AGROFORESTRY AND REFORESTATION WITH SMALL-SCALE FARMERS IN UGANDA

Document Prepared by AENOR INTERNACIONAL S.A.U.

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Prepared By	*AENOR INTERNACIONAL S.A.U.*
Contact	*6 Génova. 28004 Madrid – Spain. Telephone +34 914326000* *jfuentes@aenor.com, www.aenor.com*
Approved By	*José Luis Fuentes*

Work Carried Out By	*Lead auditor: Daniel Bermejo* *Lead auditor* (until March 2023): *Elena Llorente Pérez* *Auditor: Adrián Vidal* *Auditor (until September 2022): Marina Arroyo Bovea* *Technical reviewer: Jose Luis Fuentes*

Summary:

The project "Agroforestry and reforestation with small-scale farmers in Uganda" aims to reforest degraded agricultural land through the promotion of sustainable agroforestry with small-scale farmers located in Uganda. During the first plantations from 2016 to 2019, around 270,000 trees have been planted over 590 ha and worked with 880 farmers with the Rwenzori Farmers Cooperative Union (RFCU) in the Rwenzori region.

The project has been validated and verified on the basis of the VCS methodology (AR-AMS0007 version 3.1), Verified Carbon Standard (VCS) version 4.2, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria. Remote interviews with key stakeholders and staff were held on 2-3 February 2022. The PD /1/ and the MR /1/ were reviewed along with supporting documents.

The purpose of the validation and verification was the independent evaluation of the project's compliance with the VCS Standard v4.2. The scope was to assess the conformance of the project with the methodology, and the implementation resulting in 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 inspections.

During the validation and verification 2 CLs and 9 CARs were reported. All these issues where appropriately closed by means of corrections, more clear explanations and other supported documents.

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 and verification criteria for VCS. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the validation and verification 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 estimated annual average GHG emission reductions/removals of 1,863 tCO2e/year and the total ex-ante potential of the project is 65,216 tCO2e over the 35 years of the project duration. Additionally, the total GHG emission reductions or removal generated in the first monitoring period is 4,692 tCO2e and they are accurate and free of material errors.

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 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 Uganda with the Verified Carbon Standard, the identified methodology and associated tools, for the crediting period from 13-April-2016 to 12-April-2051 and the first monitoring period from 13-April-2016 to 31-December-2021.

The objectives of this audit included a validation of the project's 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 4.2, including the following documents:

- VCS Standard v4.2 (2022)
- VCS Program Guide v4.1 (2022)
- VCS AFOLU Non-Permanence Risk Tool v 4.0 (2019)

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.

Name	Role in the Team
Daniel Bermejo	*Lead auditor*
Elena Llorente Pérez	*Lead auditor (until March 2023)*
Adrián Vidal	*Auditor*
Marina Arroyo Bovea	*Auditor Lead auditor (until September 2022)*
Jose Luis Fuentes	*Technical reviewer*

1.4 Summary Description of the Project

The project "Agroforestry and Reforestation with Small-Scale Farmers in Uganda" aims to reforest degraded agricultural land through the promotion of sustainable agroforestry with small-scale farmers located in Uganda.

The project consists of tree planting rolled-out over annual planting waves. The project will plant approximately 2,195,000 trees from 2020 to 2025. The choice of species will be based on site evaluations and according to farmers' needs. Only native or naturalized species are planted: fruit trees (avocado, guava, lemon, jackfruit, orange, mango), shade/conservation trees (musizi, prunus Africana, melia, cedrella, muvule, Uganda flame, African mahogany, omukhowa, musisiyo, muvule improved).

Therefore, it is a project of the afforestation, reforestation and revegetation (ARR) category, VCS sectoral scope 14 (AFOLU).

The project's plantations are carried out on private land, managed mostly by very smallholder farmers having customary land ownership.

The main objectives of the project are:

- Climate change mitigation through carbon removals generated by tree-planting activities.

- Increase farms' resilience to climate change, diversify incomes and restore ecosystem services by supporting agroforestry practices, inside and around coffee, cocoa or vanilla parcels.
- Increase perennial crop yields and quality by implementing Good Agricultural Practices

During the first plantations of the project (2016-2019), around 270,000 trees have been planted in over 590 ha with 880 farmers.

The project crediting period is 35 years long, starting in 2016. It is a grouped project.

2. VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The validation and verification were performed through a combination of document review, interviews with relevant personnel and a remote inspection, 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 Project Description and Monitoring Report submitted by the PP were reviewed against the approved consolidated methodology and against VCS requirements. Additional background documents related to the project design, baseline and additionality were also made available, along with the non-permanence risk report.

To address the corrective actions and clarification requests that arose from the desk review and the remote audit, the PP revised the project description document version 1 /4/ and developed a final version 4 dated on 28 June 2022 /1/, as well as the monitoring report version 1 /4/ and developed a final version final version 3 dated on 28 June 2022 /2/. The VVB compared and cross-checked all information in both documents to assure no misstatements were found.

2.3 Interviews

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

Name	Organization/Community	Topic	Date/Means
Victor Delaby	PUR Projet	Project implementation – Monitoring – QA/QC – ER calculations	02/02/2022 03/02/2022 Videocall
Lydia Namutebi	PUR Projet	Project implementation – Monitoring – Field measurement	02/02/2022 03/02/2022 Videocall
Kidist Girma Tadesse	PUR Projet	Project implementation – Monitoring – Field measurement	02/02/2022 Videocall
Charles Nyamutale	Commercial Nursery BENECO	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Kambere Asansio	Community Nursery in Balimi cooperative	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Masereka Emmy	RFCU Technicians	Project implementation – Monitoring – Field Measurement – Forest management	03/02/2022 Videocall
Muhisya Samson	RFCU Technicians	Project implementation – Monitoring – Field Measurement – Forest management	03/02/2022 Videocall
Kabinga Enock	Farmer	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Kabinga Zephania Bwambale	Farmer	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Maliza Kule	Farmer	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Kiiza Isemboko Venensio	Farmer	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall
Malerembya Yoweri	Farmer	Project implementation – Benefits and Risks – Communication	03/02/2022 Videocall
Kamuhanda Ezira	Farmer	Project implementation – Benefits and Risks – Communication	03/02/2022 Videocall
Muhindo Perisikira	Farmer	Project implementation – Benefits and Risks – Communication	03/02/2022 Videocall
Masereka Hanington	Farmer	Project implementation – Benefits and Risks – Communication	03/02/2022 Videocall

Name	Organization/Community	Topic	Date/Means
Bisando Justus	Farmer	Project implementation – Benefits and Risks – Communication	03/02/2022 Videocall
Masika Esitajona	Farmer	Project implementation – Benefits and Risks - Communication	03/02/2022 Videocall

2.4 Site Inspections

In accordance with VERRA's COVID-19 Travel Guidance for Projects (dated 18 March 2020) and since that the VCS Programs does not explicitly mandate site visits on the ground of the crisis situation and considering that a reasonable level of assurance was achievable by other means. AENOR as VVB proposed to carry out a remote verification audit that ensured the achievement of the assurance level required by the VCS program.

The remote audit was based on the following auditing techniques:

- Document review and cross checks between the information provided in the PD and MR, and supporting information and evidence provided by the PP Emissions calculations, GIS database, and supporting information and evidence provided.
- Review, based on the selected methodologies, tools and the other applied methodological regulatory documents, of the appropriateness of formulae and accuracy of calculations.
- Teleconference and/or e-mail interviews for the implementation of project activities and the elaboration of project's documents

The following table shows the additional evidence obtained remotely /22/:

Name	Entity – Group	Validation/Verification mean
Bukombi Joel	Farmer	Video Testimony
Bulemu Sabani	Farmer	
Mathe Mikaya	Farmer	
Sekanabo Elieza	Farmer	
Thungu Suzanna	Farmer	
Baluku Yosufu	Farmer	Written Testimony
Bamwangiraki Juma	Farmer	
Habasa William	Farmer	
Kule Sanairi	Farmer	
Masereka Sedrack Kighoroghoro	Farmer	

Name	Entity – Group	Validation/Verification mean
Muhindo Alivan	Farmer	
Muhindo James	Farmer	
Musongora Asasio	Farmer	
Mwahulhwa Julius	Farmer	
Ndungu Yosam	Farmer	
Ngome	Farmer	
Selevano Kiithi	Farmer	
Thembo Simon	Farmer	

2.5 Resolution of Findings

All documentation provided by the PP was assessed against the applicable version of the relevant VCS guidance document. Several clarification requests (CL) and corrective action requests (CAR) were raised and submitted to the PP, which addressed them either by providing to the audit team the requested information or by making the appropriate corrections. Updated versions of the documentation were submitted by the PP and the audit team reassessed them against the guidance documentation. This process was repeated iteratively until all CLs and CARs were fully closed.

A total number of 9 CARs and 2 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.

There was no outstanding forward action request (FAR) from the previous verification.

2.5.1 Forward Action Requests

No FAR has been raised for the next verification event.

3. VALIDATION FINDINGS

3.1 Project Details

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

The project is classified under sectoral scope 14 “Agriculture, Forestry and Lan d 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 plans to increase climate change mitigation by reforesting degraded agricultural land through the promotion of sustainable agroforestry carbon removals generated by tree-planting activities.

Project design

The project is developed as a grouped project, designed to expand and scale progressively over the project lifetime, regarding the following conditions:

- All project instances will be located in the Republic of Uganda suitable for growing crops such as Coffee, Cocoa & Vanilla
- All the parcels will comply with the following requirements to be involved in the project instances:
    - owned by smallholders (fewer than 20 hectares)
    - not be cleared of native ecosystems within the 10-year period prior to the project start date, as set out in section 3.1.6. of the VCS AFOLU requirements /14/
    - not falling under ‘forest’ as defined by the Ugandan government
    - owner has clear land-use rights with no land-tenure conflicts
    - outside of any conservation area (National Parks, concessions for conservation, etc.)

Project proponent and other entities involved in the project

The project is proposed by “Pur Projet”. The other entities involved in the project are “Rwenzori Farmers Cooperative Union” and “Agri Evolve” /12/.

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

Ownership

The audit team has checked that the project's plantations are carried out on private land, held by farmers with customary land tenure titles in line with the 1995 Constitution of Uganda /13, 23/.

Besides, the carbon credits generated by the Project are exclusively allocated to PUR Projet by signed agreements between farmers and implementing partners. As thus, the project ownership in line with the Section 3. 6.1 4 of the VCS Standard.

Project start date

The project start date is 13/04/2016, which corresponds to the date on which the planting wave started.

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 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.

Project crediting period

The crediting period of the project is 35 years-long, from 13-April-2016 to 12-April-2051.

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, and it has the option to renew more times.

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.

Project scale and estimated GHG emission reductions or removals

The project is classified as "project" according to its scale (less than or equal to 300,000 tons of CO2e per year), since it will remove an average of 1,863 tCO2e per year during the 35 years of crediting period.

Project location

The project will be carried out in agricultural regions of the Republic of Uganda where perennial crops like coffee can be cultivated, excluding lands located at the North-East of the country.

The first project instance from 2016 to 2021 is constituted by the reunion of all parcels planted in the Rwenzori region a few kilometers from the western border with the Congo democratic Republic between Rwenzori National Park and Queen Elizabeth National Park.

The location of the project area of the first instance has been presented in GIS and KML files /5/. The coordinates of project area have been provided. Therefore, AENOR verified the location of the project activity.

Conditions prior to project initiation

Regarding conditions prior to the project initiation, the PD and MR describe in a complete way the climate, hydrology, topography, relevant historic conditions, soils, vegetation, and ecosystems for the areas involved in the project. As described in section 1.13 of the PD, different types of pre-project land-uses are found in the parcels reforested in the scope of the project, including perennial crops, annual crops, degraded land, and pasture/grassland.

The technical team provided AENOR with the historical land use of each parcel, for the farmers sampled, so it was ensured that it was not deforested for the purpose of replanting the trees. The Native ecosystem conservation Document /14/ specifies the Global Forest Watch data Lost Cover in the Parcel (in ha) in the last 10 years, along with the land use prior to the project initiation. The kml of the plots was uploaded to the Global Forest Watch platform to crosscheck this information, checked along with the GPS track name, parcel link, Do Form questionnaires /32/, and the contract with farmers /23/. Further, the audit team crosschecked

the historical land use with georeferenced pictures of the parcels available in the Do Form questionnaires /32/, and with interviews with farmers.
AENOR verified that the land uses of the parcels match the conditions prior to project initiation described in the PD.

Project compliance with applicable laws, statutes and other regulatory frameworks

Section 1.14 of the PD provides information related to the compliance with the applicable laws, statues, and other regulatory frameworks. The main and relevant Laws are detailed, and its enforcement analyzed in the PD and MR. According to the information provided and assessed during the audit process, the project fulfils with laws mentioned in the PD and MR as it could be verified.Thus, AENOR deems that project complies with applicable laws, statues, and other regulatory frameworks. AENOR could check this against the National Forestry and Tree Planting Act 8/2003.

Participation under other GHG programs

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

Other forms of credit

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

Sustainable development contributions

The project is designed to contribute to Uganda's National Adaptation Plan for Agriculture Sector which contributes to the third National Development Plan (NDPIII) priority of strengthening ecologically-sound agricultural research and climate change-resilient technologies and practices.

In terms of UN SDG, the project contributes to SDG 1: End of poverty, SDG 5: Gender Equality, SDG 13: Action for the climate and SDG 15: Life of terrestrial ecosystems.

AENOR assessed the sustainable contributions to the sustainable development through the review of the project design document but mainly through the review of 35 training documents/22/ of the sampled of farmers from the database_Uganda_Rwenzoi /31/, remote audit and interviewing to the local stakeholders from section 2.3 and 2.4

Additional information relevant to the project

- Leakage management for AFOLU projects:

The project considers leakage due to the displacement of agricultural activities the year following the plantation, though it is considered nil. Thus, neither a leakage management plan nor leakage mitigation measures are required, however the PP will monitor leakage.

- Commercially sensitive information:

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

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

There is no net harm caused by this project as tree planting under the agroforestry model does not have negative impacts on the ecosystems and farms that implement it.

Documents supporting this information /24-26/ were provided to AENOR and the audit team confirms that the project was designed to have positive environmental impacts.

3.3.2 Local Stakeholder Consultation

Local stakeholder consultation was conducted by the PUR Projet coordinators on April 20th, 2021, at Uhuru 50 hotel in Kasese. Stakeholders were contacted by email, phone call and face to face invitation for those that could not be reached by phone or email between 10th to 13th of April, 2021.

Different stakeholders were involved in presenting and proposing the project activities, such as lead farmers, farmers, the nursery managers, local partners, technicians, and local government representatives. Several points were addressed during the meeting and responses were compiled in the Stakeholder consultation report as well as summarized in section 2.2 of the MR.

The overall conclusion of the local stakeholder consultation is that the project idea was well received. In addition, a grievance system was set up to ensure continuous communication with all stakeholders.

By means of documents reviewed and the interviews performed /11, 22-23/, AENOR considers that the summary of the comments received during the consultation process included in the PD is complete. The main conclusions of the meetings and opinions collected from meetings are included in the PD.

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 PP analyzed the environmental impact on soils, water, biodiversity, and climate change. The project was designed to have positive environmental impacts. As a result, it was concluded that the project is planned in line with standards and practices considered environmentally appropriate and accepted at international level.

The audit team considers that the environmental impact assessment process was suitability performed.

3.3.4 Public Comments

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

3.3.5 AFOLU-Specific Safeguards

The PP has worked with the project's stakeholders to identify and mitigate the risks of the project. The PP has also set up a grievance system was set up to ensure continuous communication with all stakeholders.

The main risk farmers participating in the projects are economic, and related to the decision to plant trees on their land such as:

- If not well managed, the trees could generate undesired excess of shading or competition.
- Planting the trees represents a significant investment in time (or money if they pay some staff to do the work).
- They might have other plans for their land in the future (change of crop) that may not be compatible with a high tree cover.
- The planting of trees can take up some space that was other crops can be planted

These risks are being mitigated by the projects with the respective mitigation measures:

- For each parcel, the choice of the planting model and species is the result of a dedicated, technical conversation between the project technician and the farmer, taking into account parcel reality, farmer vision and motivation to plant, existing shading, existing crops.
- The project team communicates transparently and repetitively about the implications of the decision to participate in the project and the completely voluntary nature of such decision. Besides, the project includes the payment of an in kind or in cash incentive paid per living tree at each monitoring. Such incentive is a contribution to the potential budget invested by the farmer to cover the costs related to the planting and management of the trees.
- The socialisation meetings to introduce the project, the pre-registry visit and the signing of the farmer contract are three key steps of the project procedures to allow to clearly state the carbon sequestration objective of the project and the related long-term permanence necessity. The pre-registry discussion also allows the PP to identify risks of having the farmer cut the trees in a close future.
- Financial or in-kind incentives are being given to continue to motivate the farmers

Participation in the project is fully voluntary and both the land and the trees remain the entire property of the farmers. The project has been designed and is implementing, plans and processes to ensure the project will not create any negative impacts on local stakeholders and if negative impacts occur the PP mitigates such impacts where necessary. Evidence has been reviewed considering project implementation, and the audit team has interviewed local stakeholders /22-23/. Thus, the audit team concludes that the project does not have a negative impact on local stakeholders.

3.4 Application of Methodology

3.4.1 Title and Reference

The methodology used is the CDM AR AMS0007: A/R Small scale Methodology Afforestation and reforestation project activities implemented on lands other than wetlands version 03.1.

Besides the methodological document, the following tools are applied:

- CDM –AR TOOL 14 –Version 04.2: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities
- AR-AM-TOOL-03 Calculation of the number of sample plots for measurements within A/R CDM project activities – version 2.1.0.
- AR-AM-TOOL-08 Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity. Version 04.0.0.
- AR-AMTOOL 15 Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity – version 2.0.

3.4.2 Applicability

The final PD states all evidence used to demonstrate each condition of the applicable methodology. Complete explanations are included in the PD. In the 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 PD 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 proposed project activities are only implemented on croplands, pastures, or fallows and degraded lands. This was confirmed during the remote audit and other supported documents, including the descriptions in the PD. During the first visit to the parcel to be planted, the project technicians collect information on the historical land-use for this specific parcel, and assess the existing tree cover, to ensure the parcel to be planted meets the eligibility criteria. AENOR has checked this evidence in the 35 technical reports from parcels of farmers sampled /32/.
b) Soil disturbance attributable to the project activity does not cover more than 10 per cent of area in each of the following types of land, when these lands are included within the project boundary: (i) Land containing organic soils;	Land preparation only consists of digging a 30 cm x 30 cm x 30 cm hole for each tree. Maximum soil disturbance is reached with highest planting density in model B – mixed stand (1111 trees/ha). The total area disturbed therefore amounts to 100 m2 per hectare, i.e., 1% of the

(ii) Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 2 and 3 to this methodology.	surface. On top of this, this plantation model is only implemented on 31% of the total project area, the other models leading to even fewer disturbances. Furthermore, the existing trees will not be removed for soil preparation before planting. Therefore, fewer than 10% of the total surface project is disturbed as a result of soil preparation for planting. This was confirmed during the remote audit and other supported documents /9, 21/, including the descriptions in the PD.

Applicability of the tools

Tool	Applicability condition	Compliance
CDM –AR TOOL 14 –Version 04.2: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities	This tool has no internal applicability conditions	N/A
AR-AM-TOOL-03 Calculation of the number of sample plots for measurements within A/R CDM project activities – version 2.1.0	This tool has no internal applicability conditions	N/A
AR-AM-TOOL-08 Estimation of non-CO2 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. 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	This tool is applicable to all occurrences of fire within the project boundary. In addition, non-CO2 GHG emissions resulting from any occurrence of fire within the project boundary will be accounted for each incidence of fire which affects an area greater 29.4 ha provided that the accumulated area affected by such fires in a given year is ≥5% of the project area. This was confirmed through the review of the evidence provided, including the descriptions in the PD.
AR-AMTOOL 15 Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural	This tool is not applicable if the displacement of agricultural activities is expected to cause, directly or indirectly, any	This tool applies to all types of A/R CDM project activities and programs of activities. In the region there are a few wetlands or petlands. In

Tool	Applicability condition	Compliance
activities in A/R CDM project activity – version 2.0	drainage of wetlands or peat lands.	addition, project activities do not involve wetlands or peatlands. Thus, there will not be any displacement of agricultural activities nor drainage. This was confirmed through the review of the evidence provided, including the descriptions in the PD.

AENOR, based on records provided including spreadsheets calculations of the emissions reductions /6-10/, 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	Included?	Justification/Explanation
Above-ground biomass	Yes	According to AR-AMS0007/version 03.1, Section 5.: 'Carbon pools to be considered by these methodologies are above- and below-ground trees and woody perennial biomass and below-ground biomass of grasslands (i.e. living biomass)'
Below-ground biomass	Yes	
Dead wood	No	
Litter	No	
Soil organic carbon	No	

Emission sources	Gas	Included?	Justification/Explanation
Burning of woody biomass	CO2	No	As indicated by AR-AMS007 According to the methodological tool 'Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity' which identifies three possible sources of non-CO2 GHG emissions: 1. site preparation, 2. to clear the land of the harvest residue prior to replanting and 3. from forest fires
	CH4	Yes	
	N2O	Yes	

			Given the pre-planting land-uses and planting models, there is no possible burning of woody biomass for site preparation: • For the following pre-planting land-uses: grassland, annual crops, pastures, there is no woody biomass on the planting site • For perennial parcels, trees are planted in intercropped models and do not require sisal or coffee tree removal. Additionally, the project does not allow for burning to clear any land.

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

Baseline stratification is done as follows:

- Selected areas are first stratified according to land-use types.
- Each stratum is then further divided in two according to the planting model. Planting model 3 (full stand) is distinguished from the others as it will eventually lead to the disappearance of pre-project biomass, replaced by the trees planted.

The resulting stratification of the baseline area is thus the following:

- SB1: Perennial plantations: Coffee, cocoa and vanilla fields which are in installation (less than two years old) or already in production. The coffee tree height is from 1 to 3m high and the crown covers up to 100%.
- SB2: Annual Crops: Maize, beans, bananas or other annual crops. Farmers plant trees on the boundaries to maintain annual crops farming inside the parcel. Yields are not affected as the trees provide additional services such as wind-barriers and limit soil erosion.
- SB3: Pasture/Grassland: Permanent grassland without overgrazing pressure. Farmers generally carry out animals grazing on steep grassland where perennial crops cannot grow
- SB4: Abandoned Degraded Area: Former agricultural highly degraded land with low height of vegetation (1 to 5 m, crown cover up to 20%). Such lands are cyclically used as annual crops and fallow.

The baseline scenario is thus according to this stratification:

- Degraded Area, Pasture and Annual Crops: The degraded lands are highly unproductive and will not regenerate without a drastic change in farming and land-use practices in the area which is very unlikely to happen without external support and project implementation. Natural regeneration is very slow due to strong deterioration of the soils, and even when the soils are left over a long period and could start regeneration, parcels are reused for an annual crop cultivation cycle. Leaving their land unproductive for many years for regeneration purposes is a luxury that smallholder farmers targeted by the project cannot afford. Traditional cultivation patterns and historic land use is to periodically slash and burn

these areas (typically 2-3 years of maize cultivation, then 5-10 years left as fallow for regeneration), thus preventing any growth of carbon stocks on these parcels above the average carbon stock of grasslands. No significant changes in the carbon stocks, and the belowground biomass of grasslands, are therefore expected to occur in the absence of the project activity.

- Perennial crops: As the farmers' main income source, the coffee, cocoa & vanilla plantations will be sustained over time. No crop switches are expected to consider the historic importance of this area, particularly noting that it is one of the biggest Arabica coffee-producing areas in the country. Coffee bushes are pruned regularly and maintained at a given height. As a result, in the absence of the reforestation project, no changes in carbon stocks in the living biomass of woody perennials and below-ground biomass are expected to occur.

During the first visit to the parcel to be planted, the project technicians collect information on the historical land-use for this specific parcel, and assess the existing tree cover, to ensure the parcel to be planted meets the eligibility criteria. AENOR has checked this evidence in the 35 technical reports from parcels of farmers sampled /32/. The audit team crosschecked the historical land use with georeferenced pictures of the parcels available in the Do Form questionnaires /32, matching the information of the Native ecosystem conservation Document /14/, and with interviews with the farmers, confirming that the land use matches the baseline scenario.

Thus, AENOR deems that assumptions, justifications and data used in the identification of the baseline scenario are appropriately justified and can be deemed reasonable. Relevant national and/or sectoral circumstances have been considered and are listed in the PD /19-20/. The procedures for identifying the baseline scenario have been correctly followed according to the methodology and the identified scenario reasonably represents what would have occurred in the absence of the project. AENOR reproduced the different steps of the methodology and the procedure performed by the PP to reach the baseline scenario. AENOR reviewed the evidence provided by the PP as complement to the baseline assessment and can conclude that the baseline scenario determined by the PP is correct and reliable.

3.4.5 Additionality

The demonstration and assessment of additionality has been following the Appendix 1 of the ARMS0007 - A/R Small-scale Methodology: "Afforestation and reforestation project activities implemented on lands other than wetlands".

Investment barriers

AENOR could check from these studies, the climate-smart coffee in Uganda, Fed future /27/ and the National Survey and Segmentation of Smallholder Households in Uganda, Understanding Their Demand for Financial, Agricultural, and Digital Solutions, Jamie Anderson, Colleen E. Learch, and Scott T. Gardner, 2016 /29/ that due to their lack of cash availability and capacity to invest, it is very unlikely that smallholder farmers in Uganda invest time and money in tree planting that will take decades to deliver impacts.

Barriers relating to local tradition

Farmers have little knowledge of potential tree species with high benefits that would combine well with the crops. Also, most farmers to date, think of their farms with a short-term vision. These farmers do not have the resources and training to consider the value of investing in seedlings purchase and planting now, for medium to long-term benefits.

Technological barriers

Seeds and seedlings providers for the indigenous timber species are very difficult to find in the region, and smallholder farmers don't have transport facilities allowing them to travel far away to find seedlings.

Hence, the audit team based on checking the following studiesBunn, C; Lundy, M; Läderach, P; Fernández P; Castro-Llanos, F. 2019. Climate-smart Coffee in Uganda. International Center for Tropical Agriculture (CIAT), Cali, Colombia. /27/, Global poverty: Facts, FAQs, and how to help. World Vision /28/ and National Survey and Segmentation of Smallholder Households in Uganda, Understanding Their Demand for Financial, Agricultural, and Digital Solutions, Jamie Anderson, Colleen E. Learch, and Scott T. Gardner, 2016 /29/, has made the assessment of the explanations and justifications in the PD and the review of the records, AENOR deems credible and reliable the assumptions and approaches followed. Sources provided are credible and reliable. In addition, the information described in the PD is consistent with evidence provided. They are also considered by the audit team as credible and reliable. The income from VCUs will help overcome the barriers faced by the project and will alleviate the expected long time period for revenues.

AENOR has analysed the additionality description of the project, together with the methodology and the evidence provided by the PP. Thus, AENOR deems that the additionality of the project is appropriately justified and in accordance with the requirements of the applied methodology and the requirements set in section 3.13 of the VCS Standard. It is the AENOR's opinion that the additionality of the project is sufficiently demonstrated based on barrier analysis, that the project is not a likely baseline scenario and that those emission reductions/removals are, therefore, additional.

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 AMS0007: A/R Small scale Methodology Afforestation and reforestation project activities implemented on lands other than wetlands version 03.1." 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 PD /6-10/.

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:

Baseline Emissions

$$\Delta C_{BSL}(t) = C_{BSL}(t) - C_{BSL}(t-1)$$

Where:

$\Delta C_{BSL}(t)$	= Net annual Baseline GHG removals
$C_{BSL}(t)$	= cumulated carbon sequestration in the baseline scenario the year t
$C_{BSL}(t-1)$	= cumulated carbon sequestration in the baseline scenario the year t-1

$$Cbsl\ (t) = \Sigma\ Cbsl\ (t, i, j)$$

Where:

Cbsl (t, i, j) = carbon sequestration of the parcel j in strat i in year t

$$Cbsl\ (t, i, j) = B(ss)\ (i) * S\ (t, i, j) * 44/12 * CF$$

Where:

S (t, i, j) = area of the parcel j in the baseline scenario in the baseline strata i the year t

B(ss) = total (aboveground and belowground) biomass

$$B(ss) = M(ss)\ above + M\ (ss)\ below$$

Where:

M (ss) above = biomass per hectare aboveground

M (ss) below = biomass per hectare belowground

Project Emissions

$$\Delta Cactual\ (t)\ (t\ CO2/yr) = Cactual\ (t) - Cactual\ (t\text{-}1)$$

Where:

Cactual (t) = GHG removals by sinks the year t

Cactual (t-1) = GHG removals by sinks the year t-1

$$Cactual\ (t) = Cbslp\ (t) + C\ (t)$$

Where:

Cbslp (t) = GHG removals in the baseline sinks in the year t

C (t) = stock of carbon in the standing trees planted in the project area the year t

Carbon stock calculation

Ex-ante estimation of GHG removals Cbslp (t) in the baseline carbon pools (tCO2):

For the GHG removals in baseline sinks (grassland, annual crops, coffee trees), it is considered:

- For strata SB1a, SB2a, SB3a and SB4a: the baseline carbon pools are unaffected by the tree planting. The trees are planted around the parcel or in an intercropped model, etc.
- For the strata SB1b, SB2b, SB3b and SB4b the biomass will disappear:
    - For strata SB1b, SB2b: bushes of baseline pools will disappear (over 4 years) as the trees (planted at high densities) grow on the parcel
    - For strata SB3b: grasses of baseline pools will disappear (over 1 years) as the trees (planted at high densities) grow on the parcel
    - For strata SB1b: the abandoned coffee trees will degrade slowly over 8 years as the planted trees grow

$$Cbslp\ (t) = \Sigma\ Cbslp\ (t, i, j)$$

Where:

Cbslp (t)	= baseline sinks that stays untouched in the project scenario the year t
Cbslp (t, i, j)	= baseline sinks that stays untouched in the project scenario in the parcel j in strat i in year t

$$Cbslp\ (t, i, j) = [1\text{-}Min\ (1, Dp) * B(ss)\ (i) * S\ (t, i, j)\ ]* 44/12 * CF$$

Where:

S (t, i, j)	= area of the parcel j in the baseline scenario in the baseline strata i the year t
B(ss)	= total (aboveground and belowground) biomass

$$B(ss) = M(ss)\ above + M\ (ss)\ below$$

Dp , the degradation percentage is calculated as follows:

$$Dp = [(1/\ Number\ of\ degradation\ years) * age\ of\ the\ parcel]$$

As explained above, the degradation of the baseline only concerned strata SB1b, SB2b, SB3b and SB4b.

Ex-ante estimation of GHG removals C (t) in planted trees (tCO2):

Estimation by modelling of tree growth (in accordance with CDM- AR Tool 14- Version 04.2

$$C\ (t) = \Sigma\ C\ (t, j)$$

Where:

C (t)	= stock of carbon in the standing trees planted in the project area the year t

For each parcel, the carbon removed from the tree's growth planted in the project area is calculated:

$$C\ (t;j) = C\ (t;i;j) * Sj$$

Where:

C (t;j)	= stock of carbon in the standing trees planted in the project area the year t in the parcel j
Sj	= total planted area of the parcel j

$$C\ (t, i;j) = 44/12 * CF * (1 + R) * MIN\ [(C\ (t\text{-}1;i;j) * (1 - H * Tj)) + (MAI\ x\ SRj);\ Maximum\ tdm\ per\ ha]$$

Where:

C (t-1;i;j)	= stock of carbon per hectare of the parcel j of the project strata i in the standing trees the year t-1

- The year of the plantation and the year following the plantation C (0;i;j) is nil.
- MAI is the Mean Annual Increment of above ground biomass per hectare (in tdm/(ha*yr)) /18/
- H is the harvesting rate/year equal to 1% estimated forest management plan of the project & guidelines provided to farmers.
- Tj is the share of timber trees in the parcels j (information from the planting database)
- SRj = MIN (1; Density # trees/ha (j)/50022)
- SRj is the ratio of the maximum mean increment value of the parcel j
- Density # trees/ha (j) is the number of trees per hectare in the parcel j (information from the planting database) /20/
- Maximum mean increment value (6 tdm/ha/year) is reached for a planted density above 500 trees/ha.

$$M(ss)\ above\ (t,i,j) = MIN\ [(C\ (t\text{-}1;i;j) * (1 - H * Tj)) + (MAI \times SRj);\ Maximum\ tdm\ per\ ha]$$

Root to shoot is calculated, R (t,i,j), IF M(ss) <125 tdm/ha, R= 0.835 M(ss) Above >125 tdm/ha, R= 0,532 /18/

$$B(ss) = Mss\ above\ (t,i,j)\ (tdm) * [1+R\ (t,i,j)]$$

$$(t,\ i;j) = B(ss) * 44/12 * CF$$

The mean annual increment was applied on a linear basis starting year 2 (consistent with observations in the field, no significant biomass gains in year 1), until reaching the Maximum quantity of biomass per hectare for the given climatic conditions.

The following documents were reviewed to check the default data at validation stage:

2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4. Agriculture, Forestry and Other Land Use. Chapter 4: Forest Land /17/, 2019 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4 AFOLU, Chapter 4 Forest Land, Table 4.4./18/ Henk Rikxoort, Götz Schroth, Peter Läderach, Beatriz Rodriguez S nchez. Carbon footprints and carbon stocks reveal climate-friendly coffee production. Agronomy for Sustainable Development, Springer Verlag/EDP Sciences/INRA, 2014, 34 (4), pp.887-897/19/AND Density and species diversity of trees in four tropical forests of the Albertine rift, western Uganda /20/, Biomass allometric equations -PUR Projet carbon certification_Gilbert W.pdf /21/. The sources of the allometric equations were reviewed by the audit team and confirmed that they meet the requirements of paragraph 6 and 7 of AR-Tool 14, v4.2 and 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), as they were derived from trees growing in similar edaphoclimatic conditions (Vihiga & Kakamega counties in Kenya are highland areas, similar to Rwenzori sub-region where the project area is located), and from a data set of 72 sample trees, with an obtained value of coefficient of determination (R^2) of 0.98 for above-ground biomass.

<u>Ex-post estimation of GHG removals in planted trees:</u>

$$C\ (t,\ i;j) = 44/12 * CF * (1 + R) * MAIr\ (i) * t\ (j)$$

Where:

C (t;i;j) = stock of carbon per hectare of the parcel j of the project strata i in the standing trees the year t

- The year of the plantation and the year following the plantation C (0;i;j) is nil.
- MAIr (i) is the real Mean Annual Increment of above ground biomass per hectare (in tdm/(ha*yr)) really observed on the field from biomass inventories for parcels of starta i. It comes from a statistical extrapolation of MAI observed on parcels of strata i.
- t (j) is the age of parcel j since planting

Estimation of project emissions

The project activities do not include mechanized land preparation nor utilization of chemical fertilizers or pesticides, transportation attributable to the project activity shall be considered insignificant. As a consequence and according to AR-AMS0007 Section 5.5, project emissions are considered as not significant and are accounted as zero in calculations. Based on the documented evidence provided on the PD, AENOR deems this consideration as credible.

Leakage emissions

According to the applied methodology, the only leakage emissions that can occur are the GHG emissions due to displacement of agricultural activities. As described in the PD displacement of the annual crop to a forested area is very unlikely, therefore, leakage is considered to be 0. Nonetheless, leakage will be monitored as required by the methodology.

AENOR has checked through the database, there are only 2 out of 1044 parcels in this situation. The pictures of these 2 parcels categorized as pasture/prairie in the database were checked /36/.

For the 2 pictures analyzed on the first one, we can see that it is not fenced, which proves that no livestock can be found there. On the second one, we can see sweet potatoes in the front and pasture in the back, which also proves that there can't be livestock here, otherwise they would eat the sweet potatoes.

Therefore, based on the documented evidence provided on the PD, AENOR deems this consideration as credible, and we consider that the leakage is 0.

Net GHG Emission Reductions and Removals

According to the applied methodology ex-ante net anthropogenic GHG emission reductions and removals are calculated as follows:

$$\Delta C_{ÆR-CDM,t} = \Delta C_{ÆCTUÆL.t} — \Delta C_{BSL,t} — LK_t$$

Where:

$\Delta C_{ÆR-CDM,t}$ = Net anthropogenic GHG removals by sinks, in year t

ΔCÆCTUÆL.t	Actual net GHG removals by sinks, in year t
ΔCBSL,t	Baseline net GHG removals by sinks, in year t
LKt	GHG emissions due to leakage, in year t

The estimated annual removals for the total area are 1,863 tCO2e, and the total for the 35 years of the project are 65,216 tCO2e.

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 remote audit.

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

Based on the information reviewed, spreadsheet Database_uganda_V3 /6/ and spreadsheet VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220531_3 /7/and spreadsheet VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4 /8/and Biomass_Inventory_calculation_Vf_sent_20220531_V03 /9/.AENORcan 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 PD 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
Carbon Fraction of dry matter	0.47	Value is consistent with validated source:

Data/Parameter available al validation	Value	Assessment procedure and result
Total carbon in weight per ton of tree fresh matter		CDM AR Tool 14
CO2 fraction Total CO2 in weight per ton of C in trees	44/12	Value is a universal constant deemed correct.
Root to shoot ratio Ratio between belowground and aboveground	For parcel with tdm.ha <125: 0.825 For parcel with tdm.ha >125: 0.532 For grasslands: 1.58	Value is consistent with validated source: 2019 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4 AFOLU, Chapter 4 Forest Land, Table 4.4. ratio of below-ground to above-ground biomass, Tropical rainforest, Africa IPCC 2006 Chapter 6 Grassland; IPCC 2003; Table 6.4 /17-18/

The list of parameters to be monitored is the following:

- Area planted per strata (Area planted is measured by the project team's technicians, at first parcel monitoring. For model 1, the distance planted is measured, and area is recalculated using the assumption of 5 meter width for the line of trees planted): ha
- Mean Annual Increment per planting model/strata (Stock of biomass observed in biomass inventory samples divided by the age of the parcel): tdm/ha/year

The procedures described in section 5 of the PD were reviewed by the AENOR team and cross -checked against the applicable methodology and associated tools. The audit team found it 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 PD detail the different data variable to monitor along with the data unit, recording frequency, purpose of data, Q A/QC, etc. Thus, the monitoring plan is in compliance with the applicable methodology

The sampling design and stratification is also detailed in sections 3 and 4 of the PD. The procedure for the estimation of the sample have been checked by the audit team. It will be used within the scope of the biomass inventory for sampling over time to measure and monitor changes in carbon stocks of tree biomass.

The protocol for biomass inventory was designed according to CDM A/R methodological tools: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities.

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 /15-16/, 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 /3, 107.

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 31st May 2022 version 2.0

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.	-4 (total may be less than zero)	a) Most of the species planted in the project are native species (100%) The PP has provided documental evidence. Risk rating=0 is justified. b) No enforcement is necessary to prevent encroachment by outside actors. All trees are planted on the individual farmer's parcels, which are not targeted by intrusion. The farm is delimited by a strong fence and is well designed and properly marked as private land. Most of the staff remains permanently in the project area, and there is permanent vigilance. Risk rating=0 is justified. c) Local technicians are managed by a Project Coordinator, who is an Engineer (Forestry, Agronomist, environmental). Depending on the team size, the dedicated technical team is composed of other engineers and extensionists (engineers or technicians) graduated in environmental engineering, forestry, or agronomy. The engineers are responsible for the training of the technicians and	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		farmers' formation, the plantation designs, and seedlings distribution. They will check the monitoring results presented by the technicians for quantity, quality and coherence. Field extensionists, trained by the Project Coordinators, as well as by PUR Projet, conduct registration and monitoring activities. Risk rating=0 is justified. d) Management teams of the implementing partner are located at the centre of their area of influence/areas of planting. All parcels reforested are less than a day of travel from the partners offices Risk rating=0 is justified. e) Management team includes individuals with significant experience in AFOLU projects design and implementation as well as carbon accounting and reporting (4 VCS projects and a portfolio of 20 other A/R community projects). Risk rating=-2 is justified. f) There is specific mitigation plan in place. Risk rating=-2 is justified. AENOR could check this issue against the registered projects of the PP on VERRA website, Regenerating colombian coffee ecosystems A/R, APROSACAO A/R community project with small-scale cocoa farmers,Biocorredor Martin Sagrado REDD+ project, in Peru, Alto Huayabamba A/R project,	
Financial viability: It is assessed using table 2 of the VCS AFOLU Risk Tool.	0 (total may not be less than zero)	a) to c) Not applicable d) Project break-even point is in 2016. Most of the cash out occurs in the first years (plantation years), where payment to the cooperative for plantations and monitoring is made. Risk rating= 0 is justified.	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		e) to h) All cash-out until project verification date (occurring after the break-even point) was already covered and spent by PUR Projet. Risk rating=-2 is justified. i) Not applicable Risk rating= 0 is justified. AENOR could check this issue against the PUR investment sheet cash-out 2019./33/	
Opportunity Cost: It is assessed using table 3 of the VCS AFOLU Risk Tool.	-4 (total may be less than zero)	a) to e) Not applicable f) Revenues from the project (timber, yield increase) are more than 50% more profitable for the farmers than coffee alone or annual crops in the rotational fallow system, and socio-economic impacts are very positive for the populations. Risk rating=-4 is justified. g) to i) Not applicable. AENOR could check this issue against the PUR investment sheet cash-out 2019./33/	Corrective action request (CAR 09).
Project Longevity: It is assessed using table 4 of the VCS AFOLU Risk Tool.	14 (total may not be less than zero)	a) 50 years project longevity b) Not applicable Risk rating=14 is justified. AENOR could check this against the 35 sampled farmers land ownership./23/	Corrective action request (CAR 09).
Total internal risk=6 (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.	5 (total may not be less than zero)	a) to b) Not applicable c) Although land tenure is not secured through legal land titles in 100% of the cases, the farmers have some kind of title recognised by communities/other farmers (customary land ownership, or private land purchasing contracts), so there are no disputes over land tenure between the farmers or with other stakeholders. The government recognises the legitimacy of the farmers over land ownership.	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		Risk rating = 0 is justified. d) In the absence of recollected proofs of ownership and use rights for 100% of the parcels planted, the rating is chosen hereafter as to account for potential disputes over access/use rights. Risk rating = 5 is justified. e) Not applicable f) The project area is not protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period Risk rating = 0 is justified. g) Not applicable AENOR could check this against the 35 sampled farmers land ownership./23/	
Community engagement: It shall be assessed using table 7 of the Risk Tool.	-5 (total may be less than zero)	a) 100% of households living within the project area who are reliant on the project, have been consulted (all participants sign a contract with instances to participate voluntarily in the project) Risk rating = 0 is justified. b) 100% of the communities within 20 km of the project area have been consulted. No communities outside the project area are reliant on the project area since it is on parcels privately owned. Risk rating = 0 is justified. c) Project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area. Risk rating = -5 is justified AENOR could check this against the stakeholder consultation report/11/	Corrective action request (CAR 09).
Political Risks: It shall be assessed using	2 (total may not be less than zero)	b) Governance score of -0.592 to less than -0.32. Calculation can be found in the supporting documents. Governance score estimated for Uganda.	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
table 8 of the Risk Tool.		AENOR verified the value and reliability of source. Risk rating = 4 is justified. f) Uganda receives REDD+ Readiness funding from the World Bank Forest Carbon Partnership Facility: https://www.unredd.net/regions-and-countries/africa/uganda.html Risk rating=-2 is justified. AENOR could check this against the World Governance Indicators from the WB for Uganda.	
Total external risks=2 (Total may not be less than zero)			
Natural risks			
Fire Risk: It shall be assessed using table 10 of the Risk Tool.	LS*M=0.25	Insignificant significance. Fire can be a risk for parcels that are planted near forest reserves and National Parks. It happens when farmers near the park are clearing land for cultivation. However, none of the farmers benefited are near those areas. Spontaneous fires do not happen. Fires can happen because of neighbours' slash and burn practices only and can spread to projects parcel in exceptionally dry summertime only. However, it has never happened since the beginning of the project. The likelihood of devastating fire is very low. Thus LS= 1 is reasonable. Mitigation (M) measure: All project farmers are trained by their Instances technicians and the project team not to use slash and burn practices, and on how to plant perennial crops under the canopy without burning. Training courses will be provided to producers in order to enforce precautionary measures for drought. Provisions will also be arranged to protect the plantations against the risk of wildfire and drought. Fire occurrence in the planted parcels is monitored at each parcel monitoring and is registered and archived in the monitoring database, with an estimation of losses in	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		the parcel. During parcel visits, the technicians assess whether the parcel was affected by fire and if yes, the affected surface is estimated. There is a law in wildfire management the Prohibition of Burning of Grass Act (Cap 33 Laws of Uganda). Then, M=0.25 is reasonable. AENOR check the following report:IITA-LEAD report /35/.	
Pest and disease outbreaks: It shall be assessed using table 10 of the Risk tool.	LS*M=0.25	Insignificant significance. More than 10 to less than 25 years. Thus LS= 1 is reasonable. Mitigation (M) measures: To avoid pests and diseases, it is recommended to plant at least 3 different species in each plot. In addition, most of the species are native and are planted in a widely dispersed area, which reduces the risk of spreading the pest or disease. For each species, in case of a pest or disease outbreak, there is a possible treatment that will be carried out. Control will also be exclusively biological. In addition, all farmers live on the land where they have planted trees (or in the immediate vicinity) and can react quickly in case of a pest or disease problem. Then, M=0.25 is reasonable. AENOR check the following report:IITA-LEAD report /35/.	Corrective action request (CAR 09).
Extreme weather: It shall be assessed using table 10 of the Risk tool.	LS*M=0.5	Insignificant Less than every 10 years. Thus LS= 2 is reasonable. Mitigation (M) measures: all farmers live on the land where they have planted trees (or in the immediate vicinity) and can react quickly in times of drought. Farmers can fetch water from nearby permanent water sources if there is not enough rainfall. Irrigation schemes have also been set up by the Government. To mitigate floods farmers are encouraged to plant bamboo tree species along riverbanks and also deep-rooted tree species that can stay firm in the ground. The project design is focused on the recommendation to plant in a staggered	Corrective action request (CAR 09).

Risk factor	Risk Rating	Findings and mitigation activities	CARs/CLs
		rows model following the contour lines to mitigate the landslides risk. Then, M=0.25 is reasonable. AENOR checked the following report: climate data Uganda, Climat Kasese: Pluviométrie et Température moyenne Kasese, diagramme ombrothermique pour Kasese - Climate-Data.org /34/.	
Geological risks: It shall be assessed using table 10 of the Risk Tool.	LS*M=.25	Insignificant. more than 10 years and less than 25 years Thus LS= 1is reasonable. Mitigation (M) measures: Recommendation to plant in a staggered rows model following the contour lines to mitigate the landslides risk. Then, M=0.25 is reasonable. AENOR check the following report:IITA-LEAD report /35/.	Corrective action request (CAR 09).
Total natural risks=1.25			
OVERALL RISK RATING=6+2+1.25=9.25. Then the risk of 10% is considered.			

The non-permanence risk deduction to be applied for the project is 10%.

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 removals were checked by the audit team. No errors were discovered that materially affect the stated greenhouse gas emission 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 Emissions

The baseline emissions are calculated for each parcel according to its strata:

$$\Delta Cbsl\ (t) = Cbsl\ (t) - Cbsl\ (t-1)$$

Where:

ΔCbsl (t) = Net annual Baseline GHG removals

Cbsl (t) = cumulated carbon sequestration in the baseline scenario the year t

Cbsl (t-1) = cumulated carbon sequestration in the baseline scenario the year t-1

$$Cbsl\ (t) = \sum Cbsl\ (t,i,j)$$

Where:

Cbsl (t,i,j) = carbon sequestration of the parcels j in the baseline scenario the year t (tCO2e)

$$Cbsl\ (t,i,j) = 44/12 * B(ss)\ (i) * S\ (t,i,j)$$

Where:

S (t,i,j) = area of the parcel j in the baseline scenario in the baseline strata i the year t

B(ss) = total (aboveground and belowground) biomass

$$B(ss) = M(ss)\ above + M\ (ss)\ below$$

Where:

M(ss) above = biomass per hectare aboveground

M (ss) below = biomass per hectare belowground

For annual crops, carbon stocks are ignored since they are considered transient.

For degraded fallows, carbon stocks are considered similar to those of grasslands, as these are abandoned crop plots that become degraded fallows and look like grasslands where natural regeneration is very slow due to severe soil deterioration, and which will not regenerate without a radical change in agricultural and land use practices.

The calculations have been made in accordance with the formulas of section 5.1 of the MR, therefore:

	Baseline scenario	
Year	Baseline GHG removals Cbsl (t)	Net annual baseline GHG removals ΔCbsl (t)
	tCO2eq	tCO2eq/yr
2016	0	0
2017	5 094	5 094
2018	9 944	4 850
2019	12 636	2 692
2020	16 655	4 019
2021	16 655	0

AENOR has checked and confirmed that this amount of baseline removals is in conformance and have followed the methodology of the PD.

Project Emissions

Carbon stock calculation

$$C(t) = \Sigma C(t,j)$$

Where:

C (t) = stock of carbon in the standing trees planted in the project area the year t

For each parcel, the carbon removed from the trees growth planted in the project area is calculated:

$$C(t;j) = C(t;i;j) * Sj$$

Where:

C (t;j) = stock of carbon in the standing trees planted in the project area the year t in the parcel j

Sj total planted area of the parcel j

$$C(t,i;j) = 44/12 * CF * (1 + R) * MAIj + C(t-1;i;j)$$

Where:

C (t-1;i;j) = stock of carbon per hectare of the parcel j of the project strata i in the standing trees the year t

MAIj = Mean Annual Increment of above ground biomass per hectare(in tdm/(ha*yr))

The year of the plantation and the year following the plantation C (0;i;j) is considered nil.

As a result, GhG removals achieved in planted trees can be summarized as follows:

Year	GHG removals in planted trees C(t) tCO2eq
2016	0
2017	382
2018	1 197
2019	2 304
2020	3 910
2021	5 515

<u>GHG removals in the baseline carbon pools:</u>

- For strata SB1a, SB2a, SB3a and SB4a: the baseline carbon pools are unaffected by the tree planting. The trees are planted around the parcel or in an intercropped model, etc.
- For strata SB1b, SB2b, SB3b and SB4b the biomass will disappear:
- For strata SB1b, SB2b: bushes of baseline pools will disappear (over 4 years) as the trees (planted at high density) grow on the parcel
- For strata SB3b: grasses of baseline pools will disappear (over 1 years) as the trees (planted at high density) grow on the parcel
- For strata SB1b: the abandoned coffee trees will degrade slowly over 8 years as the planted trees grow

As a result, baseline sinks removals that stay unchanged in project scenarios can be summarized as follows:

Year	GHG removal in baseline sinks Cbsln(t) tCO2eq
2016	0
2017	5 083
2018	9 898
2019	12 529
2020	16 448
2021	16 353

AENOR has checked and confirmed that project emissions are in conformance and have followed the methodology of the PD.

Leakage Emissions

4.31%of total area of the parcels are considered at risk plantations of Model 3 in annual crops land use (4.24%) or perennial crop land use (0.07%) which is less than 5% in addition no significant risk of crop displacement was observed during this monitoring period. Therefore, leakage is negligible.

The assessment of the leakage has been done with the full review of spreadsheets calculations /6-10/. Complementary, GIS material /5/ has been checked to be contrasted with the boundaries of the project and the spreadsheet calculation.

The calculations have been reproduced according to the methodology used, and the audit team obtained the same results. Thus, AENOR considers that the leakage calculations were done correctly by the PP.

Net GHG Emission Reductions and Removals

According to equation 5 of the methodology AR AMS0007 :v03.1, the net anthropogenic GHG reductions and removals are calculated as follows:

$$\Delta C_{ÆR-CDM,t} = \Delta C_{ÆCTUÆL.t} - \Delta C_{BSL,t} - LK_t$$

Where:

$\Delta C_{ÆR-CDM,t}$	=	Net anthropogenic GHG removals by sinks, in year t; t CO2-e
$\Delta C_{ÆCTUÆL.t}$	=	Actual net GHG removals by sinks, in year t; t CO2-e
$\Delta C_{BSL,t}$	=	Baseline net GHG removals by sinks, in year t; t CO2-e
LK_t	=	GHG emissions due to leakage, in year t; t CO2-e

The following table summarizes the results:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)	Buffer pool allocation	VCUs eligible for Issuance

2016	0	0	0	0	0	0
2017	5,094	5,465	0	371	37	334
2018	4,850	5,630	0	780	78	702
2019	2,692	3,739	0	1,047	105	942
2020	4,019	5,524	0	1,504	150	1,354
2021	0	1,511	0	1,511	151	1,360
Total	**16,655**	**21,868**	**0**	**5,213**	**521**	**4,692**

The total GHG benefit calculated as the sum of stock changes along the monitoring period (13-04-2016 to 31-12-2021) is 5,213 tCO2e. The overall non-permanence risk rating was 10%. Therefore, the total number of credits to be deposited in the buffer account is 521 VCUs and the total VCUs to be issued are 4,692 VCUs.

AENOR reproduced the ex-ante and ex-post calculations /7-8/ 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, PD 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 du ring 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 PD section, as well as checking values and reproducing the calculations in the spreadsheet 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 PD 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
Area planted per strata Area planted under each model, in each plantation wave	See GHG calculation model	Calculation of baseline and project emission	• Verified with GIS database. • Correctly inputted in the calculation spreadsheets.
Mean Annual Increment per planting model/strata Stock of biomass observed in biomass inventory samples divided by the age of the parcel.	N/A	Calculation of project emission	• Evidence provided by PP • Correctly inputted in the calculation spreadsheets.

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 PD.

After a deep and thorough review and reproduction of calculations and the corresponding tracks to the other spreadsheets, AENOR deems the parameters monitored are correct, reliable and consistent. Information in the monitoring report is in compliance with the PD, 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 PD.

4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

The data and parameters used to determine GHG emission reductions and removals are listed in Section 4 of the MR. During AENOR's verification, the evidence provided by the PP was enough in both quantity and quality to support the determination of GHG emission removals reported by the project.

The actual GHG removals were calculated by applying standard operation procedures in measuring the 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. The implementation of the monitoring is part of the training sessions. For measuring, the monitoring crews used measuring tapes.

Beside this, GPS equipment is used for locating the sample plots /5/. All the monitoring crews have maps in which all the project boundaries and plots location appears as reference. Training to use this equipment is given in order to provide the monitoring crew members with the tools to make decisions in the fields.

AENOR has verified that monitoring crews implemented the monitoring plan as it is established in the validated PD. AENOR also could evidence that key workers are fully involved in monitoring events (training, measuring, archiving, reporting, quality control, etc.) /23/. QA/QC procedures are considered strict at identifying, reviewing, and handling inconsistencies found.

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.

All implementing partners will be reminded on an annual basis about how the monitoring plan is expected to be followed based on the documented procedures. If the plan is not followed and there are non-conformances, all implementing partners will be subjected to quality checks, announced or unannounced internal audits of randomly sampled farmers. A database review will be conducted for selected farmers from different waves followed by an on-farm field visit to verify the information for a given percentage of the farmers /6/.

In this regard, during the remote verification, the AENOR team witnessed the implementation of quality control when the PP cross checked the accuracy of the data collected and also when the data was translated to the spreadsheets /6-8/. The monitoring report described the QC/QA for data entry. Original data sheets were provided to the verification team of AENOR. A random sample of these were selected and traced through to the corresponding excel spreadsheets with no errors observed.

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 possesses 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 PUR Projet and AENOR considers that information provided is sufficiency and the quality of that information is appropriate to determine the GHG removals.

During the remote audit, AENOR verified the enforcement of the quality assurance and quality protocols and checked that all instruments used for the whole monitoring period were checked and in good conditions to be used. 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 project. Agroforestry and reforestation with small scale farmers in Uganda, and has verified that the project is in compliance with the Verified Carbon Standard version 4.2 without qualifications or limitations. The project is located in Uganda and covers 590 hectares.

The validation and verification process were 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-April-2016 to 31-December-2021and 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 5,213 tons CO_2e as reported in the project description and Monitoring Report for the reporting period 13-April-2016 to 31-December-2021. The overall non-permanence risk rating was 10%. Therefore, the total number of credits to be deposited in the buffer account is 521 VCUs and the total VCUs to be issued are 4,692 VCUs.

Verification period: From to 13-April-2016 to 31-December-2021

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)	Buffer pool allocation	VCUs eligible for Issuance
2016	0	0	0	0	0	0
2017	5,094	5,465	0	371	37	334
2018	4,850	5,630	0	780	78	702
2019	2,692	3,739	0	1,047	105	942
2020	4,019	5,524	0	1,504	150	1,354
2021	0	1,511	0	1,511	151	1,360
Total	**16,655**	**21,868**	**0**	**5,213**	**521**	**4,692**

Overall non-permanence risk rating: 10%

VCUs buffer to be deposited: 521 t CO_2e.

Total VCUs to be issued: 4,692 t CO2e.

Date: 26 May 2023

Daniel Bermejo
Validation and Verification Leader

APPENDIX I: LIST OF EVIDENCE PROVIDED

1. Final Project Description v4.0, dated on 23 January 2023
2. Final Monitoring Report v3.0, dated on 28 June 2022
3. Non-Permanence Risk Report v2.0, dated on 31 May 2022
4. Previous versions of the Project Description and Monitoring Report and the Non -Permanence Risk Report.
5. SIG package
6. Spreadsheet Database_uganda_V3
7. Spreadsheet VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220531_3
8 Spreadsheet VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4
9. Biomass_Inventory_calculation_Vf_sent_20220531_V03
10. Uganda-VCS-Risk-Report-Calculation-Tool-v4.0
11. Stakeholder Consultation Report
12. Sale agreement
13. Legal opinion on land tenure in Uganda
14. Native ecosystem conservation
15. Wave 2018 Questionnaire
16. Tree Seedling delivery notes
17. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 4. Agriculture, Forestry and Other Land Use. Chapter 4: Forest Land
18. 2019 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4 AFOLU, Chapter 4 Forest Land, Table 4.4.
19. Henk Rikxoort, Götz Schroth, Peter Läderach, Beatriz Rodriguez S nchez. Carbon footprints and carbon stocks reveal climate-friendly coffee production. Agronomy for Sustainable Development, Springer Verlag/EDP Sciences/INRA, 2014, 34 (4), pp.887-897
20. Density and species diversity of trees in four tropical forests of the Albertine rift, western Uganda
21. Biomass allometric equations -PUR Projet carbon certification_Gilbert W.pdf
22. Testimonies from farmers
23. 35 sampled farmers: Contract with farmers, land ownership, records of seed purchase, participation in socalisation, farm visits, training, premiums received
24. Carvalheiro et al., 2012 Creating patches of native flowers facilitates crop pollination in large agricultural fields: mango as a case study
25. Boyles et al., 2011 Economic Importance of Bats in Agriculture
26. Wageningen University and Research Centre. "Agriculture is the direct driver for worldwide deforestation." ScienceDaily. ScienceDaily, 25 September 2012. <www.sciencedaily.com/releases/2012/09/120925091608.htm>.

27. Bunn, C; Lundy, M; Läderach, P; Fernández P; Castro-Llanos, F. 2019. Climate-smart Coffee in Uganda. International Center for Tropical Agriculture (CIAT), Cali, Colombia.

28. Global poverty: Facts, FAQs, and how to help. World Vision

29. National Survey and Segmentation of Smallholder Households in Uganda, Understanding Their Demand for Financial, Agricultural, and Digital Solutions, Jamie Anderson, Colleen E. Learch, and Scott T. Gardner, 2016

30. National Forestry and Tree Planting Act 8/2003.

31. Database_Uganda_Rwenzoi.

32. 35 parcels sampled: 35 Technicians reports from collect information on the historical land-use.

33. PUR investment sheet cash-out 2019.

34. Climat Kasese: Pluviométrie et Température moyenne Kasese, diagramme ombrothermique pour Kasese - Climate-Data.org.

35. IITA-LEAD report.

36. Two pictures parcel categorized as pasture/prairie

APPENDIX II: FINDINGS

Clarification Requests (CLs)

CL	01	Date: 16/02/2022
Description of CL		
Please provide evidence of the following: 1. Pictures and videos of the project 2. Calculation of Governance score in Non-Permanence Risk Report 3. Contract with Agrievolve 4. For the sampled farmers: contract with farmers, evidence of their land ownership, records of seed purchase, Do Forms application, participation in socalisation, farm visits, training, premiums received 5. Stakeholder_consultation_report_V0.1 6. Excel spreadsheet Recalculated_area_2 7. Ugandan FAO ecological zone 8. Annex_Degraded Fallows 9. Compliance with applicable mandatory legal and regulatory requirements 10. Henk Rikxoort, Götz Schroth, Peter Läderach, Beatriz Rodriguez Snchez. Carbon footprints and carbon stocks reveal climate-friendly coffee production. Agronomy for Sustainable Development, Springer Verlag/EDP Sciences/INRA, 2014, 34 (4), pp.887-897 11. Sources of values from PD Table 4, as values do not match referenced sources 12. The project area has not been cleared of native ecosystems within the 10 year period prior to the project start date 13. Geodetic polygons that delineate the geographic area of each AFOLU project activity 14. Source of values 0,091 and 2,472 in spreadsheet Biomass Inventory Calculation 15. Allometric equations and demonstration of appropriateness according to 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)		
Project participant response		**Date:** 15/04/2022
1. Information provided in supported_ document folder **Regarding testimony** - 10 video in folder Testimony/ video - 13 Written testimony in folder Testimony/ Written **Regarding Biomass Inventory** - 2 videos in folder biomass inventory video 2. Information provided in supported_ document folder named *UGANDA- WGI indicators 2019 v1.0*		

3. Information provided in supported_ document folder named *TPP_PC_AF_W21_Agrievolve_40,000Trees_210310_vBOTHSigned*
4. Information provided in supported_ document folder

In the documents under sampled farmer you will find the 87 selected producers, For each producer you will find the following information:

- Contract with farmers signed
- participation in Socalisation,
- farm visits
- trainings
- premiums received

Regarding land Title:

As described in the PD, Most of the farmers participating in the project have dwelled on and cultivated their land for several years and thus fall in the definition of customary land tenure. Today, in Uganda, it is not common that farmers have formal land tenure documents. Some of the land owners have sales agreements to prove ownership and others do not have any document to prove their ownership as they inherited the land from their deceased's relatives. Even without a formal land title, they fully own the land and hence the 'carbon rights' related to their land. The government recognises the right and the benefit to this land belongs to the farmers and therefore has the right to transfer benefits (such as credit carbon) to anyone. (see lawyer report for further details in supported documents: *Legal Opinion on Land tenure in Uganda*.pdf)

Records of seed purchase

There are no records of seed purchase as the producers do not buy the plants. However, RFCU buys the seedlings from the nursery, for this reason I have put a purchase example from the year 2019 between RFCU and Beneco (*Sale Agreement 2019.pdf)* As well as the delivery note for wave 2019 (*Tree Seedling DELIVERY Notes 2019.pdf*)

Do Form application

Two example of questionnaires is available in supported documents folder

- Monitoring 1 2018
- Monitoring 2 2018

5. Information provided in supported_ document folder named *Stakeholder_consultation_report_V0.1*
6. The information has been changed, it was a mistake, all calculation should be link to the database, there is no implication in the carbon calculation
7. Ok, Information provided in supported_document folder (as a Shape file) named *eco_zone_20220209*
8. Ok, Information provided in supported_document folder
9. Ok, Information provided in supported_document folder

To prove Compliance with applicable mandatory legal and regulatory requirements we used the legal opinion of the lawyer regarding land title *Legal Opinion on Land tenure in Uganda*.pdf)

10. Ok Information provided in supported document folder named *Carbon footprints and carbon stocks reveal climate-friendly coffee production*
11. Ok, The information has been corrected. It was a mistake in the table 4. The correct value Root-shoot ratio for <125 tdm was 0.825 Source: 2019 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4 AFOLU, Chapter 4 Forest Land, Table 4.4. ratio of below-ground to above-ground biomass, Tropical rainforest, Africa for ABG tdm/ha <125
12. Ok, The explanation can be found below

The project area has not been cleared of native ecosystems within the 10 year period prior to the project start date

Prior to the implementation of the project, we ask the producers about the land use in the previous 10 years to ensure that no deforestation has taken place in the 10 years prior to the planting date. As can be seen in excel native_ecosystem_conservation no deforestation took place in the project area 10 years before the start of the project. However, since some information was missing for some parcels, we used Global Forest Watch, to see if there was a loss of tree cover 10 years before the start of the project in the project area. The results showed that only 1.11% of the total area planted in the project between the years 2006 and 2019 has suffered a loss of tree cover, which can be negligible. Furthermore, looking at the location of these plots where the loss of tree cover occurred. These plots were located near a river, so most of the tree cover loss can be explained by flooding and not by human activities.

In Conclusion, **The project area has not been cleared of native ecosystems within the 10 year period prior to the project start date**

13. Information provided in supported folder: *Uganda_GPS_Tracks_Polygone_2016_2019.km*

For your information, you will probably find a different overall area which that can be explained by 2 things:
- For model 1, the area planted is the perimeter planted multiplied by 5 m (2.5 m both size of the tree).
- For model 2B, the area planted is the area of the parcel plus the perimeter multiplied by 2.5m (We take into consideration only the external part of the parcel.
At PUR Projet, we have an internal tool in QGIS that takes into consideration those specific aspects to calculate the area planted per Model.

14. Information provided in supported_document/ Allometric Equation
15. Information provided in supported_document/ Allometric Equation

Documentation provided by the Project Participant

1. 10 video in folder Testimony/ video, 13 Written testimony in folder Testimony/ Written and 2 videos in folder biomass inventory video
2. UGANDA- WGI indicators 2019 v1.0
3. TPP_PC_AF_W21_Agrievolve_40,000Trees_210310_vBOTHSigned
4. sampled_farmers & Legal Opinion on Land tenure in Uganda
5. Stakeholder Consultation Report
6. The information has been changed, it was a mistake, all calculation should be link to the database, there is no implication in the carbon calculation

7. Eco_zone_20220209 8. - 9. Legal Opinion on Land tenure in Uganda 10. Carbon footprints and carbon stocks reveal climate-friendly coffee production 11. The information has been corrected. 12. native_ecosystem_conservation 13. Uganda_GPS_Tracks_Polygone_2016_2019.kml 14. Imanietal.-2017-Height-diameterallometryandabovegroundbiomassintropicalmontaneforestsInsightsfromtheAlbertineRiftin 15. Biomass allometric equations -PUR Projet carbon certification_Gilbert W.pdf
VVB Assessment — **Date:** 18/04/2022
1. Evidence has been provided and deemed correct 2. Evidence has been provided and deemed correct 3. Evidence has been provided and deemed correct 4. Not all documents requested have been provided. Do Form application evidence has not been found on folder 5. Evidence has been provided and deemed correct 6 Excel Biomass_Inventory_calculation_Vf_sent_20220415_V02 tab Carbon Calculation MAI_Model still links to spreadsheet Recalculated_area_2 7. Please provide source of shp 8. Value of "Abandoned Degraded Area" which source is stated as "See Annex_Degraded Fallows" does not match the evidence provided. Additionally, tables provided on evidence reference America whereas project is in Africa 9. Evidence has been provided and deemed correct 10. Evidence has been provided and deemed correct 11. Values have not been updated in current table 5. Please provide evidence for 1.58 and 12.2 as they do not match referenced sources. 12. Two excels mentioned have not been provided 13. Please review the file as it seems to be corrupted and does not open 14. Evidence has been provided and deemed correct 15. Evidence has been provided and deemed correct
Project participant response — Date: 31/05/2022

4. Exemples of DO form questions in Supported_documents:
- Wave 2018 Questionnaire (1)
- Wave 2018 _M1_Questionnaire (1)

6.Excel Biomass_Inventory_calculation tab Carbon Calculation MAI_Model links the Database. The previous area per starta where link to a corrupted filed. This change had an impact in Ex-post calculation.
Final numbers were updated in Monitoring Report, Ex post calculation as well.

7. The source form the shape file is form this link
https://data.review.fao.org/map/catalog/srv/api/records/baa463d0-88fd-11da-a88f-000d939bc5d8

8. The source as been updated. For degraded fallows, carbon stocks are considered similar to those of grasslands, as these are abandoned crop plots that become degraded fallows and look like grasslands where natural regeneration is very slow due to severe soil deterioration, and which will not regenerate without a radical change in agricultural and land use practices. The value used is also more conservative as we were previously using a value at 12.1 tdm/ha for degraded fallow and now using default value at 16.2 tdm /ha.

Final numbers were updated in PD, Ex ante, Monitoring Report, Ex post calculation and Non-Permanence Report as well.

11. Value where updated. 1.58 were changed to 1.6 as referred in the reference documents. 12.1 where change to 16.1 as well as explained in error 8 above.

12. In fact, it was a mistake, as explained previous Project participant response, CL01, error 12, There is one excel that centralise all information native_ecosystem_conservation

13. In fact the file was corrupted. A new file as been uploaded named Uganda_GPS_Tracks_Polygone_2016_2019_v2.kml

Documentation provided by the Project Participant

4. Exemple of DO form questions in Supported_documents:
- Wave 2018 Questionnaire (1)
- Wave 2018 _M1_Questionnaire (1)

6. Biomass_Inventory_calculation_Vf_sent_20220531_V03
due to this change, other changements were made on the following document:
- VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4

- Uganda-VCS-Monitoring-Report-vf_V0.3_Sent_20220531

7. Source for the shape file:
https://data.review.fao.org/map/catalog/srv/api/records/baa463d0-88fd-11da-a88f-000d939bc5d8

8. Documents Impacted by this change:

- VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220531_3 - VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4 - Uganda-VCS-Project-Description-vf_V04 - Uganda-VCS-Monitoring-Report-vf_V0.3_Sent_20220531 - Uganda-VCS-Non-Permanence-Risk-Report-vf_V0.2_sent_2022043& 11. Documents Impacted by this change: - VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220531_3 - VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4 - Uganda-VCS-Project-Description-vf_V04 - Uganda-VCS-Monitoring-Report-vf_V0.3_Sent_20220531 - Uganda-VCS-Non-Permanence-Risk-Report-vf_V0.2_sent_20220431 12. In Supported_documents: native_ecosystem_conservation 13. In Supported_documents: Uganda_GPS_Tracks_Polygone_2016_2019_v2.kml

VVB Assessment	**Date:** 02/06/2022
Evidence has been provided and deemed ok. Therefore CL 1 is closed	

CL	**02**	**Date: 16/02/2022**
Description of CL		
Please clarify the following: 1. Section 1.5 states that the Project Proponent name is "THE PURE PROJECT SAS. hereinafter referred to as 'PUR Projet'" whereas according to the VCS Registry the PP is "PUR Development Pte. Ltd." 2. Model 1 area is recalculated even though there is measured data 3. Only timber is considered in Above ground biomass calculations of Tab 4_Tree GHG removals per parcel 4. Difference in MAI calculation for ex-ante vs ex-post spreadsheets		
Project participant response	**Date:** 15/04/2022	
1. The information has been changed in order to make sure to match with registry information 2. The information has been corrected. In fact, the calculation was here by mistake due to the general template used at PUR Projet, it did not have any impact on carbon calculation. The column was deleted as it was not relevant anymore. In fact "Model 1" area calculation is		

done automatically with QGIS. As a reminder, to calculate the area for "Model 1" we take the perimeter planted multiplied by 5 m (2.5 m both size of the tree). 3. Timber and fruit trees are both considered in Above ground biomass calculations of Tab 4_Tree GHG removals per parcel. However, timber trees are impacted by the harvesting rate, not the fruit trees. Therefor, the calculation show that based on the percentage of timber trees of the parcel and the year of the project, The MAI and max LG above ground biomass are decreased accordingly 4. On the ex-ante MAI, the value used are from the IPCC. We consider that the maximum value of the average increment (6 tdm/ha/year) is reached for a plantation density higher than 500 trees/ha. The MAI used is adjusted proportionally to the density of the parcel that is based on the number of trees alive. For example, if on parcel a, there is a density of 250/ha, the MAI will be 3 tdm/ha/yr. In comparison, for the ex-post calculation, the MAI used is calculated from the biomass inventory and per plantation model. In the ex-post calculation, the number of trees alive is no longer taken into account, but only the planted area and the planting model are used.
Documentation provided by the Project Participant
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VVB Assessment	**Date:** 18/04/2022
Clarifications and updated documents have been provided and deemed correct. Therefore CL 2 is closed.	

Corrective action requested (CLs)

CAR	**01**	**Date: 16/02/2022**
Description of CAR		
The following sections of the PD have not been completed in accordance with the VCS template: 1. Date of issue is not in format DD-Month-YYY 2. Section 1.1 is more than one page and does not include the location of the project, nor a brief description of the scenario existing prior to the implementation of the project. 3. Section 2.2 does not include information on: • The procedures or methods used for engaging local stakeholders (e.g., dates of announcements or meetings, periods during which input was sought). • 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. • The project design and implementation, including the results of monitoring. • The risks, costs and benefits the project may bring to local stakeholders • All relevant laws and regulations covering workers' rights in the host country. • The process of VCS Program validation and verification and the validation/verification body's site visit 4. Section 2.5 does not include details on the following:		

- Local stakeholder identification process and a description of results.
- Processes to ensure ongoing communication and consultation with local stakeholders, including a grievance redress procedure to resolve any conflicts which may arise between the project proponent and local stakeholders.

5. Section 3.1 does not provide reference of the methodologies applied to the project, nor does it provide a full list of methodologies and tools used in the project
6. Section 3.2.2 does not include the applicability analysis of all tools used in the project
7. Section 3.3 does not include the following:
   - In addition to the table, provide a diagram or map of the project boundary, showing clearly the physical locations of the various installations or management activities taking place as part of the project activity based on the description provided in Section 1.11 (Description of the Project Activity) above.
   - For AFOLU projects, include in the diagram or map the locations of where the various measures are taking place, any reference areas and leakage belts.
8. Section 4 does not include all equations and explanations from the spreadsheet.
9. Section 4.4 does not include the following:
   - Describe the procedure for quantification of net GHG emission reductions and removals. Include all relevant equations. For AFOLU projects, include equations for the quantification of net change in carbon stocks.
   - Document how each equation is applied, in a manner that enables the reader to reproduce the calculation. Provide example calculations for all key equations, to allow the reader to reproduce the calculation of estimated net GHG emission reductions or removals.
10. Section 5.1 row "purpose of data" does not follow template instructions "Indicate one of the following: Determination of baseline scenario (AFOLU projects only), Calculation of baseline emissions, Calculation of project emissions, Calculation of leakage"
11. Section 5.2 row "purpose of data" does not follow template instructions "Indicate one of the following: Calculation of baseline emissions, Calculation of project emissions, Calculation of leakage"
12. Section 5.3 does not include the following:
    - The policies for oversight and accountability of monitoring activities.
    - The procedures for handling non-conformances with the validated monitoring plan.
    - Any sampling approaches used, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures.

Project participant response	Date: 15/04/2022

1. Ok, the date formatting was corrected
2. Ok, the summary description had been reduced to one page and scenario existing prior to the implementation of the project has been added
3. Ok, new informations on section 2.2 were added in the new version of the PD to cover missing information
4. Ok, new informations on section 2.5 were added in the new version of the PD to cover missing information
5. Ok, as explained in CAR 02, Error # 6. I have updated the additionality methodology in order to follow AR-AMS0007. Therefore, all methodology and tools are correctly listed.
6. Ok, As explained above, since I have updated the additionality methodology in order to follow AR-AMS0007 all methodology and tools are correctly listed with applicability analysis.
7. Ok, in section 3.3, new informations were added in the new version of the PD
8. Ok, in Section 4, additional explanation of calculation is now included in the new version of the PD.

9. Ok, It has been corrected in the new version of the PD, additional information has been added. 10. Ok,It has been corrected in the new version of the PD 11. Ok,It has been corrected in the new version of the PD 12. Ok, new informations on section 5.3 were added in the new version of the PD to cover missing information (see section 5.3.4)
Documentation provided by the Project Participant
Uganda-VCS-Project-Description-vf_V0.3

VVB Assessment	**Date:** 18/04/2022
1. Date has been updated and deemed correct 2. Section 1.1 has been updated and deemed correct 3. Section 2.2 does not include information on "All relevant laws and regulations covering workers' rights in the host country" 4. Section 2.5 does not include "a grievance redress procedure to resolve any conflicts which may arise between the project proponent and local stakeholders" 5. Section 3.1 does not include link references to the methodology, not version of "Calculation of the number of sample plots for measurements within A/R CDM project activities" Section 3.3 mentions the tool "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity. (Version 04.0.0)", however it is not stated on the list of section 3.1. Section 4.3 mentions the tool "AR-AMTOOL 15" however it is not on the list of section 3.1. 6. Please see above. Section 3.2 is not updated with all tools mentioned throughout the PD. 7. Section 3.3 has been updated and deemed correct. 8. Section 4 has been updated and deemed correct. 9. Section 4.4 has been updated and deemed correct. 10. Section 5.1 has been updated and deemed correct. 11. Section 5.2 has been updated and deemed correct. 12. Section 5.3 has been updated and deemed correct.	

Project participant response	**Date:** 31/05/2022
3. Ok, relevant laws and regulations covering workers' rights in the host country have been added on section 2.2. and Uganda Employment Act 2006 can be find in supported_documents 4. OK, a grievance redress procedure to resolve any conflicts which may arise between the project proponent and local stakeholders in section 2.5 5. Ok, link references to the methodology and version of "Calculation of the number of sample plots for measurements within A/R CDM project activities" have been added on section 3.1. In addition, AR-AM-TOOL-08 Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity. Version 04.0.0 and AR-AMTOOL 15 Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity - version 2.0 have been added with link reference on the list of section 3.1.	

6. Ok, Applicability for each missing tools have been added in section 3.2.
Documentation provided by the Project Participant
Uganda-VCS-Project-Description-vf_V0.4 In supported_documents : Uganda_Employment_Act_2006

VVB Assessment	**Date:** 29/06/2022
PD has been updated and deemed correct. Therefore CAR 1 is closed.	

CAR	02	**Date:** 16/02/2022
Description of CAR		
The following errors or misstatements have been found on the PD: 1. According to the duration of the crediting period and information on the VCS registry, the project end date is not correct. 2. ER data from section 1.1 and section 1.10 total and average is not in accordance with data from spreadsheet 3. Table 1 Species planted is missing Persea Africana according to excel 4. Removals are incorrectly referenced as VERs throughout the document 5. Root to shoot value in page 54 is incorrectly stated in accordance with reference 6. Section 3.5 Additionality does not follow AR-AMS0007, if a different methodology is chosen, a methodology deviation must be developed explaining why it is more appropriate and conservative		
Project participant response		**Date:** 15/04/2022
1. Ok, It has been corrected in the new version of the PD 2. Ok, It has been corrected in the new version of the PD 3. Ok, Persea Africana was a mistake in the project database, and should have been Persea Americana. It has been corrected accordingly in the Database, ex ante and ex post excel calculation. No change in carbon calculation based on this changement. 4. Ok, It has been corrected in the new version of the PD 5. Ok, It has been corrected in the new version of the PD 6. Ok, section 3.5 additionality has been corrected in order to follow AR-AMS0007 it was previously following VT0001 methodology "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" (Version 01). There is no more methodology deviation in this case.		
Documentation provided by the Project Participant		
Uganda-VCS-Project-Description-vf_V0.3		

VVB Assessment	Date: 18/04/2022
Excel has been updated and deemed correct. Therefore CAR 2 is closed.	

CAR	03	Date: 16/02/2022
Description of CAR		
The following errors or misstatements have been found on spreadsheet "Database_Uganda_Rwenzori._sent_20220124": 1. Data states that some farmers have more trees alive than planted		
Project participant response		Date: 15/04/2022
Before carbon certification process, a large monitoring campaign was done in September / October 2022 in order to update and control accuracy of the project database. For some farmers, the monitoring consisted in a full monitoring including tree count and for others it consisted in a simple qualitative survey with the farmer (around 30% consisted in a simple qualitative survey). In the case no tree count was done, the farmer was asked how many trees he had alive in his plot for the planted year. To analyze the result in such case, we use the following conservative approach: If the farmer says that he has fewer trees than what is registered in the database, this figure is updated in the final database in order to be conservative. However, if the farmer says that he has more trees than what we have registered in the database from previous monitoring, there are two possibilities: 1. There is no clear explanation of why the farmer declares more trees than previously monitored, then the information from previous monitoring stays unchanged in the database (conservative). 2. If the farmer provides a clear explanation of why he has more trees now (main reason is replanting from the farmer) the new number of trees alive provided by the farmer is updated in the project database. Indeed, in training we provide to farmers we encourage them to replant trees that die and use the seeds generated by trees we planted to complement the initial planting of the project. In consequence, it is possible in such cases to have parcels with more trees alive than trees initially planted. Following your comment, we revised every parcel with more trees alive than planted, and checked that it was really corresponding to the situation described in option 2 above. It was OK for most parcels, but for 25 parcels we didn't find the farmer explanation convincing enough and decided to get back to the value initially monitored (more conservative). This correction has a small impact in the Ex ante Calculation: Previously the average annual Emission Removals was 1,888 tCO2e and the total ex-ante potential of the project was 66,093		

tCO2e over the 35 years. While now, the average annual Emission Removals is 1,862 tCO2e and the total ex-ante potential of the project is 65,157 tCO2e over the 35 years. It has been corrected in the Ex- ante calculation and the PD (section 1.1, 1.10 and 4.4). However it doesn't have any impact in the Ex- post calculation, as the number of trees alive in the parcel is no longer taken into consideration for carbon calculation. The area planted and the MAI calculated by Biomass inventory will be used for ex-post carbon calculation
Documentation provided by the Project Participant
Database_Uganda_V3

VVB Assessment	**Date:** 18/04/2022
Excel has been updated and deemed correct. Therefore CAR 3 is closed.	

CAR	**04**	**Date: 16/02/2022**
Description of CAR		
The following errors or misstatements have been found on spreadsheet "VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220124": 1. Tab Baseline, column AW formula is incorrect as it references "Model 1" which is not found on the excel as such 2. Tab Annex_source data states incorrectly the duration of the project 3. Tab Annex_source data cell C23 is stated 0 whereas on the source there is a different value provided 4. Tab Annex_source data cell C27 refers to a different value than what is referenced 5. Tab Annex_source data cell C46 refers to a value for America 6. Tab Annex_source Real growth observed from biomass inventories data does not match the reference provided		
Project participant response		**Date:** 15/04/2022
1. Ok, The information has been corrected, the calculation was here by mistake due to the general template used at PUR Projet, it did not have any impact on carbon calculation. The column was deleted as it was not relevant anymore. In fact "Model 1" area calculation is done automatically with QGIS. As a reminder, to calculate the area for "Model 1" we take the length of the perimeter planted multiplied by 5 m (2.5 m both size of the tree). 2. Ok, The information has been corrected in the excel ex ante 3. Ok, The information has been corrected. As used elsewhere in documents for the validation and verification, for annual crops, carbon stocks are ignored since they are considered transient. 4. Ok, The information has been corrected in the excel ex ante 5. Ok, The information has been corrected in the excel ex ante		

6. Ok, It has been corrected. It was a mistake. This table is not relevant and not used in calculation in the ex-ante excel. The table has been deleted. The table was for Ex-post calculation (with updated result from the biomass Inventory Calculation.) and not for Ex-ante calculation.
Documentation provided by the Project Participant
VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220124_2

VVB Assessment	**Date:** 18/04/2022
1. Excel has been updated and deemed correct 2. Excel has been updated and deemed correct 3. Excel has been updated and deemed correct 4. The value has not been updated to match source 5. Excel has been updated and deemed correct 6. Excel has been updated and deemed correct	
Project participant response	**Date:** 31/05/2022
4. ok, the value has been corrected and match the source. 1.6 tdm/ha instead on 1.58tdm	
Documentation provided by the Project Participant	
VCS UGANDA_GHG calculations_ex_ante_vf_sent_20220531_3	
VVB Assessment	**Date:** 29/06/2022
Excel has been updated and deemed correct. Therefore CAR 4 is closed.	

CAR	**05**	**Date: 16/02/2022**
Description of CAR		
The following sections of the MR have not been completed in accordance with the VCS template: 1. Date of issue is not in format DD-Month-YYYY and Report ID is missing 2. Section 1.7 does not indicate the project location and geographic boundaries. 3. Section 2.1 does not include the following: • Any updates, where relevant, to the property and land use rights of the local stakeholders and a demonstration that the project has not negatively impacted such rights without first obtaining the free, prior and informed consent of the affected parties, and provided just and fair compensation if done so. • The processes used to communicate and consult with local stakeholders during the monitoring period, including any information about any conflicts that arose between the project proponent and local stakeholders and whether any such conflicts were 4. Section 3.1 does not include how leakage and non-permanence risk factors are being monitored and managed for AFOLU projects.		

5. Section 4.1 row purpose of data does not indicate one of the following: Determination of baseline scenario (AFOLU projects only), Calculation of baseline emissions, Calculation of project emissions, Calculation of leakage.
6. Section 4.2 row purpose of data does not indicate one of the following: Calculation of baseline emissions, Calculation of project emissions, Calculation of leakage
7. Section 4.3 does not include the following:
    - The organizational structure, responsibilities and competencies of the personnel that carried out the monitoring activities.
    - The procedures used for handling any internal auditing performed and any non-conformities identified.
    - The implementation of sampling approaches, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. Where applicable, demonstrate whether the required confidence level or precision has been met.
8. Section 5 does not include all equations and explanation from the spreadsheet

Project participant response	Date: 15/04/2022

1. Ok, It has been corrected in the new version of the Monitoring
2. Ok, it has been added in the new version of the Monitoring
3. Ok, it has been added in the new version of the Monitoring
4. Ok, it has been added in the new version of the Monitoring
5. Ok, it has been added in the new version of the Monitoring
6. Ok, it has been added in the new version of the Monitoring
7. Ok, it has been added in the new version of the Monitoring in section 4.1 Global monitoring organisational structure figure and internal audit paragraph
8. Ok, additional equations and explanations have been added in the new version of the Monitoring.

Documentation provided by the Project Participant

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VVB Assessment	Date: 18/04/2022

1. Report ID has not been included
2. Section 1.7 has been updated and deemed correct
3. Section 2.1 has not been updated
4. Section 3.1 has been updated and deemed correct
5. Section 4.1 has been updated and deemed correct
6. Section 4.2 has been updated and deemed correct
7. Section 4.3 has been updated and deemed correct
8. Section 5 has been updated and deemed correct

Project participant response	Date: 20/06/2022

1. Ok, the report has been included
3. Ok, it was corrected on section 2.3 and not 2.1.

Documentation provided by the Project Participant

Uganda-VCS-Monitoring-Report-vf_V0.3_Sent_20220531

VVB Assessment	Date: 29/06/2022
MR has been updated and deemed correct. Therefore CAR 5 is correct.	

CAR	06	Date: 16/02/2022
Description of CAR		
The following errors or misstatements have been found on the MR: 1. Section 1.1 states that work has been carried out with over 1,000 farmers, while on the Database there are 880 2. Ex ante ER data total and average in section 1.1 is not correct according to spreadsheet 3. Root to shoot value in page 30 is incorrectly stated in accordance with reference 4. Monitoring dates used in the spreadsheets refer to September/October 2021, whereas the monitoring period finishes in April 2021		
Project participant response		**Date:** 15/04/2022
1. Ok, The information has been corrected 2. Ok, the information has been corrected 3. Ok, the information has been corrected 4. Ok, The monitoring date was changed. as in fact we did a full monitoring of the database between August to October 2021. The Monitoring period were changed to December 2021 instead of April 2021.		
Documentation provided by the Project Participant		
VVB Assessment		**Date:** 18/04/2022
MR has been updated and deemed correct. Therefore CAR 6 is closed.		

CAR	07	Date: 16/02/2022
Description of CAR		
The following errors or misstatements have been found on spreadsheet "VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220128_V0.2": 1. Tab Baseline, column AW formula is incorrect as it references "Model 1" which is not found on the excel as such		

2. Tab Annex_source data states incorrectly the duration of the project 3. Tab Annex_source data cell C26 refers to a different value than what is referenced 4. Tab Annex_source data cell C45 refers to a value for America
Project participant response **Date:** 15/04/2022
1. The information has been corrected, the calculation was here by mistake due to the general template used at PUR Projet, it did not have any impact on carbon calculation. The column was deleted as it was not relevant anymore. In fact "Model 1" area calculation is done automatically with QGIS. As a reminder, to calculate the area for "Model 1" we take the length of the perimeter planted multiplied by 5 m (2.5 m both size of the tree). 2. The information has been corrected in the excel 3. The information has been corrected in the excel 4. The information has been corrected in the excel
Documentation provided by the Project Participant
"VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220128_V0.3
VVB Assessment **Date:** 18/04/2022
1. Column is still on excel with an error (tab Baseline column AT) 2. Excel has been updated and deemed correct 3. Excel has been updated and deemed correct 4. Excel has been updated and deemed correct
Project participant response **Date:** 31/05/2022
1. Ok, it has been corrected.
Documentation provided by the Project Participant
VCS UGANDA_GHG calculations_ex_post_Vf_sent_20220531_V0.4
VVB Assessment **Date:** 02/06/2022
Excel has been updated and deemed correct. Therefore CAR 7 is closed.

CAR	**08**	**Date: 16/02/2022**
Description of CAR		
The following errors or misstatements have been found on spreadsheet "Biomass_Inventory_calculation_Vf_sent_20220128_V0.2": 1. Tab "Biomass_inventory_tree_all" accounts for 4091 number_of_trees, whereas tab "Biomass_inventory_parcel" totals 4094 number of trees 2. Tab "Biomass_inventory_tree_all" column J considers the year 2022 in the formula		

Project participant response	Date: 15/04/2022
1. It has been corrected, the number of trees in Biomass_inventory_parcel is a number coming from the raw data of kobo, which was entered manually by technicien, therefore some mistipping could happen. The corrected number of trees measured is 4091, in Tab "Biomass_inventory_tree_all" 2. It has been corrected, In fact it should have been 2021 in the formula. But the column was not used in the calculation and therefore we deleted from BI excel	
Documentation provided by the Project Participant	
Biomass_Inventory_calculation_Vf_sent_20220531_V03	
VVB Assessment	**Date:** 18/04/2022
Excel has been updated and deemed correct. Therefore CAR 8 is closed	

CAR	09	Date: 16/02/2022
Description of CAR		
The following sections of the Non-Permanence Risk Report have not been completed in accordance with the VCS template: 1. Date of issue is not in format DD-Month-YYYY and Project ID is missing 2. There is text missing on the tables. According to the template where a risk or mitigation is not relevant to the project, please write "Not applicable".		
Project participant response		**Date:** 15/04/2022
1. It has been corrected in the Non permanence risk Report 2. It has been corrected in the Non permanence risk Report		
Documentation provided by the Project Participant		
Uganda-VCS-Non-Permanence-Risk-Report-vf_V0.2_sent_20220415		
VVB Assessment		**Date:** 18/04/2022
Project ID has not been included 3. Text has been updated and deemed correct 4. Section 4.2 has not been updated with calculations		
Project participant response		**Date:** 31/05/2022

1. Ok, Project ID has been included 2. Ok, Section 4.2 has been updated with calculations	
Documentation provided by the Project Participant	
Uganda-VCS-Non-Permanence-Risk-Report-vf_V0.3_sent_20220531	
VVB Assessment	**Date:** 02/06/2022
The Non-Permanence Risk Report has been updated and deemed correct. Therefore CAR 9 is closed.	