validation and verification and the validation/verification body's site visit	
Project participant response	Date: 28/06/2021
Section 2.2 briefly details the comments received during the local consultation and how the project has communicated the validation, verification, and monitoring results.	
Documentation provided by project participant	
documents supporting EPCAP results.	
DOE assessment	Date: 1/07/2021
The PP has provided the required clarification. CL closed.	

VCS CL ID	04	Date: 31/05/2021
Description of CL		
In section 2.4 as required by the VCS Joint Project Description & Monitoring Report: VCS template. Demonstrate how due account of all and any comments received during the public comment period has been taken. Include details on any updates to the project design or demonstrate the insignificance or irrelevance of comments Clarify if the project is already register and in public comment		
Project participant response		Date: 15/06/2021
The project registration in the VERRA standard platform is updated in section 2.4 of the joint PD&MR		
Documentation provided by project participant		

DOE assessment	Date: 19/06/2021
The PP has provided the required clarification. CL closed.	

VCS CL ID	05	Date: 31/05/2021
Description of CL		
In section 2.5 of the VCS Joint Project Description & Monitoring Report, mention that the mechanism for a grievance redress procedure to resolve any conflicts (PQCS) is in the web page of Felber forestal, however it is not there. Also, the template requires: For AFOLU projects with no impacts on local stakeholders, provide evidence of such.		
Project participant response		Date: 15/06/2021
PQCS information is updated by Felber Forestal on the web page. See support in the communication strategy document. Regarding impacts, the document presents the impacts and mitigation measures at both the environmental and social levels. see sections 2.3 and 2.5.		
Documentation provided by project participant		
DOE assessment		Date: 19/06/2021
The PP has provided the required clarification. CL closed.		

VCS CL ID	06	Date: 31/05/2021
Description of CL		

In section 4.4 of the VCS Joint Project Description & Monitoring Report, Clarify if it was taken into consideration the section 3.2.20 and section 3.2.21 of the VCS standard 4.1 and explain in this section how was obtained the Long term Average by using AFOLU Guidance: Example for Calculating the Long-Term Average Carbon Stock for ARR Projects with Harvesting to calculate the LTA. And how was calculated the 60% non-permanence discount.	
Project participant response	Date: 15/06/2021
It is clarified in the document in the section 4.4; those sections 3.2.20 and 3.2.21 of VCS standard 4.1 were used and was explained in this section how was obtained the Long term Average by using AFOLU Guidance: Example for Calculating the Long-Term Average Carbon Stock for ARR Projects with Harvesting to calculate the LTA. It is identified that there was an-error when a value of 60% is presented as a risk of non-permanence, but according to the VCS CL ID 07 the discount is not included in this section. The description and calculation of the risk of non-permanence is presented as Anex I.	
Documentation provided by project participant	
DOE assessment	Date: 19/06/2021
The PP has provided the required clarification. CL closed.	

VCS CL ID	07	Date: 31/05/2021
Description of CL		
In section 4.4 of the VCS Joint Project Description & Monitoring Report, Clarify why are using the 14% non-permanence discount. The buffer is to be used in section 6.3.		
Project participant response		Date: 15/06/2021
The information is changed without discounting the risk of non-permanence (buffer) of 14%. See section 4.4		
Documentation provided by project participant		

DOE assessment	Date: 19/06/2021
The PP has provided the required correction. CL closed.	

VCS CL ID	08	Date: 31/05/2021
Description of CL		
As per required by the VCS Joint Project Description & Monitoring Report: VCS template in section 5.3; describe the procedures used for handling any internal auditing performed and any non-conformances identified.		
Project participant response		Date: 15/06/2021
Updated information on internal procedures in section 5.3 of the joint PD&MR		
Documentation provided by project participant		
DOE assessment		Date: 19/06/2021
The PP has provided the requested information. CL closed.		