



VERIFICATION REPORT OF THE LOWER ZAMBEZI REDD+ PROJECT



Document Prepared By AENOR INTERNACIONAL S.A.U

C/Génova, 628004 Madrid - Spain

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Prepared By	AENOR INTERNACIONAL SAU
Contact	Génova 6. 28004 Madrid - Spain. Telephone +34 914326000 jfuentes@aenor.com; www.aenor.com
Approved By	José Luis Fuentes
Work Carried Out By	Lead Auditor: Miguel López Auditor: Juan Carlos Gómez Technical Review: Elena Llorente

Summary:

AENOR has carried out the verification of the Lower Zambezi REDD+ Project (LZRP). The LZRP is a reducing emissions from deforestation and degradation (REDD+) project on 40,126 ha (ha) of privately-owned land in Rufunsa District, Zambia.

The project was developed to conform to the Climate, Community and Biodiversity Standard (CCBS, Second Edition) and the Verified Carbon Standard (VCS, Version 4.0). Furthermore, the Project is aligned with the Government of the Republic of Zambia's (GRZ) National REDD+ Program, implemented through the Forestry Department.

The core project climate activities undertaken include forest carbon inventoring, modelling cumulative deforestation patterns and soil carbon assessments. Core community project activities include up to eighteen different types of community-based deforestation mitigation initiatives designed to create sustainable, scalable alternatives to deforestation, and strategic, meaningful incentives that comprise part of pay for performance programs that support forest conservation. Core biodiversity project activities include forest conservation systems, biodiversity monitoring and management, and fire management.

The project start and implementation date is 1 October 2009 and will be operational until 1 October 2039. The estimated emissions reduction for the 30-year project span is 5,673,505 tCO₂e at an average of 189,117 tCO₂e/yr. The emissions reduction for the current monitoring period (January 1st, 2019 to Dec. 31st, 2019) is 232,341 tCO₂e.

The field visit did not take place, instead remote interviews with key stakeholders and staff were held on April 7th and May 26th, 2020. Besides the MR, updated PD and supporting documents were reviewed.

The purpose of the verification was to determine the conformance of the project with respect to the VCS Standard and to validate the updated PD due to the mandatory 10-year period baseline re-assessment, carried out within this monitoring period. Furthermore, and the assessment of the ex-post monitored anthropogenic GHG emissions reductions and/or removals that have occurred as a result of the project's activities. The scope of the verification was to assess the conformance of validated project, once implemented, with the VCS requirements and requirements in the validated PD. The process was performed through a combination of desk review, interviews, and communications with relevant personnel.

This is the seventh verification event, corresponding to the monitoring period from 01 January 2019 to 31 December 2019.

During the verification event, 5 CL and 3 CAR were reported. All these issues raised during the verification process were appropriately closed by means of corrections, more clear explanations and other supported documents.

Once all issues detected were appropriately resolved, AENOR carried out this final verification report and deems with reasonable level of assurance that the project complies with all the verification criteria. The assessment team has no restrictions or uncertainties with respect to the compliance of the project with the verification criteria, hence, the audit team concludes that the cumulative net GHG emissions reductions or removals of 232,341 t CO₂e over the monitoring period has been quantified in accordance with VCS rules. A buffer discount rate of 10% was applied, resulting 209,106 t CO₂e eligible for issuance.

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1. INTRODUCTION

1.1 Objective

The objective of the verification audit was to conduct an independent assessment of the project to determine:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the project description (PD), including the monitoring plan.
- The extent to which GHG emission reductions and removals reported in the monitoring report are materially accurate.

Furthermore, due to the period in which the project is, 10 years after the first validation, the mandatory baseline reassessment was also analysed to validate the new baseline parameters and an updated version of the PD.

1.2 Scope and Criteria

The scope of the verification audit is to verify the emissions reductions and/or removals of the LZRP in Zambia, against the Verified Carbon Standard, the identified methodology and the validated PD throughout the monitoring period from 01 January 2019 to 31 December 2019.

The objectives of this audit included a verification of the Project's calculated reductions and/or removals with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects. In addition, the audit assessed the project with respect to the validated baseline scenarios presented in the new version of the PD.

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

Criteria from the following documents were used to assess this project:

- VCS Standard v4.0
- VCS Program Guide v4.0
- VCS AFOLU Non-Permanence Risk Tool v.4

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

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 assertion is materially correct and is a fair representation of the GHG data and information.

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification 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.

The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emissions reductions/removals was 5% as established for projects by the VCS Standard.

1.4 Summary Description of the Project

The Lower Zambezi REDD+ Project (Project) is a reducing emissions from deforestation and degradation (REDD+) project on 40,126 ha (ha) of privately-owned land in Rufunsa District, Zambia.

The Project Area is known as 'Rufunsa Conservancy' (Conservancy) and is owned by a Zambian company named Sable Transport Limited. The Project Proponent is BioCarbon Partners (BCP), which is responsible for getting the Project certified and for early-stage Project finance.

The core project climate accounting activities undertaken include forest carbon inventorying, modelling cumulative deforestation patterns, and soil carbon assessments. Core community project activities include up to eighteen different types of community-based deforestation mitigation initiatives designed to create sustainable, scalable alternatives to deforestation, and strategic, meaningful incentives that comprise part of pay for performance programs that support forest conservation. Core biodiversity project activities include forest conservation systems, biodiversity monitoring and management, and fire management.

The project start and implementation date is 1 October 2009 and will be operational until 1 October 2039. The estimated emissions reduction for the 30-year project span is 5,673,505 tCO₂e at an average of 189,117 tCO₂e/yr. The emissions reduction for the current monitoring period (January 1st, 2019 to Dec. 31st, 2019) is 232,341 tCO₂e.

The verification of this monitoring period was requested to AENOR by BCP. The audit of the Monitoring Report, updated Project Description, supporting documentation, and interviews has provided AENOR with the evidence to determine conformance to the VCS Standards with a reasonable assurance.

2. VERIFICATION PROCESS

2.1 Method and Criteria

The verification was performed through a combination of document review, interviews and communications with relevant personnel. 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.

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to present a risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The Verification & Sampling Plan methodology was derived from all items in our verification process stated above. Specifically, the sampling plan utilized the VCS guidance documents and ISO 14064-3. Any modifications applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

The verification activities in which risks were assessed were the evaluations of the monitoring system (data flow, data control procedures, etc.) but mainly the quality of raw data as well as sources and the spreadsheet calculations. AENOR reproduced and verified 100% of sheets in the 20200229_LZRP_ER_Calc_M7.xlsm for the monitoring period 01 January 2019 – 31 December 2019 for the project area. The project boundary and deforested areas in the project area for the monitoring period were 100% checked using the GIS database.

AENOR carried out a deep and meticulous review of the spreadsheets in order to verify the correct application of the methodologies (formulae, equations) and checked that data required to calculate the GHG removals are appropriately provided. Based on the assessment carried out, AENOR confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions or misstatements.

In addition, AENOR confirms that sufficient evidence was presented for the reported net anthropogenic GHG emission reductions and that there is a clear audit trail that contains the evidence and records that validate the stated figure in this verification report since:

- Sufficient evidence available: The project participant has provided the 100% of data used in the calculations to achieve the final amount of GHG emission reductions reported.
- Nature of evidence: The raw data were collected from reliable sources. They are detailed in the project documents and have been provided to the verification team and the most relevant are appropriately detailed in the Appendix 1.
- Cross-checked evidence: AENOR cross-checked the collected information through remote interviews and calculations reproduction.

Hence, AENOR confirms that the stated figures in the monitoring report are correct and confirms that is able to certify net anthropogenic GHG removals based on verifiable and reliable evidence.

2.2 Document Review

A detailed review of all project documentation was conducted to ensure consistency with, and identify any deviation from, VCS program requirements, the methodology (VCS VM0009 V3.0), and the validated PD with the reassessed baseline.

Initial review focused on the Monitoring Report (MR) and included an examination of the project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals. Documents reviewed included data from monitoring, carbon rights contracts, forest management agreements, maps and aerial images, monitoring and grievance SOPs, biomass and carbon calculation spread sheets, documentation for the baseline reassessment and responses to Corrective Action Requests (CARs) and Clarifications (CLs).

The audit process included the review and validation of the baseline reassessment of the updated PD and the verification of the MR. Modifications to the Verification and Sampling plan were made based upon the conditions observed for monitoring in order to detect the processes with highest risk of material discrepancy.

The VCS AFOLU Non-Permanence Risk Tool was used by the Project Proponent to assess overall project risk. AENOR reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. The final score was calculated to be 10%.

For a listing of all documents received from the client for this verification, please see Appendix 1.

2.3 Interviews

Interviews were performed as part of the overall verification process which was additional to that provided in the project description, monitoring report and any supporting documents. The AENOR verification team met with individuals with various roles in the project. This included a series of interviews with in-country staff that support the mission of the project. In addition, interviews discussions were conducted with project members and leaders of the local communities. The following table summarizes the interviews carried out during the process.

Due to the COVID-19 pandemic situation, all interviews were carried out through videoconference, as explained in Section 2.4. The interviews were carried out between April 7th and May 26th, 2020.

Name	Title/Organization
Edson Phiri	Chairperson Namanongo Cooperative
Rainford Chanshika	Chairperson Liyoyelo Cooperative
Hassan Sachedina	Managing Director – BioCarbon Partners
Joke Hoffman	Chief Operating Officer – BioCarbon Partners
David Gwenzi	GIS/RS Manager – BioCarbon Partners
Theron Morgan-Brown	Senior Manager, Science & Technology – BioCarbon Partners
Besa Kalinda	Forest and Biodiversity Monitoring Coordinator – BioCarbon Partners
Esau Shawa	Site Operations Manager – BioCarbon Partners

2.4 Site Inspections

There were no favourable circumstances to carry out a site inspection, due to the global crisis state by COVID-19. Instead remote interviews with key stakeholders and project staff were held on April 7th and on 26th May 2020.

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, an exemption of the site was requested 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 both the JNR and VCS programs.

The remote audit was based on the following auditing techniques:

- Document review and cross checks between the information provided in the MR, the PD 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.

- Telephone, teleconference and/or e-mail interviews for the implementation of project activities and the elaboration of project's documents.
- Cross checks between information provided by interviewees to ensure that no relevant information has been omitted.

For the verification of project activities and monitoring, in addition to the interviews described in this section, the following means were used:

Name	Title/Organization
Farm benefited from Conservation Farming Training Program.	Short video with voice of beneficiary in the CFTP program
Agroforestry systems.	Short video with voice of beneficiary - one practicing farmer, same for the above (CFTP)
Borehole developed by the project.	Short video with voice of beneficiary Ndubulula/Namanongo/Mweshang'ombe/Chilimba
Hammermill houses built using Conservation Fees.	Pictures of work in progress (Ndubulula or Namanongo)
Beehives and honey production	Honey production Testimony & Pictures of hives
Eco-charcoal production.	Signed letter from participant farmer (Ndubulula), BCP finance figures

2.5 Resolution of Findings

As an outcome of the verification process, the audit team raised different types of findings. In general, where insufficient or inaccurate information was available and clarification or new information was required the team raised a Clarification Request (CL), specifying what additional information was required. When a non-conformance arose, the team raised a Corrective Action Request (CAR). A CAR was issued, where:

- Non-conformities with the monitoring plan or methodology were found in monitoring and reporting, or if the evidence provided to prove conformity was insufficient;
- Mistakes were made in applying assumptions, data or calculations of emission reductions which would impair the estimate of emission reductions;

Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period. FARs may be raised which are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

CARs (corrective action requests) and CLs (clarifications) raised during verification shall be resolved prior to submitting a request for issuance. All CARs, CLs for this verification period are included in this report. A total number of 3 CARs and 5 CLs were raised. The PP is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

All findings issued by the AENOR audit team during the verification process have been closed. In accordance with Section 4.1.13 of the VCS Standard v4.0, all findings issued during the verification process, and the inputs for their closure, are described in Appendix 2 of this report.

2.5.1 Forward Action Requests

No FARs were raised to the PP during the verification process. No FARs were raised during the previous verification process.

2.6 Eligibility for Validation Activities

AENOR holds accreditation for validation for the relevant sectoral scope 14 under which this project activity is classified.

3. VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project was not validated under another GHG program; therefore, there are no Gap Validation findings to report. The Project Description was subject to validation under VCS Standard and was found to conform to the VCS requirements.

3.2 Methodology Deviations

During current monitoring period there were no new deviations, instead the methodology deviations were the same as the ones verified in the previous monitoring report, shown as follows:

1. Related to the visual approach for the leakage monitoring, the procedure in the PDD was changed like in the preceding monitoring period (M6). Instead of forest inventory team members estimating the degradation, they were required to geo-reference any felt tree in the permanent plots this figure can be then compared against the average tree density in the project accounting area. This deviation was applied during previous monitoring period.
2. Regards the monitoring of disturbances, the methodology VM0009 requires that disturbances in the project area must be monitored in plots. During this monitoring period, there was a disturbance monitored within the project area (by Sentinel-2 Imagery comparison of the project area in 2018-2019). It was found outside the limits of the delimited plots in the project area. Thus, a monitoring team was required to assess, confirm and document the clearing, adding directly the size of the disturbances found not captured in the project area plots.
3. The allometric equation used to estimate above ground biomass in present monitoring period and all previous ones was not tested on trees larger than 55 cm. The project inventory data includes a few trees larger than this.

The biomass measurement of the largest tree in the representative sample was found greater than the predicted biomass by the equation. However, the equation does not behave similarly beyond the range of measurements taken for the representative sample (difference of the first order derivative of the equation values was found greater than 10%).

Thus, for all trees in the inventory greater than 55 cm DBH, the calculated biomass was set equal to a 55 cm DBH tree. In this way there is no possibility of the equation overpredicting biomass of trees outside the size classes tested.

Hence, AENOR deems that there were no new deviations which impact on the applicability of the methodology.

The Project remains in compliance with the VCS rules, it is completely implemented and discrepancies between the Project and the PD have been clearly commented in the MR and suitability assessed by AENOR.

3.3 Project Description Deviations

During the current monitoring period, the PP followed the established in the VCS Standard for AFOLU-specific matters, to re-evaluate the baseline scenario for every 10-year period (Section 3.2.7).

The baseline reassessment was carried out by adding new observations of forest state (of the project) and subsequently carrying out a reparameterization of α and β parameters, as indicated in the Section 6.20.2 from the methodology VM0009 v.3.

Project documentation was updated by the PP as per requirements from the newest version of the VM0009 methodology and VCS standard. All documentation provided by the PP regarding the Baseline re-evaluation was reviewed and found in accordance with the latest versions of the methodology VM0009 and the VCS Program Rules and Requirements. Documentation received was listed in the second section of the Appendix 1 of the present verification report.

The PP used the VCS Tool VT0001 v3.0 for the assessment of additionality. This analysis showed that the identified baseline type, deforestation for small holder agriculture expansion and some charcoal production, was correctly established as the most plausible baseline scenario.

Determining the baseline emissions was carried out following Section 6 of the VM0009 v3.0 methodology. At first the baseline scenario was determined, thus agents and drivers of conversion were identified and understood according the methodology considerations. The proponent identified how, when and where agents and drivers might have acted in the project area, stated in the new version of the PD, Section 4.1.

The PP accurately defined the project accounting, the proxy, reference (remained unchanged for this baseline re-evaluation) and leakage areas as per methodology requirements.

The baseline type considered was F-U3 as per VM0009 v3.0 and uses a cumulative deforestation model to estimate baseline emissions. AENOR confirmed the baseline type to represent the most plausible baseline scenario.

Reference Period and Historic Imagery to Parameterize Cumulative Deforestation Model were updated by the PP to cover the required documentation for baseline re-evaluation, following the methodology and the VCS requirements.

Upon determining the baseline type, the end land use in the baseline scenario, and historical patterns of conversion, the proponent developed a baseline emissions model in order to calculate the emissions predicted to occur in the absence of the project.

The specific protocol used to sample historic land use conversion in the reference area, as part of the VM0009 methodology for estimating baseline emissions was defined and documented in the Appendix I of the MR, or Annex CC of the updated PD. No obstacles were found in the baseline reassessment process.

The Net GHG emissions reductions and removals were calculated as shown in Section 4.4 of this report.

The PP updated the Project Description document as per VCS Project Description v4.0 template. Project Description modifications were found in Section 4.1 *Baseline Emissions*, regarding the baseline reassessment with a complete review of the process, the summary of new data observed in the reference area and the reparametrized values α and β . Section 5.1. *Data and Parameters available at Validation* was also upgraded with the new values from baseline analysis shown in the table below.

AENOR deems interpretation on the CDM sample points for the 10-year baseline re-evaluation was carried out in accordance with the VM0009 v3.0 methodology requirements and values re-parameterized were found conservative and in accordance with the methodology used and the VCS program rules.

AENOR deem the project description, containing updated information with respect to the baseline, the estimated GHG emission reductions or removals and the monitoring plan were elaborated according the requirements in the VCS Program Rules.

Name	Title/Organization
α	Combined effects of β and θ at the start of the historic reference period were updated. Updated value = 1.484
β	Effect of time on the cumulative proportion of deforestation over time was updated Updated value = 0.000371
$\hat{\sigma}_{EM}$ standard deviation	Estimated standard deviation of the state observations used to fit the logistic function was updated to 0.4978
J The set of all observations of conversion.	Value was 15, 600 in the initial baseline evaluation, and updated to 28, 582
n_d Number of spatial points in the reference area	The points were 2600 in 2013. Due to cloud cover, 18 were eliminated during the 2019 baseline re-evaluation.
t_i The initial historic reference period	The initial historic reference period was established from 1984 to 2009. During the 10 years baseline re-evaluation, the reference period was extended to 2019. 1984-06-29 and 2019-04-05 /12, 698 days
w_i Remote sensing image interpretation	The initial process of 6-time steps, increased to 11, at the 10 years baseline re-evaluation

3.4 Grouped Project

This is not a grouped project.

4. VERIFICATION FINDINGS

4.1 Project Implementation Status

During this verification process, AENOR has not detected project changes in regards of the project title, its purposes and objectives. As such, the project activity accurately reflects the proposed project which mainly consists of the reduction of emissions from deforestation and degradation on a privately-owned land in Zambia. Through interviews with key staff, the auditor's team ratified the main objectives of the project activity.

The LZRP has developed a wide range of deforestation mitigation and benefit sharing activities with local stakeholders. These activities fit broadly into three different categories namely a) Community Sensitization, Education and Consultation, b) Community-Based Deforestation Mitigation Projects, and c) Protection, Enforcement and Monitoring. Implementation Status of the Project Activity is summarized in the Section 3.1 from the MR.

Carbon pools addressed and emissions of non-CO₂ GHGs are the same than those validated. Leakage is considered and assessed, and the non-permanence risk is also evaluated.

After the review of the MR, spreadsheet calculations and the other document to support calculations such as GIS information, interviews and others, AENOR deems that project status is in compliance with applicable methodologies and implementation is in support of the VCS principles of Conservativeness and Accuracy.

There is no evidence of double counting or that the Project has participated nor been rejected under any other GHG programs. GHG emission reductions or removals generated by the project are not included in an emission trading program or any other mechanism that includes GHG allowance trading. The project has not received or sought any other form of environmental credit.

Related to the compliance with the Monitoring Plan, section 4.3 of the MR provides information about the monitoring plan and actions carried out for the current monitoring period. AENOR reviewed during audit process the procedures put in place to perform the compliance surveys, the post-harvest surveys and the remote sensing analysis and deems that they are in accordance with the procedures described in the validated monitoring plan.

AENOR checked the monitoring plan contained in the new version of the validated PD and compared it with the monitoring report to verify whether there was any difference that would cause an increase in estimates of the GHG emission reductions in the current monitoring period.

AENOR has confirmed that there are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodologies. Also, the project proponent effectively monitors the required parameters to determine the project's removals by sinks and emissions by sources as required by the monitoring plan and the applicable methodologies.

The parameters reported, including source, frequency and review criteria as indicated in the monitoring plan were verified to be correct and in line with the monitoring plan of the validated PD. Necessary management system procedures including responsibility and authority of monitoring activities have been verified to be consistent with the PD. Knowledge of personnel associated with the project activity was also found to be satisfactory.

Regarding leakage emission, they account 0. In this regard, AENOR has checked evidence provided which confirms the information included in the MR. In addition, no biomass loss events were reported during this verification period.

In the MR section 1.11 the project proponent describes how the LZRP contributes to the 17 UN Sustainable Development Goals. AENOR crosschecked the project documentation and interviewed stakeholders, subsequently verified the claimed contributions of the LZRP regarding the sustainable development.

Methodology deviations were applied in precedent monitoring periods, are shown in section 3.2 of this report and do not affect the conservativeness of emission reductions. These were minor improvements to the monitoring of the disturbances and a more conservative estimate of biomass and emissions savings. Accordingly, described minor deviations meet the criteria for an acceptable methodological deviation.

Hence, after a complete review of the different documents provided and the interviews process, AENOR is able to confirm that the project implementation is in accordance with the updated version of the validated PD. There are no material discrepancies between project implementation and the project description.

4.2 Safeguards

4.2.1 No Net Harm

The project has been Gold Level Validated for positive community impacts under the CCB Standard. The project was also successfully verified against the CCB standard at the Gold Level in 2018 for the period from 2013-2017.

The project was exempted from an Environmental Impact Assessment by the Zambian Environmental Management Agency.

During the audit process, AENOR verified that the Project has a net positive impact from both the environmental and social side. With the latter and according to the Gold Level validation, AENOR deems that the PP has taken successfully reasonable steps to mitigate potential negative impacts.

A detailed description of stakeholder consultations for each farm have been provided to AENOR including pictures of the events, the list of attended people, the brochure disseminated to communities and report of the event with comments from communities

AENOR verified records of jobs generated and the contracts with local people. Then, inputs are positive. In addition, other benefits are reported such training, safety measures, etc.

The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area

4.2.2 Local Stakeholder Consultation

In the MR, Table 1 (List of consent and consultation meetings held with local stakeholders for LZRP in 2019) summarizes all stakeholders' communications held during the current monitoring period. Main informative targets exposed in the table were verified during the remote audit process, through online interviews with key community representatives.

BCP has established a community engagement team which lives within the local community and interact formally and informally with community members daily. Therefore, sensitization, information sharing and updating are clearly ongoing process.

Regarding the grievance raised during current monitoring period by the community, AENOR verified that its communication was carried out through the established grievance mechanisms (communication to BCP staff, written communications in between both parts, community meetings and redress-closeout of the grievance). Besides, the grievance was addressed and closed.

In order to ensure local community awareness and acceptance of project area boundaries and to avoid related conflicts within the project area, BCP undertook a boundary demarcation in 2012 which has an annual maintenance annually minimize the potential land use conflicts within the project boundaries. There were no other evidences on negative impacts related to property or land use rights of local stakeholders.

AENOR verified during the online interviews that BCP has continuous communication with the whole stakeholders' group and their inputs are taken into consideration. The stakeholders interviewed were aware of the current status of the project implementation, the grievances occurred, activities, next steps, etcetera.

4.3 AFOLU-Specific Safeguards

BCP implemented alternative livelihood projects (honey and eco-charcoal production, conservation farming, trainings of lead farmers, education support and fire management.) to mitigate risks to local stakeholders due to project implementation. Said livelihood projects were confirmed by the stakeholders during the online interviews.

During the monitoring period there were no evidences of any issues in relation to property and land use right of local stakeholders being negatively impacted.

From AENOR perspective BCP, as project proponent, has established a continuous and fluid communication method with the local stakeholders. An example of a proof of this occurred during the online interviews with the local stakeholders, when, a clear stakeholders' knowledge of the project, as well as knowledge of its implementation status and other relevant project information was demonstrated.

The project has been Gold Level Validated for positive community impacts under the CCB Standard. The project was also successfully verified against the CCB standard at the Gold Level in 2018 for the period from 2013-2017. During the remote audit process, AENOR interviewed local community stakeholders and verified that the Project has a net positive impact from both the environmental and social side. With the latter and according to the Gold Level validation, AENOR deems that the PP has taken successfully reasonable steps to mitigate potential negative impacts.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Procedures for quantifying emission reductions and removals were conducted in accordance with the VM0009 v.3.0 June 2014: Methodology for Avoided Ecosystem Conversion for Sectorial Scope 14 methodology and its related tools.

The verification team performed an intensive review of all input data, parameters, formulas, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, VCS methodology and associated tools, and the PD. Further, the verification team reproduced calculations for selected samples to ensure accuracy of the results. Conversion factors, formulas, and calculations were provided by PP in spreadsheet format to ensure all formulas were accessible for review. The verification 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.

Baseline Emissions

Section 5.1 of the MR and the calculation spreadsheet submitted to AENOR provide information related to the baseline emissions calculations.

Baseline emissions ($E_{(B\Delta)}^{[m]}$) for the current monitoring period (01-January-2019 to 31-December-2019) were calculated using Equation F.15. from VM0009 v3.0

$$E_{B\Delta}^{[m]} = E_B^{[m]} - E_B^{[m-1]} \quad [F.15]$$

Cumulative baseline emissions were calculated using a logistic deforestation model, based upon a point interpretation of forest state in the reference area applying equation F.16 from VM0009, v3.0

$$E_B^{[m]} = E_{B\,BM}^{[m]} + E_{B\,SOC}^{[m]} - C_{B\,SOC}^{[m]} - C_{B\,BGB}^{[m]} - C_{B\,DW}^{[m]} - C_{B\,WP}^{[m]} \quad [F.16]$$

Baseline emissions from biomass for the current monitoring period are based on the average per hectare carbon stocks in selected carbon pools from AGOT, BGOT given by equation F.17 for the accounting area and F.18 for the proxy area.

$$c_{P\,BM}^{[m]} = \sum_{b \in B} c_{P\,b}^{[m]} \quad [F.17]$$

$$c_{B\,BM}^{[m]} = \sum_{b \in B} c_{B\,b}^{[m]} \quad [F.18]$$

Cumulative baseline emissions were calculated using a logistic biomass emission model (BEM), validated in the PD, based upon a point interpretation of forest state in the reference area applying equation F.24.

$$\begin{aligned}
E_{B\ BM}^{[m]} &= BEM_{SP}(c_{P\ 1\ BM}^{[m=0]}, c_{B\ BM}^{[m]}, t^{[m]}, x^{[m]}) = BEM_{U2,3/P1}(c_{P\ 1\ BM}^{[m=0]}, c_{B\ BM}^{[m]}, t^{[m]}, x^{[m]}) \quad [F.24] \\
\text{when } E_{B\ BM}^{[m]} &\geq A_{P\ 1}^{[m=0]}(c_{P\ 1\ BM}^{[m=0]} - c_{B\ BM}^{[m]}) \\
\text{then } E_{B\ BM}^{[m]} &= BEM_{U2,3}(wc_{P\ 1,2\ BM}^{[m=0]}, c_{B\ BM}^{[m]}, t^{[m]}, x^{[m]}) \\
\text{when } E_{B\ BM}^{[m]} &\geq A_{P\ 1}^{[m=0]}c_{P\ 1\ BM}^{[m=0]} + A_{P\ 2}^{[m=0]}c_{P\ 2\ BM}^{[m=0]} - c_{B\ BM}^{[m]}(A_{P\ 1}^{[m=0]} + A_{P\ 2}^{[m=0]}) \\
\text{then } E_{B\ BM}^{[m]} &= BEM_{U2,3/P1}(wc_{P\ 1,2,3\ BM}^{[m=0]}, c_{B\ BM}^{[m]}, t^{[m]}, x^{[m]}) \\
&\dots \\
E_{B\ BM}^{[m]} &= A_{P\ 1}^{[m=0]}c_{P\ 1\ BM}^{[m=0]} + A_{P\ 2}^{[m=0]}wc_{P\ 1,2\ BM}^{[m=0]} + \dots + A_{P\ n}^{[m=0]}wc_{P\ i,n\ BM}^{[m=0]} \\
&\quad - c_{B\ BM}^{[m]}(A_{P\ 1}^{[m=0]} + A_{P\ 2}^{[m=0]} + \dots + A_{P\ n}^{[m=0]})
\end{aligned}$$

Carbon not decayed in below-ground biomass used a decay emission model (BEM), as per F.32 of VM0009 v3.0.

$$c_{B\ BGB}^{[m]} = \sum_{i \in M} DEM_{DW,BGB}(E_{B\ \Delta\ BGB}^{[i]}, t, t^{[m]}, t^{[i-1]}) \quad [F.32]$$

Both cumulative baseline emissions from below-ground biomass at the end of the previous [m-1] and current monitoring period [m] were calculated according to equation F.30.

$$E_{B\ BGB}^{[m]} = \frac{r_{RS}E_{B\ BM}^{[m]}}{1 + r_{RS}} \quad [F.30]$$

The following table summarizes the calculated values of the baseline parameters:

Parameter	Equation used (VM0009 v3.0)	Value (tCO ₂ e)
$E_{(B\Delta)}^{[m]}$ Baseline emissions for the current monitoring period	F.15	232,800
$E_{(B\Delta)}^{[m-1]}$ Cumulative baseline emissions from previous monitoring period	F.16	1,287,653
$E_{B\ BM}^{[m]}$ Cumulative baseline emissions from biomass at the end of the current monitoring period	F.24	1,352,497
$E_{B\ SOC}^{[m]}$ Cumulative baseline emissions from SOC at the end of the current monitoring period		481,954

Parameter	Equation used (VM0009 v3.0)	Value (tCO ₂ e)
$C_{B\ SOC}^{[m]}$ Carbon not decayed SOC at the end of the current monitoring period	F.32	- 44,581
$E_{B\ BGB}^{[m]}$ Cumulative baseline emissions from below-ground biomass at the end of the current monitoring period	F.30	474,236
$E_{B\ BGB}^{[m-1]}$ Cumulative baseline emissions from below-ground biomass at the end of the previous monitoring period	F.30	402,646

AENOR has checked the calculations provided and confirmed that this amount of baseline emissions is in conformance and have followed the methodology in the new version of the PD.

Project emissions

Current emissions from changes in project carbon stocks were calculated with equation F.41 VM0009 v3.0.

$$E_{P\ \Delta}^{[m]} = E_{P\ \Delta\ BRN}^{[m]} + E_{P\ \Delta\ LS}^{[m]} + E_{P\ \Delta\ SF}^{[m]} + A_{PAA} \left(C_P^{[m-1]} - C_P^{[m]} \right) - C_{P\ \Delta\ WP}^{[m]} \quad [F.41]$$

Section 5.2 of the MR describes a minor clearing in the northern part of the project of a total of 1,96ha, with an estimation of 459 t CO₂e emissions.

AENOR has checked the calculations provided and confirmed that this amount of project emissions is in conformance and have followed the methodology in the new version of the Project Description.

Leakage

As reported in Section 5.3 of the MR, leakage emission for the current period ($E_{L\ \Delta}^{[m]}$) was calculated using equations F.44 and F.45 of VM0009.

$$E_{L\ \Delta}^{[m]} = E_L^{[m]} - E_L^{[m-1]} \quad [F.44]$$

$$E_L^{[m]} = E_{L\ ASF}^{[m]} + E_{L\ ASG}^{[m]} + E_{L\ ME}^{[m]} \quad [F.45]$$

Activity-shifting leakage in forested areas is calculated through the validated leakage emissions model (LEM) validated in the PD, as per equation F.46. Market leakage is not accounted by the project.

$$E_{LASF}^{[m]} = LEM\left(c_P^{[m]}, c_B^{[m]}, p_{LDEG}^{[m]}, t^{[m]}, x^{[m]}\right) \quad [F.46]$$

The portion of leakage due to degradation in forest at the end of the current monitoring period was calculated as per equation B.9

$$z = \frac{1}{\sum_{k \in S} A_k} \sum_{k \in S} \frac{A_k}{n_k} \sum_{j \in P_k} y_{j,k} \quad [B.9]$$

The following table summarizes the calculated values of the leakage parameters:

Parameter	Equation used (VM0009 v3.0)	Value
$E_{L\Delta}^{[m]}$ Emissions from leakage for the current monitoring period.	F.44	0
$E_{LASF}^{[m]}$ Cumulative emissions from activity-shifting leakage in forested areas at the end of the current monitoring period	F.46	0
$E_{LASF}^{[m-1]}$ Cumulative emissions from activity-shifting leakage in forested areas at the end of the previous monitoring period	F.46	0
$p_{LDEG}^{[m]}$ Portion of leakage due to degradation in forest at the end of the current monitoring period	B.9	0.11
$p_{LDEG}^{[m=0]}$ Portion of leakage due to degradation prior to first verification event	B.9	0.087

AENOR has checked the calculations provided and confirmed that this amount of leakage emissions is in conformance and have followed the methodology in the new version of the PD.

Net GHG Emissions Reductions and Removals

As indicated in Section 5.4 of the MR, net GHG emission reductions were calculated using equation F.53 of VM0009 v3.0.

$$E_{\Delta GER}^{[m]} = E_{B\Delta}^{[m]} - E_{P\Delta}^{[m]} - E_{L\Delta}^{[m]} - E_U^{[m]} \quad [F.53]$$

The confidence deduction based on uncertainty in emissions models, carbon stock estimates in the project accounting area and carbon stock estimates in the proxy area ($E_U^{[m]}$) was calculated per equation F.57.

$$E_U^{[m]} = E_{B\Delta}^{[m]} \left[\frac{1.64}{E_{B\Delta}^{[m]} + A_{PAA}C_P^{[m]} + A_{PXC}^{[m]}B} \sqrt{(U_{EM}^{[m]})^2 + (U_P^{[m]})^2 + (U_B^{[m]})^2} - 0.15 \right] \quad [F.57]$$

The following table summarizes the uncertainty parameters calculated:

Parameter	Equation used (VM0009 v3.0)	Value (tCO ₂ e)
$E_U^{[m]}$ Confidence deduction based on uncertainty in emissions models, carbon stock estimates in the project accounting area and carbon stock estimates	F.57	-41,216
$U_{EM}^{[m]}$ Total uncertainty in Baseline Emissions Models	F.14	5,542
$U_P^{[m]}$ Total uncertainty in project accounting area carbon stock estimate	B.10	873,002
$U_B^{[m]}$ Total uncertainty in proxy area carbon stock estimate	B.10	60,520

VCUs were estimated using equation F.55, in which emissions allocated to the buffer account are calculated using a non-permanence risk rating of 10% (see Section 4.6 of this report).

$$E_{\Delta NER}^{[m]} = E_{\Delta GER}^{[m]} - E_{BA}^{[m]} \quad [F.55]$$

The following table summarized the GHG emissions of the project calculated for the current monitoring period.

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
2019	232,800	-459	0	232,341	-23,234	209,106

The net anthropogenic GHG reduction due to the project activity for the monitoring period (01-January-2019 to 31-December-2019) amount 232,341 t CO₂e. The total number of buffer credits that need to be deposited into the AFOLU pooled buffer account are 23,234 and the VCUs eligible for issuance are 209,106.

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

AENOR verified for the parameters available at validation, the values reported or the references to the documents where they are used or explained by reviewing, reproducing and crosschecking the evidence provided by the PP. AENOR checked the values of these parameters to be appropriate and correctly used in equations. Data and parameters available at validation are the ones stated in section 4.1 of the MR.

The data and parameters monitored to calculate the VCUs to be issued are the ones stated in sections 4.1 and 4.2 of the MR. AENOR checked that the list of parameters to be monitored was complete and consistent with information in the monitoring plan of the PD.

Regarding the accuracy of spreadsheet, formulae, conversions and aggregations and consistent use of data and parameters, the PP elaborated a complete procedure to assure the accuracy and appropriateness of data. During the verification process, AENOR not only verified the spreadsheet calculation, data and parameters but also the AENOR team could verify that the PP conducted a rigorous QC/QA procedure of its field measurements and an assessment of uncertainty. Thus, AENOR deems the PP performed good practices in this assessment and concludes that GHG reductions were quantified correctly in accordance with the project description and applied methodology.

AENOR verified the consistency and accuracy of each parameter detailed in it Section 4 of the MR by crosschecking the information in the MR with the information in PD as well as checking values and reproducing the calculations in the spreadsheet calculation package and did not find inconsistencies. Therefore, AENOR deems that values reported for the parameters are accurate and consistent.

The following tables summarize the data and parameters used by the PP to calculate the GHG emission reductions, which has been assessed by AENOR.

Data/Parameter available at validation	Value	Assessment procedure and result
α Combined effects of β and θ at the start of the historic reference period	1,484	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
β Effect of time on the cumulative proportion of conversion over time	0.000371	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
γ Time shift from beginning of historic reference period to project start date	10,957	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
$\hat{\sigma}_{EM}$ Estimated standard deviation of the state observations used to fit the logistic function	0.4978	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
A_{PAA} Area of project accounting area	33,338	Value is consistent with validated PD, previous MR, and GIS data. Correctly inputted in the calculation spreadsheets.
A_{PX} Area of proxy area	42,794	Value is consistent with validated PD, previous MR, and GIS data. Correctly inputted in the calculation spreadsheets.
n_d Number of spatial points in the reference area	2588	Value is consistent with new version of the PD, previous MR, and GIS data. Correctly inputted in the calculation spreadsheets.
P_{LME} Portion of leakage related to market	0	Value is consistent with validated PD.
q Lag between start of degradation and conversion	620	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.

Data/Parameter available at validation	Value	Assessment procedure and result
r_{RS} Expansion factor for above-ground biomass to below-ground biomass (root/shoot ratio)	0.54	Value is consistent with validated PD and original source (Chidumayo, E. N. 2013). Correctly inputted in the calculation spreadsheets.
r_U Onset proportion of conversion immediately adjacent to project area	0.084	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
t Time since project start date	3,744	Calculation reproduced. Value correctly estimated.
t_{PL} Length of project crediting period	12,698	Value is consistent with validated PD. Correctly inputted in the calculation spreadsheets.
w_i Weight applied to the i th sample point in the reference area	0.000034965	Calculation reproduced. Values correctly estimated.

Data/Parameter monitored	Value	Assessment procedure and result
$A_{P_1}^{[m=0]}$ Area of project accounting area stratum 1 prior to first verification event	27,322	Value is consistent with validated PD and GIS data. Correctly inputted in the calculation spreadsheets.
$c_B^{[m]}$ Baseline carbon stocks at the end of the current monitoring period	6,7	Calculation reproduced. Value correctly estimated.
$c_{B\ BGB}^{[m]}$ Carbon not decayed in BGB at the end of the current monitoring period	25	Calculation reproduced. Value correctly estimated.
$c_{B\ b}^{[m]}$	6,7	Calculation reproduced. Value correctly estimated.

Data/Parameter monitored	Value	Assessment procedure and result
Baseline scenario average carbon stock in selected carbon pools		
$c_{B\ BM}^{[m]}$ Baseline carbon stocks in biomass at the end of the current monitoring period	6,7	Calculation reproduced. Value correctly estimated.
$c_P^{[m]}$ Project carbon stocks at the end of the current monitoring period	180.1 Dense Tree Stratum, 166.7 Light Tree Stratum	Calculation reproduced. Values correctly estimated.
$c_P^{[m-1]}$ Project carbon stocks at the beginning of the current monitoring period	180.1 Dense Tree Stratum, 166.7 Light Tree Stratum	Calculation reproduced. Values correctly estimated.
$c_P^{[m=0]}$ Project carbon stocks prior to first verification event	233.8 Dense Tree Stratum, 225.0 Light Tree Stratum	Calculation reproduced. Value correctly estimated.
$c_{P\ 1\ BM}^{[m=0]}$ Project carbon stocks in stratum 1 prior to first verification event	225	Calculation reproduced. Value correctly estimated.
$c_{P\ BM}^{[m=0]}$ Project carbon stocks in biomass prior to first verification event	7,554,258	Calculation reproduced. Value correctly estimated.
$c_{P\ b}^{[m]}$ Average carbon in biomass in the project accounting area	236.2	Calculation reproduced. Value correctly estimated.
$c_{P\ 1\ b}^{[m=0]}$ Average carbon in biomass for project accounting area stratum 1	236.2	Calculation reproduced. Value correctly estimated.
$E_{\Delta GER}^{[m]}$	1,495,023	Calculation reproduced. Value correctly estimated.

Data/Parameter monitored	Value	Assessment procedure and result
GERs for the current monitoring period		
$E_{\Delta GER}^{[i]}$ GERs for monitoring period i	5,673,505	Calculation reproduced. Value correctly estimated.
$E_{\Delta NER}^{[i]}$ NERs for monitoring period i	5,079,481	Calculation reproduced. Value correctly estimated.
$E_B^{[m]}$ Cumulative baseline emissions at the end of the current monitoring period	1,520,453	Calculation reproduced. Value correctly estimated.
$E_B^{[m-1]}$ Cumulative baseline emissions at the beginning of the current monitoring period	1,287,653	Calculation reproduced. Value correctly estimated.
$E_{B \Delta}^{[m]}$ Change in baseline emissions	232,800	Calculation reproduced. Value correctly estimated.
$E_{B \Delta BGB}^{[i]}$ Change in baseline emissions from below-ground biomass during monitoring period i	1,623,923	Calculation reproduced. Value correctly estimated.
$E_{B BGB}^{[m]}$ Cumulative baseline emissions from below-ground biomass at the end of the current monitoring period	474,236	Calculation reproduced. Value correctly estimated.
$E_{B BGB}^{[m-1]}$ Cumulative baseline emissions from below-ground biomass at the beginning of the current monitoring period	402,646	Calculation reproduced. Value correctly estimated.
$E_{B BM}^{[m]}$ Cumulative baseline emissions from biomass at the end of the current monitoring period	1,352,497	Calculation reproduced. Value correctly estimated.
$E_{BA}^{[m]}$	176,891	Consistent with Non-permanence risk report. Calculation reproduced.

Data/Parameter monitored	Value	Assessment procedure and result
Cumulative emissions allocated to the buffer account at the end of the current monitoring period		Value correctly estimated.
$E_L^{[m]}$ Cumulative emissions from leakage at the end of the current monitoring period	0	Calculation reproduced. Value correctly estimated.
$E_L^{[m-1]}$ Cumulative emissions from leakage at the beginning of the current monitoring period	0	Calculation reproduced. Value correctly estimated.
$E_{L\Delta}^{[m]}$ Change in emissions due to leakage	0	Calculation reproduced. Value correctly estimated.
$E_{LASF}^{[m]}$ Cumulative emissions from activity-shifting leakage in forested strata at the end of the current monitoring period	0	Calculation reproduced. Value correctly estimated.
$E_{P\Delta}^{[m]}$ Change in project emissions	459	Calculation reproduced. Value correctly estimated.
$E_u^{[m]}$ Cumulative confidence deduction at the end of the current monitoring period	0	Calculation reproduced. Value correctly estimated.
$p_{LDEG}^{[m]}$ Portion of leakage due to degradation at the end of the current monitoring period	0.11	Calculation reproduced. Value correctly estimated.
$p_{LDEG}^{[m=0]}$ Portion of leakage due to degradation prior to first verification event	0.087	Consistent with previous MR. Correctly inputted in the calculation spreadsheets.
$t^{[m]}$ Time from project start date to end of current monitoring period	3,744	Calculation reproduced. Value correctly estimated.
$t^{[m-1]}$	11,752	Calculation reproduced. Value correctly estimated.

Data/Parameter monitored	Value	Assessment procedure and result
Time from project start date to beginning of current monitoring period		
$U_B^{[m]}$ Total uncertainty in proxy area carbon stock estimate	15,411	Calculation reproduced. Value correctly estimated.
$U_{EM}^{[M]}$ Total uncertainty in Baseline Emissions Models	13,342	Calculation reproduced. Value correctly estimated.
$U_P^{[m]}$ Total uncertainty in proxy area carbon stock estimate	15,411	Calculation reproduced. Value correctly estimated.

AENOR did not find inconsistencies between the PD, technical annex, monitoring report and spreadsheet calculation.

After a deep and thorough review and reproduction of calculations and the corresponding tracks to the other spreadsheets, AENOR deems the parameters monitored and available at validation 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, consistent, and accurate.

4.5 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.

Quality assurance and control is an essential part of company procedures in order to assure the accuracy of inventory data, modeling results, and carbon accounting. Quality assurance procedures are done in order to minimize and correct any potential data transcription, calculation, or formatting errors that may result in inaccurate carbon accounting results.

The majority of field data is collected using digital tools on smart phones and are either directly loaded to the database or saved on GDrive where it is checked and then transferred to the database. All data submitted to the central database is subjected to quality control by appropriate staff. The PP has developed SOP and Field manuals which covers all aspects related to carbon inventory. Spot checks and internal audits are conducted to make sure all data collection is carried out following the standards.

In accordance with VCS, the PP is committed to storing all project data in a secure and retrievable manner for at least two years after the end of the project crediting period. In order to facilitate project management and long-term accounting, all primary data outputs supporting annual verification including the spatial database is stored and maintained.

Roles and responsibilities are clearly identified in the MR. QA/QC procedures were developed by the PP for maintaining consistency and quality of field inventories over time. Interviews with the PP and inspection of data and results demonstrated that the PP possess all of the competencies required for reporting of GHG emissions removals 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.

Above procedures to ensure this are described in Section 4.3 of the MR, in terms of general QA/QC of the monitoring plan and specific QA/QC procedures applied to data and parameters monitored.

Throughout the verification, the PP demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided. Interviews conducted (oral evidence) are outlined in Section 2.3 of this document, and the final documents received from the PP supporting the determination of GHG reductions can be viewed in Appendix 1.

AENOR deems that the PP performed good practices in this assessment and concludes that GHG reductions were quantified correctly in accordance with the PD and applied methodology, and that the evidence is sufficient in quantity and appropriate in quality to determine the GHG reductions of the project.

4.6 Non-Permanence Risk Analysis

The PP has elaborated a VCS Non-permanence Risk Report for this monitoring period, dated on 23 June 2020, according to the Non-Permanence Risk Tool v4.0. Below, it is explained the assessment of the non-permanence risk rating determined by the PP. Issues raised to them in this regard are detailed in the Appendix 2

AENOR has checked that information provided in the Non-Permanence Risk Report for the monitoring period is consistent with supporting documents provided. The assumptions and justifications provided to determine the risk rating of each risk factor are developed and they are based on provided documents using conservative assessments. AENOR deems that information provided is reliable and appropriate. Thus, the overall risk rating is credible and realistic.

Risk Factor	Risk rating	Findings and mitigation activities	CARs/CLs
INTERNAL RISK (PM+FV+OC+PL) = 9			
Project Management	-4	Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting under the VCS Program or other approved GHG programs. Adaptive management plan in place	No corrective actions or clarifications were requested.
Financial Viability	0	Project cash flow breakeven point is between 7 and up to less than 10 years from the current risk assessment. Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven.	No corrective actions or clarifications were requested.

		Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven	
Opportunity Cost	-2	Baseline activities are subsistence-driven, net positive community impacts are demonstrated Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period	No corrective actions or clarifications were requested.
Project Longevity		The project has a legal agreement to continue the management practice	No corrective actions or clarifications were requested.
EXTERNAL RISK (LT+CE+PC) = 0			
Land Tenure and Resource Access/ Impacts	0	The Rufunsa Conservancy has a free and clear title deed. Project boundaries were demarcated with full consultation with local leaders.	No corrective actions or clarifications were requested
Community engagement	-5	Project is seen by the local stakeholders as a generator of positive impacts on the environmental/social/economic aspects of the communities involved in the project.	No corrective actions or clarifications were requested
Political Risk	0	Governance score= -0,31179545 Country implementing REDD+ Readiness or other activities, UN REDD Country	No corrective actions or clarifications were requested
NATURAL (F+Pd+W+G+ON) = 0,25			
Fire	0,25	Fire is a natural and anthropogenic phenomenon in all the higher rainfall african savannahs. Project fire risk significance was found insignificant (less than 5% loss of carbon stocks) or transient (full recovery of lost carbon stock within a 10-year period).	No corrective actions or clarifications were requested

		Likelihood of an event like this occurring is of a fire every 10 to 25 years. Score(LS)= 1 Despite of the fire regime where Rufunsa Conservancy is located, the project area have not recorded within its bouderies, since 1984. Besides in order to mitigate fire risks, BCP have impemented a fire management system in partnership with surrounding communities.	
Pest ad Disease Outbreaks	0	There were no records of disease or pest outbreaks causing any significant impacts to carbon stocks in Miombo woodlands found.	No corrective actions or clarifications were requested.
Extreme Weather	0	Significat impact extreme weather phenomenon are rarely likely to occur in Zambia. Nevertheless droughts, as extreme weather event, may be considered. Despite this, there were no records found on droughts causing significant impacts to carbon stocks in Miombo woodlands.	No corrective actions or clarifications were requested.
Geological Risk	0	Zambia is geologically stable and the risk of geological events with significant impact on carbon stocks occurring is improbable.	No corrective actions or clarifications were requested.
Other natual risk. Elephant populations	0	The density of elephants in the project area is not enough for the animals to convert. In case number of elephants increases, a plan to manage the population through rotational grazing systems will be implemented	No corrective actions or clarifications were requested.
OVERALL RISK RATING (INTERNAL+EXTERNAL+NATURAL) = 10%			

5. VERIFICATION CONCLUSION

AENOR has verified that the project complies with the Verified Carbon Standard version 4.0 without qualifications or limitations. The 10-year period baseline re-evaluation was justified and found in compliance with the VCS Requirements, consequently the project description document was updated. New version of the Project Description document was found in accordance with the VCS Standard 4.0. The Project has been implemented in accordance with the Project Description.

AENOR can issue a positive verification opinion for 232.341 t CO₂e of verified emissions removals, as reported in the Monitoring Report version 1.2 dated on 23rd June 2020.

The verification assessment covered the monitoring period from 1 January 2019 – 31 December 2019 and verified that calculated emission reductions and/or removals were achieved during the monitoring period with a reasonable level of assurance. The overall non-permanence risk rating was 10%. Therefore, the total number of credits to be deposited in the buffer account is 23.234 VCUs and the total VCUs to be issued are 209.106VCUs.

AENOR verified that the total VCUs issued to the Project do not exceed its long-term average GHG benefit.

Verification period: From 01-January-2014 to 31-December 2019.

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2019	232.800	459	0	232.341
Total	232.800	459	0	232.341

Overall non-permanence risk rating: 10%

VCUs buffer to be deposited: 23,234 t CO₂e.

Total VCUs to be issued: 209,106 t CO₂e.



09/07/2020

Miguel López, Lead Auditor

APPENDIX 1: LIST OF EVIDENCES PROVIDED

Seventh monitoring period verification:

General documents
Monitoring report: - Final version: 20200623_LZRP_MR_M7 Previous monitoring report: - VCS Lower Zambezi REDD+ Project Previous verification report: - Verification Report for the Lower Zambezi REDD+ Project v1.0 (2019) Project description: - Lower Zambezi REDD+ Project 19-02-2014 - New version - Lower Zambezi REDD+ Project 21-06-2020
Community Forest Management Plan (Appendix A)
20170505_LZRP_EnvironManPlan_Final_signed
Community engagement (Appendix B)
2015.01.22_Workshop_LessonsLearned Report_Formal 2015_BCP_FPIC_D5 CES_Handbook_2015_d4 Social Monitoring SOP V4_Community Engagement Strategy_2013.03.compressed
Carbon Inventory (Appendix C)
2019_Biomass_Inventory_and_Quality_Control M7 Biomass_plots (GIS files) 2020_02_18_MRV_LZRP_ForestInv.xlsx 20180504_MRV_LZRP_M6_QualityControl.xlsx 20190110_LZRPLeakageV2_Leakage_M6.xlsx 20200422_LZRPLeakageV2_Leakage_M7.xlsx MRV_LZRP_M7_Quality_Control_20190906.xlsx
NER calculation (Appendix D)
20200220_LZRP_ER_CALC_M7 20200229_LZRP_ER_CALC_M7 20200428_master_biomass_summary_project_M2.xlsx
Biomass Prot (Appendix E)
Biomass_plots (GIS files)

20160426_BCP_Biomass_Sampling_SOP_V2.pdf
 BCP_Biomass_SpotError_Protocol_Jan_2014.pdf
 Chidumayo_2013_allometry_paper.pdf
 Copy of BCP_Biomass_Sampling_SOP_June_2019_V3.pdf
 Copy of Mugasha_et_al_2013_Miombo_Allometry.pdf

Leakage Prot (Appendix F)

LZRP_Annex_M_BCP_Biomass_Sampling_LeakageMon_8June_2013.pdf
 LZRP_Annex_M_BCP_Biomass_Sampling_LeakageMon_8June_Addendum2013.pdf

Non-Permanence Risk Report (Appendix G)

2014-2018_country_Sources_crosstab.csv
 2014-2018_country_sources_data.csv
 2014-2018_Zambia_summary_WGI Table.xlsx

20200623_LZRP_VCS Non-Permanence Risk_MR7.docx
 bulk_wgidataset.xlsx
 20200424_LZRP_Non_Perm4.0.xls

LZRP_NPR_AnnexA

- 20170505_LZRP_EnvironManPlan_Final_signed.pdf

LZRP_NPR_AnnexB

- 2015.01.22_Workshop_LessonsLearned Report _ Formal.pdf
- CES_Handbook_2015_d4.pdf
- Social Monitoring SOP V4_Community Engagement Strategy_2013.03.compressed.pdf

LZRP_NPR_AnnexC

- 2015 10 21_Musika_Grant_EC.pdf
- AMOCPA Letter.pdf
- BCP PPF Service Level Agreement April 2016.pdf
- LOWER ZAMBEZI REDD+ PROJECT.pdf
- 20170227__LZRP_VCS 30yr_Viability_Breakeven_M4.xlsx
- 20180615_CFP Finance_30.xlsx
- 20190531_CFP Verification Break Even Model.xlsx
- CFP LZRP-2016 expenses.xlsx
- RC Expenses - Jan to Nov 2015 for VCS.xlsx

LZRP_NPR_AnnexD

- LZRP_Annex_B-Signed_CRC_Rufunsa_FINAL.pdf

LZRP_NPR_AnnexE (mailing communication)

- RE Lower Zambezi REDD+ Project Monitoring plans.msg
- Rufunsa Ecological Management Plan ReviewAdvise Request.msg

LZRP_NPR_AnnexF

- LZRP_Annex_A-CRC_Addendum.PDF
- LZRP_Annex_A-Preliminary Registration.pdf
- LZRP_Annex_A-Rufunsa_CERTIFICATE OF TITLE.pdf
- Preliminary Registration.pdf

LZRP_NPR_AnnexG

- Copy of 2012_LZRP_SocioBaseline.pdf
- Copy of 20180228 Social Monitoring Survey Report -FINAL.PDF

Spatial data (Appendix H)

GEODATABASE:

LZRP_Annex_T-Raster:

- CDM_Imagery
- DEM
- Image Registration

LZRP_VCS_GIS_Data_2019

- BCP_LZRP_PlotMetaData_27Nov_2013
- LZRP_May_2019_Encroachment_Polygons
- LZRP_Project_Roads_utm35s_02-03-2015
- LZRP_VCS_CDM_Points
- LZRP_VCS_Conservancy
- LZRP_VCS_Conservancy_Accounting_Area
- LZRP_VCS_Deforested_Perimeter.cpg
- LZRP_VCS_EcoCharcoal_Harvest_2015
- LZRP_VCS_EcoCharcoal_Sites_2015
- LZRP_VCS_Encroachment_Area
- LZRP_VCS_Encroachment_Clearings_2015
- LZRP_VCS_Forest_Non-Forest_1989
- LZRP_VCS_Forest_Non-Forest_2009
- LZRP_VCS_Land_Cover
- LZRP_VCS_Landsat_Burned_Area_2015
- LZRP_VCS_Landsat_Cloud_Cover_2015
- LZRP_VCS_Leakage_Area.cpg
- LZRP_VCS_Leakage_Monitoring_Tracks_2015
- LZRP_VCS_MODIS_Burned_Area_2014
- LZRP_VCS_Monitoring_Plots
- LZRP_VCS_Proxy_Area
- LZRP_VCS_Reference_Area
- LZRP_VCS_Rivers
- LZRP_VCS_Threatened_Perimeter
- LZRP_VCS_Villages

Baseline Reassessment (Appendix I)

20200219_LZRP_CDM_image_interpretation.xlsx
 Baseline_reevaluation_alpha_and_beta_updates.docx
 Baseline_reevaluation_CDM_Point_Interpretation_SOP.docx
 LCFP_Annex_cdm_v2.0.R
 logistic_model_summary_after_recode.txt
 LZRP_2020_R-Model_Input_CDM_Points.csv
 Phased_logistic.curve_after_recode.png
 proportion.deforestation_after_recode.txt

Remote Audit Evidences (Appendix J)
Stakeholder notification letter.pdf Remote audit evidence collection request letter.pdf Remote audit plan BioCarbon_20200330.pdf
Pictures_of_procured_material and work in progress - Beehive1 - Beehive2 - Hammermill Shelter Front - Hammermill Shelter Rear View - Hammermill Shelter Side view left - Hammermill Shelter Side view right - Oil expeller
Stakeholder Interviews - Liyoyelo cooperative chairperson.jpeg - Liyoyelo cooperative chairperson2.jpeg - namanongo cooperative chairperson.jpeg - namanongo cooperative chairperson2.jpeg
Testimonial_videos_statements_and_other_reports - 2019 Eco-Charcoal Report.docx - 2019 honey harvest Bunda bunda chiefdom.xlsx - 20190706 Grievance Close out meeting Report.pdf - Grievance Meeting Register.pdf - 20200424_Teachers covenant_BC.pdf - Borehole testimonty.mp4 - Conservation farming Agroforestry and other projects testimony.mp4 - Eco-charcoal testimony.pdf - Honey production testimony.pdf

10-year period Baseline Reassessment

New version of the PD updated as per Baseline Reassessment
List of Annex material made available to VVB Annex A Farm 1080 (Rufunsa Conservancy) Title Deed. Confidential • LZRP_Annex_A-CRC_Addendum.PDF • LZRP_Annex_A-Preliminary Registration.pdf • LZRP_Annex_A-Rufunsa_CERTIFICATE OF TITLE.pdf

- Preliminary Registration.pdf

Annex B Carbon Rights Covenant between BioCarbon Partners and Land Owner. Confidential

- LZRP_Annex_B-Signed_CRC_Rufunsa_FINAL.pdf

Annex C Mineral prospecting applications. Confidential

- LZRP_Annex_C-CCIC-Sable28092012.PDF
- LZRP_Annex_C-Prospecting Licence-Cheowa_28092012.PDF

Annex D Environmental Impact Assessment exemption letter from Zambian Environmental Management Agency. Confidential.

- LRZP_Annex_D_ZEMA letter.pdf

Annex E Central and local government letters of support. Confidential

- Authorization Letter_Chief Mpanshya_REDD feasibility__20120215.pdf
- Chief Bunda Bunda Letter Feasibility.jpg
- Chiefs_REDD_Permission.pdf
- Chongwe District Letter.pdf
- FD Letter.pdf
- Greenchoice_purchase agreement_Letter.pdf
- LZRP_Annex_E-Camp Zambia Lol.jpg
- LZRP_Annex_E-CFU Lol.pdf
- LZRP_Annex_E-DC_Rufunsa_Support Letter.PDF
- LZRP_Annex_E-FINAL_Lol_Comaco_BCP_2013.04.09.pdf
- LZRP_Annex_E-Rift Valley Lol.pdf
- LZRP_Annex_E-SunneyMoney Letter of Intent.pdf
- Partnership Letter- Chief Bunda Bunda-09102012.pdf
- Provincial_forestry department letter.pdf
- ZDA_Investment Certificate Letter.pdf
- ZDA Investment Certificate.pdf

Annex F Lower Zambezi REDD+ Project CCB Project Design Document. Public

- Comments_received_on_Lower_Zambezi_REDD+_Project_4-10-2013.pdf
- DC Letter Support.pdf

- LZRP_Annex_F-BCP_LowerZambezi_REDD Project_PDD_CCB_21Jun_2013.pdf

Annex G Social Monitoring Programme. Confidential

- LZRP_Annex_G-BASELINE REPORT_FINAL_2use.pdf

Annex H Socio-Economic Baseline Survey. Confidential

- LZRP_Annex_H-Social Monitoring Program_Survey_3.5.pdf

Annex I Carbon Inventory. Confidential

- Leakage plot images(jpg files)
- LZRP_biomass_plots (GIS files)
- BCP_LZRP_CarbonData_MonitoringPeriod1_27Nov_2013_Resp1.xlsx
- Copy of 2019_Biomass_Inventory_and_Quality_control M7.pdf
- Copy of 2020_02_18_MRV_LZRP_ForestInv.xlsx
- Copy of 20180504_MRV_LZRP_M6_QualityControl.xlsx
- Copy of 20190110_LZRPLeakageV2_Leakage_M6.xlsx
- Copy of 20200422_LZRPLeakageV2_Leakage_M7.xlsx
- Copy of MRV_LZRP_M7_Quality_Control_20190906.xlsx

Annex J Emissions Reductions Calculations. Confidential

LRZP_Annex_J_NER_Calcs_03Feb_2014_Resp1.2.xlsm

- Annex K Allometry validation data. Confidential
- Copy of 20200229_LZRP_ER_Calc_M7.xlsm

Annex k Allometric Data

- LZRP_Annex_K_BCP_Ruf_Allom_Data_120trees_9Jul_2013.xlsx

Annex L Biomass and soil monitoring protocol. Confidential

- BCP_Biomass_Sampling_SOP_Feb_18_2014_V1.6.pdf
- Annex M Leakage monitoring protocol. Confidential
- BCP_Biomass_SpotError_Protocol_Jan_2014.pdf
- LZRP_AnnexL_BCP_Biomass_Sampling_SOP_June_2012_V1.3.pdf

Annex M. Leakage Monitoring

- LZRP_Annex_M_BCP_Biomass_Sampling_LeakageMon_8June_2013.pdf
- LZRP_Annex_M_BCP_Biomass_Sampling_LeakageMon_8June_Addendum2013.pdf

Annex N Allometry validation and development protocol. Confidential

- LZRP_Annex_N-BCP_Biomass_Sampling_AllometryValidation_May_2013_V1.2.pdf

Annex O Protocol for interpreting forest state from imagery. Confidential.

- LZRP_Annex_O-Imagery and Point Interpretation for Grid analysis.pdf

Annex P Data and parameters available at validation. Confidential

- BCPLZRP_ParVal_07Mar_2014_Resp2.docx
- BCPLZRP_ParVal_18Feb_2014_Resp1.docx

Annex Q Data and parameters monitored. Confidential

- BCP_LZRP_ParMon_18Feb_2014_Resp1.docx

Annex R Cumulative Deforestation Model Data. Confidential

- .Rhistory
- BCP_LZRP_CDM_Independent_Check.xlsx
- logistic model summary.txt
- LZRP_Annex_cdm_v2.0.R
- LZRP_Annex_R-Model_Input_LZRP_VCS_CDM_Points_2013-09-17_CSV.csv
- LZRP_Annex_R-s_4_logistic model summary.txt
- LZRP_Annex_R-s_4_proportion.deforestation.txt
- LZRP_Annex_R-S4_logistic.curve.png
- proportion.deforestation.txt
- StDev_Variance_Model_Input_LZRP_VCS_CDM_Points_2013-09-17_XLSX.xlsx

Annex S VCS Non-permanence risk assessment. Confidential

- LZRP_VCS Non-Permanence Risk Report Template, v3.1.doc
- LZRP_VCS Risk Report Calculation Tool_V1.1_12Dec_2013.xlsm

Annex T Geospatial Data. Confidential

- LZRP_Annex_T-Raster.zip
- VCS_GIS_Data.zip
- VCS_GIS_Data_kml.zip
- BCP_LZRP_PlotMetaData_27Nov_2013.csv
- LZRP_Annex_T-VCS_Data.sqlite

- LZRP_Annex_T-VCS_Data.sqlite_README.txt
- VCS_GIS_Data_README.txt

Annex U Quantification of parameter q

- BCP_Rufunsa__CultivationTime Asses_April_2012.xlsx

Annex V Eco-Charcoal production plan and Strategy. Confidential

- LZRP_Annex_V_02_BCP_ECOCHARCOAL_BUSINESSPLAN copy.pdf

Annex W Eco-Charcoal value chain assessment. Confidential

- LZRP_Annex_W_01_BCP_ECOCHARCOAL_VCA.pdf

Annex X Soil Organic Carbon decay model. Confidential

- LZRP_Annex_W_SoilDecay_6Feb_2014.xlsx

Annex Y Rufunsa Conservancy Management Plan

- BCP Rufunsa Management Plan V2.1.pdf
- Law Enforcement SOPs.pdf

Annex Z Sustainable Eco-Charcoal Harvesting Plan. Confidential

- BCPT_Sustainable Harvesting Plan v3.pdf

Annex AA Sustainable Eco-Charcoal Monitoring Plan. Confidential

- EcoCharcoal_MonitoringPlan_2013[smallpdf.com].pdf

Annex BB Additionality Supporting Information. Confidential

- Additionality Attestation_Sable.pdf
- Lindsay_Zambia game ranching report FINAL .pdf
- Lindsey et al GMA report FINAL.pdf
- Lindsey_Zambia game ranching report FINAL .pdf

Annex CC Baseline re-evaluation

- Copy of 20200219_LZRP_CDM_image_interpretation.xlsx
- Copy of Baseline_reevaluation_alpha_and_beta_updates.docx
- Copy of Baseline_reevaluation_CDM_Point_Interpretation_SOP.docx
- Copy of LCFP_Annex_cdm_v2.0.R
- Copy of logistic model summary_after_recode.txt
- Copy of LZRP_2020_R-Model_Input_CDM_Points.csv
- Copy of Phased_logistic.curve_after_recode.png

- Copy of proportion.deforestation_after_recode.txt

APPENDIX 2: CLARIFICATIONS AND CORRECTIVE ACTIONS REQUESTED

Clarification Requests (CL)

CL ID	01	Date: 30/03/2020
Description of CL		
Provide summary description of the implementation status of the project activities, section 1.1. from the MR		
Project participant response		Date: 24/04/2020
We have updated the technologies and implementation status of the project		
Documentation provided by project participant		
20200424_LZRP_MR_M7 section 1.1		
DOE assessment		Date: 29/04/2020
Section 1.1. of the MR updated and in accordance with the section information requirements. Thus, this CL is then closed.		

CL ID	02	Date: 30/03/2020
Description of CL		
Provide evidences of communication of grievances raised during the current monitor period M7.		
Project participant response		Date: 24/04/2020
We have provided the meeting notes and attendance register for the meetings held regarding the grievance raised about Community Scouts during the M7 monitoring period		
Documentation provided by project participant		
- AppendixJ_RemoteAuditEvidence/Testimonial_videos_statements_and_other_reports/20190706 Grievance Close out meeting Report.pdf - AppendixJ_RemoteAuditEvidence/Testimonial_videos_statements_and_other_reports/Grievance Meeting Register.pdf		
DOE assessment		Date: 29/04/2020
Sufficient evidences to justify the grievance communications occurred in this monitoring period were provided to the VVB. Consequently, this CL is closed.		

CL ID	03	Date: 30/03/2020
Description of CL		
Provide evidence of the following on-going activities stated in Table 2 of the MR: -On community teachers supported, rehabilitation of Boreholes, Construction of Hammer Mill houses, Oil expellers -On the production of honey & ecocharcoal during M7		
Project participant response		Date: 24/04/2020
Evidence is submitted in form of videos, photographs, signed covenants, and reports		
Documentation provided by project participant		
• AppendixJ_RemoteAuditEvidence/Testimonial_videos_statements_and_other_reports/ • AppendixJ_RemoteAuditEvidence/Pictures_of_procured_material_and_work_in_progress/		
DOE assessment		Date: 29/04/2020
Sufficient evidences to justify the on-going activities were provided to the VVB. Consequently, this CL is closed.		

CL ID	04	Date: 27/03/2020
Description of CL		
Following data and parameters monitored should be clarified (section 4.2): • $C_{B BGB}^{[m]}$ - Carbon not decayed in BGB at the end of the current monitoring period value is not in accordance with the spreadsheet from the Appendix D. • $C_{B SOC}^{[m]}$ - Carbon not decayed in SOC at the end of the current monitoring period value is not in accordance with the spreadsheet from the Appendix D • $E_{B \Delta BGB}^{[i]}$ - Change in baseline emissions from below-ground biomass during monitoring period value is not in accordance with the spreadsheet from the Appendix D. • $E_{B \Delta SOC}^{[i]}$ - Baseline emissions from soil carbon in monitoring period value is not in accordance with the spreadsheet from the Appendix D. • $E_{B BGB}^{[m]}$ - Cumulative baseline emissions from below-ground biomass at the end of the current monitoring period value is not in accordance with the spreadsheet from the Appendix D. • $E_{B BGB}^{[m-1]}$ - Cumulative baseline emissions from below-ground biomass at the beginning of the current monitoring period. Line 6 NER Model M6=402,707 • $E_{B BM}^{[m]}$ - Cumulative baseline emissions from biomass at the end of the current monitoring period. Line 5 M7= 1.352.523 • Provide following values as per 2020 leakage inventory $E_L^{[m]}$; $E_L^{[m-1]}$; $E_{L \Delta}^{[m]}$; $E_{LAS}^{[m]}$; $E_{LME}^{[m]}$ • $E_{P \Delta BRN}^{[m]}$ - Cumulative project emissions due to burning at the end of the current monitoring period. Provide evidence for current monitoring period data not present in the parameters sheet from the Appendix D. – mistake should be zero • $t^{[i-1]}$ - Time from project date to beginning of monitor period value is not in accordance with the spreadsheet from the Appendix D		
Project participant response		Date: 24/04/2020

Incorrect values have been corrected and rebuttals explained

- $C_{B\ BGB}^{[m]}$ - Carbon not decayed in BGB at the end of the current monitoring period value is not in accordance with the spreadsheet from the Appendix D.

Our mistake this was corrected to 25 tCO₂e, from NER model line K59.

- $C_{B\ SOC}^{[m]}$ - Carbon not decayed in SOC at the end of the current monitoring period value is not in accordance with the spreadsheet from the Appendix D.

Our mistake, this was corrected to 313,997 tCO₂e, from NER Model line K 113.

- $E_{B\ \Delta\ BGB}^{[i]}$ - Change in baseline emissions from below-ground biomass during monitoring period value is not in accordance with the spreadsheet from the Appendix D.

Our understanding is that this is the value for Monitoring period i , i.e to the end of the 30-year project duration, not current monitoring period m therefore the value of 1,623,923 tCO₂e in the NER spreadsheet, NER Model line AD6 is correct.

- $E_{B\ \Delta\ SOC}^{[i]}$ - Baseline emissions from soil carbon in monitoring period value is not in accordance with the spreadsheet from the Appendix D.

Our understanding is that this is the value for Monitoring period i , i.e. to the end of the 30-year project duration, not current monitoring period m therefore the value of 1,730,828 tCO₂e in the NER spreadsheet, NER Model line AD60 is correct.

- $E_{B\ BGB}^{[m-1]}$ - Cumulative baseline emissions from below-ground biomass at the beginning of the current monitoring period. Line 6 NER Model M6=402,707

Our understanding is that the M6 value in line J6 only does not account for non-decayed carbon, line J59 therefore the correct and final figure to use should be the SUM of J6 and J59 which is the 402,646 tCO₂e that is in our report.

- $E_{B\ BM}^{[m]}$ - Cumulative baseline emissions from biomass at the end of the current monitoring period. Line 5 M7= 1.352.523

Our understanding is that the value in line K5 does not account for non-decayed carbon, line JK59 therefore the correct and final figure to use should be SUM of K5 and K59 which is the 1,352,497 tCO₂e that is in our report.

- $E_{P\Delta BRN}^{[m]}$ - Cumulative project emissions due to burning at the end of the current monitoring period. Provide evidence for current monitoring period data not present in the parameters sheet from the Appendix D

Our mistake, this was corrected to zero (0) since we didn't have any project activities that resulted in burning-related emissions.

$t^{[i-1]}$ Time from project start date to beginning of monitoring period value is not in accordance with the spreadsheet from the Appendix D

Our mistake, this was corrected to 11,752 days, from NER spreadsheet, NER Model sheet, line C 38 (Beginning of monitoring period i)

Documentation provided by project participant

Responses to Clarification Requests CL ID 04.doc

DOE assessment

Date: 29/04/2020

$C_{B\Delta BGB}^{[m]}$, $C_{B\Delta SOC}^{[m]}$, $E_{B\Delta BGB}^{[i]}$, $E_{B\Delta SOC}^{[i]}$, $E_{B\Delta BGB}^{[m-1]}$, $E_{B\Delta BGB}^{[m]}$, $E_{B\Delta BGB}^{[m]}$, $t^{[i-1]}$ were clarified or corrected as expressed in the document submitted to clarify this CL.

$E_{B\Delta BGB}^{[m]}$ rebuttal clarification was not stated in the responses document submitted by the PP.

Although, it was clarified within the explanation to $E_{B\Delta BGB}^{[m-1]}$, $E_{B\Delta BGB}^{[m]}$ values and reviewed and find correct in the updated MR and the appendix D. This point of the CL is therefore clarified.

Reference to following values as per 2020 leakage inventory $E_L^{[m]}$; $E_L^{[m-1]}$; $E_{L\Delta}^{[m]}$; $E_{LAS}^{[m]}$; $E_{LME}^{[m]}$ was not find within the responses to CL04 document. Nevertheless, CAR 01 provides the requested clarification. Updated MR and Leakage inventory documents were reviewed and were found in compliance with the VCS Requirements and methodology used. Thus, this point is clarified.

Hence, **this CL is closed.**

CL ID	05	Date: 27/03/2020
Description of CL		
Provide the source of allometric equations Chidumayo (2013).		
Project participant response		Date: 24/04/2020
<i>The Chidumayo reference is provided in the Monitoring Report. A pdf of the paper has also been put in AppendixE_BiomassProt.</i>		
Documentation provided by project participant		
AppendixE_BiomassProt/Chidumayo_2013_allometry_paper.pdf		
DOE assessment		Date: 29/04/2020
Chidumayo documentation updated. Thus, this CL is closed.		

Corrective actions Requests (CARs)

CAR ID	01	Date: 27/03/2020
Description of CAR		
Leakage updated data should be provided within the MR7. Leakage area inventory should be carried out and data available for verification.		
Project participant response		Date: 24/04/2020
<i>Leakage data was collected and updated</i>		
Documentation provided by project participant		
- AppendixC_CarbonInv/20200422_LZRPLeakageV2_Leakage_M7.xlsx - Updated Monitoring Report section 4.2 and 5.3		
DOE assessment		Date: 29/04/2020
Leakage data, from the leakage inventory conducted during march/april and submitted with the responses of the findings on 28th April 2020 were found correct according the methodology used (VM0009 v2.1). Thus, request leakage update was settled and so this CAR is closed.		

CAR ID	02	Date: 27/03/2020
Description of CL		
Review following values from section 5.1 of the MR MR33. Cumulative baseline emissions from BGB does not match with the value shown in the spreadsheet from the Appendix D MR34. Cumulative baseline emissions from BGB for all prior monitoring periods does not match with the value shown in the spreadsheet from the Appendix D		
Project participant response		Date: 24/04/2020
<i>Our understanding is that for the current Monitoring period, the M6 value in line K6 only does not account for non-decayed carbon, line K59 therefore the correct and final value to use should be the SUM of K6 and K59 which is the 474,236 tCO₂e that is in our report. Similarly, for all prior monitoring periods the final value will be a sum of J6 and J59, which is the 402,646 tCO₂e that is in our report.</i>		
Documentation provided by project participant		
AppendixD_NERCalcs/ 20200220_LZRP_ER_Calc_M7.xlsx		
DOE assessment		Date: 29/04/2020
Clarification on the rebuttal was found correct. Therefore, this CAR is closed		

CAR ID	03	Date: 27/03/2020
Description of CAR		
The Non permanence Risk Report should be elaborated as per latest version available v4.0		
Project participant response		Date: 24/04/2020
<i>Non permanence risk report calculation tool version 4 and report template version 4 have now been used</i>		
Documentation provided by project participant		
- AppendixG_NonpermRisk/20200424_LZRP_VCS Non-Permanence Risk_MR7 - AppendixG_NonpermRisk/ 20200424_LZRP_Non_Perm4.0		
DOE assessment		Date: 29/04/2020
Second version of the NPRR named “20200424_LZRP_VCS Non-Permanence Risk_MR7” document’s format should be adjusted as per NPRR-template-v.4.0 indications (table formats, sections’ numerals, etc.). Document version in the title page should be updated. CAR still open.		
Project participant response		Date: 23/06/2020
The formatting in the NPRR has been updated to match the v4 template		
Documentation provided by project participant		
AppendixG_NonpermRisk/ 20200623_LZRP_VCS Non-Permanence Risk_MR7.pdf		
DOE assessment		Date: 26/06/2020
The PP has updated the NPRR accordingly. Thus, this CAR is closed		