REFORESTATION OF DEGRADED FOREST RESERVE AREAS IN GHANA, WEST AFRICA

By KBS Certification Services Ltd.

Project Title	Reforestation of degraded forest reserve areas in Ghana, West Africa
Version	2.4
Report ID	VCS.22.VER.049_2nd Verification Report

Report Title	Reforestation of degraded forest reserve areas in Ghana, West Africa
Client	South Pole Carbon Asset Management S.A.S
Pages	90
Date of Issue	12-04-2024

Prepared By	*KBS Certification Services Ltd*
Contact	*Registered Office: KBS Certification Services Ltd.* *414-424, Om Shubham Tower, Neelam Bata Road, N.I.T.* *Faridabad, Haryana-121001, India* *Tel: +91 129 4034513, 4054513, Email: info@kbsindia.in* *Website: www.kbscertification.com*
Approved By	*Kaushal Goyal* Managing Director
Work Carried Out By	*Team Leader[1]: Praveen N URS* Technical Expert[2]: Rajesh Monga, Technical Expert: Shiv Narayan *Trainee Validator/Verifier: Shital hatankar* *Technical Reviewer: Dr. Siddaramu*

Summary:

South Pole Carbon Asset Management S.A.S has commissioned "KBS Certification Services Ltd." (KBS) to carry out the verification of the project - "Reforestation of degraded forest reserve areas in Ghana, West Africa" (VCS PROJECT ID 2410) with regard to the relevant requirements of VCS Standard Version 4.4 for the monitoring period 02-November-2020 to 19-September-2022.

The project activity is Afforestation, Reforestation and Revegetation (ARR) project activity and is implemented in Ghana's Ashanti region. The project proponent, Miro Forestry, has land lease agreements and a benefit share agreement with traditional landowners and the Forestry Commission of Ghana to restore the degraded forest reserves into productive planted forests. This lease construction is part of the presidential policy to restore degraded forest reserves in Ghana, which is a strong policy instrument demonstrating the commitment of the Ghanaian government to conserve, restore and promote the sustainable use of forest resources in the country.

The objective of this project activity aims to the scope of the verification defined as an independent and objective review of the MR, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the VCS standards for project activities.

[1] Former team leader:

1. Shikha Sharma (untill March 2023)
2. Shilpa Swarnim (TL and Technical expert until December 2023)

The report is based on the assessment of the VCS PD & MR undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, site interviews) and also the review of the applicable approved methodological and relevant tools, guidance and VERRA decisions.

The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all relevant VCS requirements.

A risk-based approach has been followed to perform the verification. In the course of the assessment 05 Corrective Action Requests (CAR) and 04 Clarification Requests (CL) were raised and successfully closed out, four FAR were raised during the assessment. Refer to Appendix 2 for further details.

The verification is based on the VCS PD & MR, Emission reduction calculation spread sheet (ER sheet), additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and supporting documents made available to the VVB by project proponent.:

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 02-November-2020 to 19-September-2022 (Inclusive of both days) based on the reported emission reductions in the final monitoring report version 4.6 dated 12/04/2024 for the same period. The total area under the second monitoring verification is 3,871 ha. The second monitoring period aims to verify the estimated 221205 tCO_2e net GHG emission reductions (considering 10% buffer credits) achieved during the current defined monitoring period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

As a result of the verification, the verification team confirms that:

- The project fulfils criteria of VCS Standard Version 4.4.
- The project is in line with all relevant VCS requirements.
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board and VCS Association;
- All information and references relevant to the project activity resulting in emission reductions;

The monitoring is transparent, adequate and in line with applied baseline and monitoring methodology of AR-ACM0003 "Afforestation and reforestation of lands except wetlands" (Version 2.0), which is a consolidated large-scale methodology.

Based on the information seen and evaluated we confirm that the implementation of the project has resulted in net **245784**tCO_2e emission reductions during the monitoring period (02-November-2020 to 19-september-2022 (Inclusive of both days) and with consideration of 10% buffer credits the emission reduction is **221205**tCO_2e under the crediting period (24-March-2016 to 30-June -2045).

Year	**Baseline emissions or removals (tCO_2e)**	**Project emissions or removals (tCO_2e)**	**Leakage emissions (tCO_2e)**	**VCUs past verification (tCO2e)**	**Net GHG emission reductions or removals (tCO_2e) second verification**	**Buffer pool allocation (tCO_2e)**	**VCUs eligible for issuance (tCO_2e)**
24-03-2016 to 01-11-2020	0			220,414			
02-11-2020 to 31-12-2020	0	42092			21466	2,147	19319
01-01-2021 to 31-12-2021	0	256061			130584	13058	117526
01-01-2022 to 19-09-2022	0	183802	15758		93734	9373	84361
Total	**0**	**481955**	**15758**		**245784**	**24579**	**221205**

CONTENTS

1 Introduction 7
1.1 Objective 7
1.2 Scope and Criteria 7
1.3 Level of Assurance 8
1.4 Summary Description of the Project 9

2 Verification Process 11
2.1 Method and Criteria 11
2.2 Document Review 11
2.3 Interviews 12
2.4 Site Visits 12
2.5 Resolution of Findings 16
2.5.1 Forward Action Requests 16
2.6 Eligibility for Validation Activities 17

3 Validation Findings 17
3.1 Participation under Other GHG Programs 17
3.2 Methodology Deviations 17
3.3 Project Description Deviations 17
3.4 Grouped Project 18

4 Verification Findings 18
4.1 Project Implementation Status 19
4.2 Safeguards 19
4.2.1 No Net Harm 19
4.2.2 Local Stakeholder Consultation 21
4.3 AFOLU-Specific Safeguards 22
4.4 Accuracy of GHG Emission Reduction and Removal Calculations 27
4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals 35
4.6 Non-Permanence Risk Analysis 35

5 Verification OPINION 61

APPENDIX 1: Abbreviations 63

Appendix 2: Findings

Appendix 3: Competence Certificate.

Appendix 4: Stakeholder comments

1 INTRODUCTION

1.1 Objective

KBS Certification Services Ltd. has been contracted by "South Pole Carbon Asset Management S.A.S." to undertake verification and certification for the greenhouse gas (GHG) emission reductions reported from 'Reforestation of degraded forest reserve areas in Ghana, West Africa' for the monitoring period 02-November-2020 to 19-September-2022 (Inclusive of both days), under the crediting period 24th-March-2016 to 30 June 2045, in the initial monitoring report version 01 dated 23 Decembrer 2021 /1/, with regard to the relevant requirements of VCS Standard Version 4.4./4/ The VCS projects must undergo an independent third-party verification and certification of emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs).

The objectives of this third periodic verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the project description (PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete;
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Voluntary Emission Reductions (VCUs) without any double counting, and
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of monitoring report, VCS project description (VCS PD), previous verification documents (previous MR, FVR) including the monitored data, and other relevant documents made available to verifier and information collected through performing interviews during site assessment of the project activity.

The project is assessed against the requirements of VCS standard version 4.4 and related rules and guidance /4/. KBS has, based on the recommendations in the latest version of Verified Carbon standard, and employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The aspects to be covered under the purview of verification are:

- Ensure that the project activity has been implemented and operated as per the registered VCS PD and that all physical features of the project are in place as per the documents provided by the client and during on site assessment;
- Ensure that the monitoring report and other supporting documents provided are complete
- Ensure that the practiced monitoring system and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved CDM consolidated methodology AR-ACM0003: Afforestation and reforestation of lands except for wetlands – Version 02.0 /10/;
- Evaluate the data recorded and stored are as per the monitoring methodology.

For the verification, the VCS projects must undergo an independent third-party verification and certification of estimated emission reductions as the basis for issuance of Voluntary Emission Reductions (VERs).

1.3 Level of Assurance

☑Reasonable level of assurance

The verification is based on the VCS PD, MR, proof of title, proof of right, additional documents related to baseline and monitoring methodology, the subsequent background investigation, monitoring plan, follow-up interviews and supporting documents made available to the verification team by project proponent. The information in these documents is reviewed against the requirements of VCS Standard Version 4.4. KBS has employed a risk-based approach in the verification, focusing on the identification of significant risks for project implementation and the generation of Emission Reduction.

The items covered in the verification are described below:

- Criteria of VCS Version 4 (VCS Program Guide Version 4.3 & VCS Standard Version 4.4)/5/
- Criteria of CDM approved methodology, AR-ACM0003 "Afforestation and reforestation of lands except wetlands" (Version 2.0), which is a consolidated large-scale methodology/10/
- Criteria of VCS Agriculture, Forestry and Other Land Use (AFOLU) Requirements/4/
- Criteria of VCS Guidance. AFOLU Guidance: Additional guidance for VCS Afforestation, Reforestation and Revegetation projects using CDM Afforestation/Reforestation Methodologies/4/
- Criteria of VCS Non-Permanence Risk Report /8/
- VCS Monitoring Report/1/
- Monitoring Plan
- Background investigation and follow up interviews/11/
- Stakeholder feedback
- Registered VCS-PD and Validation Report /3/
- Monitoring report and verification report of previous monitoring periods
- Project's compliance with other relevant rules /4/

Furthermore, the verification team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data available on public domain. A desk review is carried out to assess the following:

- Compliance with relevant law and regulations
- Stakeholder comments (If any)
- Site location map
- Project Carbon Calculation
- Stratum and Sampling Plots
- Onsite auditing (30/11/2022 to 02/12/2022) for verification

The Verification team has checked all the above-mentioned details and confirms that all the information provided is accurate.

Through the onsite interview host country rule and regulations related to project activity, Project description, technological measures, Implementation, Operation, Management of project activity and Training of personnel, Baseline and Monitoring plan, Stakeholder consultation etc. has been checked and found appropriate.

KBS applies the risk-based approach aimed at focusing on high-risk issues to the verification results whilst not omitting any part of the mandatory processes. A few discrepancies were found during the verification and the findings were submitted to the project proponent, indicated under the titles corrective action requests (CARs) and clarification requests (CLs). CARs and CLs require the PP to take relevant actions.

Hence the above steps were followed for achieving the level of assurance in verification report. Based on the process and procedures conducted, KBS confirms that the information in the MR:

- is materially correct and is a fair representation of the actual project details, and
- is prepared in accordance with VCS requirements and the applied CDM methodology for information pertaining to GHG qualification, monitoring and reporting.

The verification work is carried out as per this requirement and the verification opinion is assured, provided the credibility of all above. Details are presented in the Verification statement in section 5 below.

1.4 Summary Description of the Project

The proposed project activity" Reforestation of degraded forest reserve areas in Ghana, West Africa" aims to remove GHG emission reduction through reforestation activity in the Boumfoum, Chirimfa and Awura Forest Reserves Ghana with the five species: Eucalyptus, Teak, Acacia, Gmelina and Corymbia. The Miro Forestry Developments Limited worked as project proponent which is responsible for the implementation of project.

Miro Forestry, has land lease agreements and a benefit share agreement with traditional landowners /14/ and the Forestry Commission of Ghana to restore the degraded forest reserves into productive planted forests. This lease construction is part of the presidential policy to restore degraded forest reserves in Ghana.

This afforestation, reforestation project activity crediting period life span is 30 years (from 24th march 2016 to 30th June 2045). The Miro Forestry had occupied the total 10,495-ha area out of which 3,871-ha area is considered for this monitoring period (02-11-2020 to 19-09-2022) & this second monitoring period aims to verify the estimated 221205 tCO_2e (245784 tCO_2e Net calculated VCUs for the monitoring period and 24579 tCO_2e with consideration of 10% buffer credits) net GHG emission reductions achieved from the project area. For the period 02-November-2020 to 19-September-2022 (Inclusive of both days) based on the reported emission reductions in the final monitoring report version 4.6 dated 12 April 2024 for the same period. The total area under the second monitoring verification is 3,871 ha. The second monitoring period aims to verify the estimated 221205tCO2e net GHG emission reductions (considering 10% buffer credits) achieved during the current defined monitoring period.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification process was carried out in line with the requirements of VCS Version 4.4/4/. In addition, the verification team followed the guidelines of the CDM Validation and Verification Standard, Standard auditing techniques and KBS's CDM Procedures were also applied during the verification. A risk-based approach was followed to carry out verification and access all the factors and concerns that relate to the issuance of emission reductions from a project activity.

They include:

- Identification of all the sources contributing to the project emissions and emission reductions.
- Authenticity of the provided data is checked.
- A risk-based analysis is carried out to ensure a clear and transparent assessment. The risks involved in this process are mainly with the informational flows and data recording

KBS follows a risk-based verification approach, wherein a desk review of the project documentation is undertaken, which is followed by a site assessment by the members of verification team. The verification protocol is filled by the verification team that is based on standard auditing practices and VCS requirements. The verification protocol provides transparent means to record the observations by the verification team members and the non-conformities, if any. The verification protocol is an internal document, and available on request.

Duration of Verification:

Verification Contract	01/11/2022
Site assessment	30/11/2022 to 02/12/2022
Draft Verification Report	22/12/2022
Final Verification Report	12/04/2024

2.2 Document Review

A desk review is undertaken, involving but not limited to,

- A review of the data and information presented to verify their completeness;
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of monitoring procedures and sampling requirements, and the quality assurance and quality control procedures;
- An evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

2.3 The list of documents reviewed is included in the section 'References'Interviews

The site assessment was undertaken by members of verification team, involving but not limited to verify:

General aspects of the project

- ✓ Implementation of the monitoring plan
- ✓ Parameter's monitoring
- ✓ Procedural aspects of the Monitoring
- ✓ Stakeholders' communication procedure
- ✓ Maintenance
- ✓ Data analysis, Data uncertainty and residual risks
- ✓ Changes since validation / previous verification
- ✓ Remaining issues from validation/ previous verification
- ✓ Quality management system
- ✓ Involved personnel and responsibilities
- ✓ Training and practice of the operational personnel

Please refer section 2.4, where complete list of interviewed personnel and key points discussed is provided.

2.4 Site Visits

Validation team has carried out site visit between 30/11/2022 to 02/12/2022 in order to check implementation, project boundary, current situation, monitoring and monitoring equipment, monitoring procedures, calibration etc. A complete desk review of the MR, as well as all applicable supportive evidence have been checked by the verification team. A cross-check evaluation was conducted for information received from interviews, under the scope of all information and references provided in MR and supporting documents. Further, the verification team, guided by the standard (Sampling and surveys for CDM project activities and programs of activities V 09.0, Section 6), employed a random sampling strategy. This approach was based on own professional judgment and took into account an Acceptable Quality Level (AQL) of 1% and an Unacceptable Quality Level (UQL) of 20%. The team opted for a more conservative approach by considering the maximum error. The Consumer risk is considered 20 percent and the Producer risks at 5% as per Table 2 of the Standard- Sampling and surveys. While the final sample size was determined to be 14, the VVB chose to use 15 (14+ 1) samples for a more conservative approach from PP's established 173 PSPs covering all 6 stratums divisions which were visited and re-measured. The inspection of sample plots was done to assess the input values for calculations of ERs. The addition sampling of 1 was selected at the site visit to keep the independence in sampling and there is no influence from the external sources. Thus, the total sampling plots established by the sampling team with the professional judgement is reliable and provide a reasonable level of assurance in sampling. the Verification team did random sampling approach and identified 15 sample plots were sampled and selected form PP's established PSPs covering all 6 stratum in years time period which were visited and re-measured. The inspection of sample plots was done to assess the input values for calculations of ERs.

The following sampling plan was drawn covering all 6 stratums divisions from PP's Permanent sampling plots.

Location	Total areas for second verification (2020-2022)	Sample Plots identified by PP	Stratum division is based on year of plantation (As inferred from submitted draft MR)	Number of stratum selected under each group	Number of Plots installed by PP under each stratum	Number of plots sampled by VVB (15) amongst the sample plots)	Total
GHANA	3871 ha	173	2016	1.1	10	1	4
				1.2	11	1	

				1,3	5	1	
				1.4	5	1	
			2017	2.1	5	0	4
				2.2	22	0	
				2.3	8	1	
				2.4	5	1	
				2,5	5	2	
			2018	3.1	8	1	4
				3.2	17	1	
				3.3	8	0	
				3.4	5	0	
				3.5	5	0	
				3.6	5	2	
			2019	4.1	5	2	3
				4.2	12	1	
				4.3	5	0	
				4.4	19	0	
				4.5	5	0	
				4.6	3	0	
Total			15 plots to be sampled form 173 sample plots covering all 6 stratums divisions.			15 plots to be sampled form 173 sample plots covering all 6 stratums divisions.	

Details of interviewees, topics covered, and additional information are presented below:

Dates:	Audit team: Ms. Shikha Sharma Ms. Shilpa Swarnim

Key points discussed:	Name of person, interviewed	Designation, Organization
VCS requirements, Operational data, Field assessment data SOP Procedures Monitoring equipment, Data collection, storage, Archiving QA/QC procedures Training of monitoring personnel Calculation of ERs Grievance procedure	Graeme Harrison:	Planning Manager , Miro Forestry
	Dennis Abiba:	Planning Forester, Miro Forestry
	Moses Donbeina	Enumerator, Miro Forestry
	Moro Tijani	Enumerator, Miro Forestry
	Hugh Brown	Plantations Director, Miro Forestry
	Ms. Maria Fernanda Buitrago Acevedo Mrs. Roxanne Chetty	South Pole Carbon Asset Management Ltd
Ongoing grievances and communication with PP Project Implementation Grievance procedure Ongoing grievances and communication with PP	Dr Nana Agyei Frimpong Joshua Ayaba Afred Bagadu Lydia Mensah Nana Ankobiahene Nana manu Okyame yaw Amponsah Opani Kwaku Anane	Stakeholders Interviewed President, ASOKORE MAMPONG MUNICIPAL ASSEMBLY, Ghana Local stakeholders
Ongoing firefighting measures, procedures followed in case of bush/wildfire starts	Daniel Deri Issifu Mohammed	Water truck drivers
training given for firefighting workers in case of a fire emergency	Kofi Boye Yaa Birago	Workers

frequency of training / mock drills		
Procedures of restricted entry into the Project area. Monitoring of illegal entry	Thomas Daineal	Security Personals
Monitoring and control of cattle grazing and settlement activities in the Project areas Frequency of patrolling	Pious Robert	Patrol Gaurda

2.5 Resolution of Findings

During the course of verification, the findings may be raised as under;

CAR is raised if one of the following occurs:

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification(s) have not been resolved by the project participants.

CL is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

FAR is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

The verification report contains (Appendix II) all findings raised during the verification total 5 CARs, 4 CLs were raised and successfully closed.

All findings raised during this verification are covered in a transparent manner and provides clear information of the issues raised, response received and its resolutions, including the changes in the documents.

2.5.1 Forward Action Requests

Four FAR were raised during this verification. There is no FARs from previous verifications or validation stage that need attention at this verification.

2.6 Eligibility for Validation Activities

KBS conducted the second verification activity; KBS holds accreditation for validation and verification for the relevant sectoral scope 14 under VCS rules.

3 VALIDATION FINDINGS

No validation activities have been performed during the current monitoring period.

3.1 Participation under Other GHG Programs

As confirmed through the site assessment and the review of various registries, the project is not registered or seeking registration under any other GHG programs.

There is no evidence of double counting as the project is not registered in other carbon program and the project has not participated or being rejected under other Carbon program. Furthermore, PP has submitted a declaration for not available any other form of credit during the registration of the project/3/.

3.2 Methodology Deviations

As a result of the documental review, it is concluded that there are no methodology deviations during this second monitoring period.

Finding: No findings were raised on methodology deviations.

3.3 Project Description Deviations

The following deviations has been observed during this verification period-

A deviation was made in this monitoring period with regard to the establishment of permanent sample plots (PSPs) within the project boundary. In the registered PD /3/ it was stated that to estimate total CO_2 contain captured by the project plantation with a sampling error of 10% or less, 822 circulars (313) and square (509) plots of 500m_2 and 400m_2, were established and distributed across all the defined strata". But in the second verification period the CDM_A/R

Methodological Tool" Calculation of the number of sample plots for measurements within A/R CDM project activities Version 02.1 was applied for the surveyed of no of PSP's.

This deviation was observed during the onsite audit and Finding was raised under CL 3 and was successfully closed on basis of PP's explanation.

PP had justified that Miro forestry previously used FSC Guideline for sampling establishment & monitoring of 822 plots However, the monitoring of such a high number of PSP's during any given monitoring period is a tedious task which requires lengthy timeframes with a big enumeration team which is not ideal for the monitoring of PSPs for this carbon project. Hence a deviation is undertaken to determine the correct sample size of PSPs required for the project area/boundary. By determining the correct sample size of PSPs required for the project area (lower sample size) the monitoring of the PSPs can be conducted within a faster timeframe by the enumeration team for the carbon project.

The decrease in the number of PSP's from the previous monitoring period does not affect the estimation of biomass of the strata as the margin of error is maintained at 5% and at a 95% confidence level, guaranteeing the best accuracy for the relevant stratums biomass estimation. All plots will also be measured at 500m. by using CDM_A/R Methodological Tool" Calculation of the number of sample plots for measurements within A/R CDM project activities Version 02.1. The number of plots calculated in this verification was 152 plots, therefore no further calculation is required as per the requirements of the tool.

This deviation becomes effective for this monitoring period. Therefore, the deviation taken affects all monitoring periods henceforth. Having determined that the correct sample size for the PSPs was 152, a random selection of 152 plots from within the 822 currently established PSP's were undertaken using Microsoft Excel and ArcGIS. Additionally, there is inclusion of an additional 21 PSPs for strata 3.3, 4.3, 4.5 and 4.6 have been added for the relevant monitoring units bringing the total number of PSP's established to date as 173 for the project area.

VVB was able to assess and confirm that this deviation does not impact the applicability of the methodology, additionality, or appropriateness of the baseline scenario and therefore the project remains in compliance with the applied methodology. The deviation does not relate to any other part of the methodology and does not affect the conservativeness of the quantification of the GHG emission reductions or removals as described below.

Finding: Findings as CL 03 has been raised during Verification process and was closed based on satisfactory clarification provided.

3.4 Grouped Project

The project is not a grouped project. Therefore, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The main aim of the project is to establish fast –growing commercial plantation in degraded land.

The main species to be cultivated in the Abrimasu Forest Reserve will be industrial timber species including Gmelina as well as an element of high value species including teak. Both will be managed according to the predominant best practice methods understood worldwide. The targeted products are poles for power transmission and rural electrification, sawn timber for the local and regional markets and ply for the construction industry. Thinning will be carried out in each annual coupe to ensure that the final crop develops under conditions that will maximize volume increment.

KBS has checked section 3 of the Monitoring Report and confirms by means of comparison with the information given in the registered PD, the project standard and information gathered during the site visit that the description of the implementation status of the project activity is in line with the applicable provisions of the project standard. There are not material discrepancies between project implementation and the project description.

Opinion:

The verification team confirms that

- The project activity has been implemented and operated as per the registered VCS PD /3/ and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place, as per the documents provided by the PP and On site assessment /11/;
- The monitoring complies with the requirement of the applied methodology /10/;
- The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included above under each parameter and confirms to the requirement of the PD /3/;
- The values included in the monitoring report /1.2/ and corresponding emission reduction sheets /2.2/ are verified and included under each monitoring parameter.

4.2 Safeguards

4.2.1 No Net Harm

It has been stated in Monitoring report and also confirmed during on site assessment was that the proposed project activity was having environmental & social impact. To assure a responsible and sustainable forest management standard, the Company obtained an FSC certification in 2017. also, Miro Forestry has identified its environmental and socio-economic impacts through the development of an

Environmental and Social Impact Assessment (ESIA), accredited by a local consultant for the project in Abrimasu Forest Reserve on August 20, 2021.

The following environmental and social threats were identified:

a) Bushfires/wildfires.
b) Illegal logging activity
c) Charcoal /biochar production; and
d) Open animal grazing.

Preparedness to avoid and mitigate Bushfires / wildfires: During the site visit, audit team noticed the following preparedness:

- Buffer zones/fire belts between and around planting units.
- Access routes of minimum 10-m width within the plantation.
- compartment roads, valley bottom cut-off roads.
- vegetation management to reduce the risk of fire spread.
- Fire watch towers,
- firefighting water tankers
- Trained fire fighters / fire marshals
- Controlled burning to avoid spread of any fire.

At the site, audit team also interacted with the trained fire marshals to understand their preparedness. Audit team could verify their training records, mock drill records, firefighting equipment maintenance records, watch tower maintenance records, patrolling team, community training records to avoid bushfire from community. Thus, audit team concludes that Miro has a good fire management system established to fight fire and precaution methods.

Preparedness to avoid illegal logging / charcoal or biochar production:

During the site visit, through interview with multiple stakeholders like forestry commission, it was noted that there is a liaising between PP. The forestry commission rapid response taskforce has patrolling plans and measures in place. The audit team verified their patrolling records and illegal event capture records. Thus, audit team conforms that there are precaution measures undertaken to avoid illegal activities. The audit team also observed check posts and security guards to avoid any entry of unauthorized vehicles into the protected zones. Audit team also evidenced the statistics of reduced illegal activities shown by forestry commission. The audit team confirms that there is an established plan to avoid illegal migrants to the forest reserve.

Forestry commission personnels also confirmed to the audit team that they have stopped providing illegal allocation of the reserve lands to migrant settlers and farmers after lesioning with Miro (PP), thus it has stopped the illegal felling of old teak / gmelina and also maize farms within the reserve. The degraded

part of the reserve has been now converted into plantation and conservation. The same was witnessed by the audit team at the site visit.

Open animal grazing:

To maintain the relationship with the local community and keep the traditional practices, Miro along with the forestry commission has established seasonal cattle movement plan. Guards with check posts are established to directs the nomadic cattle herdsmen (Fulani) to the mature compartments, where the trees are mature, and damage is avoided. The nomadic cattle herdsmen are educated through trainings and notice boards. Register is maintained to capture for occurrence of any illegal grazing. The audit team as verified their plans and system of controlling the cattle herd. A FAR 03 is raised to ensure the leakage capture from illegal activities from cattle grazing.

4.2.2 Local Stakeholder Consultation

During the second verification period there were not any changes in the implemented project activity hence it wont affect the benefits of local stakeholder. There were also no changes to the risks, costs, financial resources or benefits able to local stakeholders or which is needed to implement the project that could affect the stakeholder groups. All of the activities associated with this project is still underway. for ongoing communication local stakeholder engagement, Miro forestry had developed one community which has responsible to ensuring that all local stake holder group were attended too it.

While no new stakeholder has been affected for this monitoring period. The comment from the consultation took place during this monitoring period did not result any change to the project design. During September 2020, Miro Forestry undertook extensive stakeholder engagement in the form of multiple stakeholder forums with the local communities of Droponso, Serebrosi, Nhyiaeso, Ankamadua, Jadaeko and Brunuso. Overall, there was a positive impression of the proposed activities from the six meetings held in these communities. Also from December 14, 2021, to January 28, 2022, Miro Forestry held two community engagement meetings (Figure 3) with twenty different communities where they had discussed about the land allocation for reforestation, protection of water sources, conservation of riparian areas, and bush fires.

Till June 17, 2022 Miro forestry conducted various meeting with different community groups and discussed the positive impact of proposed project activity.
The validation team confirms that 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 and verification in accordance with the requirements established by the VCS Standard.

By the review of the supporting documentation, the interview with the local project staff and stakeholders , the verification team confirms that the project has been implemented appropriately and processes to ensure

the project will not create any negative impacts on local stakeholders, or such impacts appears in future then there were mitigation measures designed for such impacts

4.3 AFOLU-Specific Safeguards

It has been assessed by Verification Team during the onsite visit that PP has implemented to mitigate risks from local stakeholders due to project implementation. There is an ongoing communication process between Miro Forestry and the stakeholders of the project. In some cases, activities are developed and need to be implemented to mitigate risks posed by project implementation or from the risk posed from local stakeholders on the project activities and these are regularly communicated. Local stakeholder consultations were held on a regular basis to discuss how to develop activities to mitigate risks while implementing the project or from risks posed by local stakeholders on project activities, and these were regularly communicated. It was also been verified that there have been no updates to the property and relevant land use rights of the local stakeholders for this monitoring period.

PP also has streamlined grievance mechanism which provides employees and stakeholders with a mechanism to express grievances without fear of reprisal and ensure concerns are appropriately addressed in a timely manner. The same was cross verified during interaction with involved stakeholders.

Risks to local stakeholders due to project implementation and the mitigation of such

Activities implemented to mitigate risks from local stakeholders due to project implementation as identified from section 2.1, include the following environmental and social threats: Bushfires/ wildfires; illegal logging activities, charcoal production, and open animal grazing. the plantation to prevent possible threats resulting from bushfire from the surrounding communities/activities. With regards to fires, fire breaks are managed, the project liaises with traditional authorities to tackle nomadic herdsmen menaces and encourages illegal loggers to participate in the reforestation activities. The mitigation measures for these identified risks can be referred to in greater detail in section 2.1 of this report.

Risks to local stakeholder resources due to project implementation and the mitigation of such

Due to change in laws: There has also been no changes to the relevant laws and regulations covering workers right in Ghana from what was mentioned in section 1.14, Ghana Labour Act (651) in the PDD. Therefore, the implementation of the project has no negative influence on the local stakeholder resources.

It was noted that that there have been no updates to the property and relevant land use rights of the local stakeholders for this monitoring period however from 2016 Miro Forestry designed and rolled out a Land Development Policy and Implementation Framework. Miro's Land Policy Principles state;

1. Miro Forestry respects all national and local laws and regulations. Long-term tenure and rights to the land and forest resources are clearly defined, documented, and legally established under national legislation.

2. Miro Forestry recognises and respects the rights of all land users and respects the cultural heritage of the communities where the Company operates. The Company's goal is to have a positive impact

on the livelihoods of the people surrounding and affected by its operations. Miro Forestry works closely to consult with stakeholders to ensure the protection of their land rights, cultural heritage sites and values.

3. Miro Forestry aims to conserve biological diversity and its associated values including water resources, soils, ecosystems, and landscapes.

4. Miro Forestry is firmly committed to sustainable forest management practices, including those prescribed by the Principles and Criteria of the Forest Stewardship Council (FSC) and the International Finance Corporation (IFC) Performance Standards."

The company rolled out several procedures and steps to mitigate land development associated risk; this is known as the 'MFC Land Development – Policy, Implementation Framework and Guidelines for Conducting Environmental and Social Risk Assessments. During the site visit it was noted that Miro has not encountered illegal farming since 2014-2015. During the interview with govt. officials and local settlements, it was understood that there is a prohibition to do farming activities in the reserves, and farming outside is much advantageous for them due to open area. Since the project development and routine petrol by the forest guards, there have not been any instance of farming in the protected forest area.

Audit team could witness some of the measures taken to avoid illegal farming settlements:

1) Access control to plantation entry points: Guards are placed, and check posts are created. Only permit holders from the forestry commission are allowed.
2) Notice awareness boards: Awareness and actions on illegal entry,

During interviews, it was noticed that few neighbour communities are regularly engaged as workforce by Miro Forestry.

Other stakeholders' risks forecasted and mitigation measures:

Audit team also anticipated risk associated with

- Teak plantations felling in degraded forest land
- Established plantain and maize farms
- Cattle grazing / Cattle Ranching by illegal migrant settler farmers
- Loss of farming land leading to increased food insecurity
- Threat due to village expansion
- Traditional rights of the farmers dependency on forest.
- Incorrect forest reserve demarcation

During the site visit – it was understood that there are no illegal settlement or agriculture or cattle farming in the forest protected area. The Miro has been monitoring and have put multiple check measures to ensure the same.
NMFC Livelihood Study _ Development Plan (2014.08.06) indicated 100 ha of farming near to the forest reserves. Accounting to this Micro had shared their further analysis of satellite imaging and areal study accounting 300 ha more (7.15% of project activity area). To the conservative measures Mico has discounted 10% of the project activity area through leakage. These calculations are verified by the auditing team.

Miro mitigation measures further have been verified by the auditing team. Audit team verified mitigation measure plan from ESIAMFC Land Development - Identifying People at Risk Ghana 2020.03.12. these mitigation measures address 5 risk scenarios and mitigation measures.

- Scenario 1 - Subsistence farmers living on the reserve,
- Scenario 2 - Commercial farmers growing cash crops on the reserve,
- Scenario 3 - People employed by the commercial farmers and seasonally residing on the reserve,
- Scenario 4 – People living in the local villages and subsistence farming on the reserve, and
- Scenario 5 – Nomadic Herdsmen (moving through the reserve)

Subsistence farming within the reserve (agriculture / tree cutting / biochar production / cattle grazing) : During the site visit it was noted that Miro has not encountered illegal farming since 2014-2015. During the interview with govt. officials and local settlements, it was understood that there is a prohibition to do farming activities within the reserves, and farming outside is much advantageous for them due to open area. Since the project development and routine petrol by the forest guards, there have not been any instance of farming in the protected forest area.

Audit team could witness some of the measures taken to avoid illegal farming settlements:

1) Access control to plantation entry points: Guards are placed, and check posts are created. Only permit holders from the forestry commission are allowed.
2) Notice awareness boards: Awareness and actions on illegal entry.

Commercial farmers growing cash crops on the reserve: To avoid expansion and risk to the forest, Miro set programme to identify these commercial farmers and link them with forestry commission to bind them with notice and controls. This was verified during the interview with forestry commission employee.

People employed by the commercial farmers and seasonally residing on the reserve: Mico conducted the survey – social risk assessment in the neighbouring villages up to 20 kms for the people residing near to the forest reserve and working in commercial farms. Their residence is seasonal and temporary. During the off season of crops, Miro sensed the risk of their dependency on the forest. For mitigation measures, Miro has developed multiple part time employee engagements to them. This was verified during the site visit. Miro signed agreements with IDH (the Sustainable Trade Initiative) and FMO were verified for part time employment.

People living in the local villages and subsistence farming on the reserve: There are no farming within the reserve. This is legally bind by the Forestry Commission and national law. Miro forecasted a risk of food security and forest dependency by the local villages, thus developed multiple models to engage people working for Miro as employees. This was verified during the site visit through interviews.

During interviews, it was noticed that few neighbour communities are regularly engaged as workforce by Miro Forestry.

Nomadic Herdsmen – Fulani (moving through the reserve): It was verified during the site, that there are check post created and forest guards are positioned. There are route maps through which nomadic herdsmen are directed. The physical inspection of these check posts was conducted during the site visit and also had interviews with the forest post guards, the herdsmen are diverted to open grass fields and also to the areas where matured plantation had already happened. Thus, they ensure that the cattle from the herdsmen do not affect the young plantation.

Loss of farming land leading to increased food insecurity: Audit team investigated this information with forestry commission. Forestry has a process to check land records and confirm if they are legal or illegal. As to the date of audit on site visit – there were no such claim of loss of farming on legal land. It was also evident from the Miro survey data. Mico plans to provide these people a livelihood through employment was verified through interviews and process checks.

Grievance mechanism had established to capture any land dispute issues, further check with forestry commission and lay down for measures to ensure their loss.

Threat due to village expansion: Grievance mechanism is set for such issues and the forestry commission has made it very clear to all the communities that the legal status of the land (being part of the forest reserve) should be made clear. Issue raising are delt by forestry commission. This was confirmed during the site visit.

Traditional rights of the farmers dependency on forest: Miro has committed to preserve the traditional rights in the forest for cattle grazing. The route maps are planned and directed to protected grassland patches. The system of check points was confirmed with forest guards and cowboys during the site visit. The audit team confirms the system is established by Miro to safeguard the forest cover.

Incorrect forest reserve demarcation: Grievance mechanism is set to capture these issues. Forestry commission is further informed to take necessary actions of demarcation of land and develop common understanding. This information was interviewed with forestry commission, and they confirmed that there is not such instance yet. In case of such events, they confirmed that they will do the demarcation in the presence of the community and only assess as per the land rights.

Environmental and social threats and their mitigation plans:

The following environmental and social threats were identified:

e) Bushfires/wildfires.
f) Illegal logging activity
g) Charcoal /biochar production; and
h) Open animal grazing.

Preparedness to avoid and mitigate Bushfires / wildfires: During the site visit, audit team noticed the following preparedness:

- Buffer zones/fire belts between and around planting units.
- Access routes of minimum 10-m width within the plantation.
- compartment roads, valley bottom cut-off roads.
- vegetation management to reduce the risk of fire spread.
- Fire watch towers,
- firefighting water tankers
- Trained fire fighters / fire marshals
- Controlled burning to avoid spread of any fire.

At the site, audit team also interacted with the trained fire marshals to understand their preparedness. Audit team could verify their training records, mock drill records, firefighting equipment maintenance records, watch tower maintenance records, patrolling team, community training records to avoid bushfire from community. Thus, audit team concludes that Miro has a good fire management system established to fight fire and precaution methods.

Preparedness to avoid illegal logging / charcoal or biochar production:

During the site visit, through interview with multiple stakeholders like forestry commission, it was noted that there is a liaising between PP. The forestry commission rapid response taskforce has patrolling plans and measures in place. The audit team verified their patrolling records and illegal event capture records. Thus, audit team conforms that there are precaution measures undertaken to avoid illegal activities. The audit team also observed check posts and security guards to avoid any entry of unauthorized vehicles into the protected zones. Audit team also evidenced the statistics of reduced illegal activities shown by forestry commission. The audit team confirms that there is an established plan to avoid illegal migrants to the forest reserve.

Forestry commission personnels also confirmed to the audit team that they have stopped providing illegal allocation of the reserve lands to migrant settlers and farmers after lesioning with Miro (PP), thus it has stopped the illegal felling of old teak / gmelina and also maize farms within the reserve. The degraded part of the reserve has been now converted into plantation and conservation. The same was witnessed by the audit team at the site visit.

Open animal grazing:

To maintain the relationship with the local community and keep the traditional practices, Miro along with the forestry commission has established seasonal cattle movement plan. Guards with check posts are established to directs the nomadic cattle herdsmen (Fulani) to the mature compartments, where the trees are mature, and damage is avoided. The nomadic cattle herdsmen are educated through trainings and notice boards. Register is maintained to capture for occurrence of any illegal grazing. The audit team as verified their plans and system of controlling the cattle herd. A FAR 03 is raised to ensure the leakage capture from illegal activities from cattle grazing.

Process to ensure ongoing communication and consultation with local stakeholders.

As presented in section 2.2 of the updated PD With regards to the ongoing communication, engagement of the local stakeholders and the mechanism for on-going communication, Miro Forestry has a community department that is responsible for ensuring that the local stakeholder groups are attended too. The company's community department is currently made up of Community Relations Assistant reporting to Community Relations Manager who also reports to the Business Operations Manager (BOM) for

Stakeholder Engagement Plan deliverables. The BOM in turn reports to the Group EHSS Director. Stakeholder Engagement is managed on a daily basis by the Community Relations Manager and is reviewed and supervised by the BOM. The progress and setbacks are reported to management at weekly management meetings. A summary of stakeholder engagement and any changes to the plan are reported at the quarterly Environmental, Social and Governance (ESG) Committee meeting.

Once a report has been received through the webpage formula, the project proponents and DPWM receiving the report shall within 7 working days' coordinate with relevant project staff and contact and discuss with the community, community member(s)and/or other stakeholders involved in the report. Based on all collected information from relevant parties. The project proponents and relevant project staff shall propose a solution and mediation within 14 working days. Finally, the complications or grievances shall be dealt with within 30 days. The grievance report, the process of responding to the grievance and its solution shall be uploaded to the official project webpage.

During the site visit, audit team interviewed with the workers, guards, local community to understand the knowledge of grievance mechanisms set forward by Miro. The audit team concludes that the grievance mechanism is in place.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The verification team has reviewed the emission reduction (ER) spread sheet/2/ and checked all the formulae and verified them to be correct and in line with the monitoring plan of the registered VCS PD and the applied monitoring methodology/10/.

All the monitored parameters are described above in section 4.1. All the ex-ante parameters which are used in the calculation of emission reduction are presented in section 4.1 of the MR/1/ transparently. It is confirmed that all the ex-ante parameters have been correctly used in the emission reduction calculation

Baseline emission:

The methodology "AR-ACM0003 A/R Large Scale Consolidated Methodology: Afforestation and reforestation of lands except for wetlands (Version 2.0)" was considered for the implemented project.

According to the methodology (Section 5.5 paragraph 14) "GHG emissions resulting from removal of herbaceous vegetation, combustion of fossil fuel, fertilizer application, use of wood, decomposition of litter and fine roots of N-fixing trees, construction of access roads within project boundary, and transportation attributable to the project activity shall be considered insignificant and therefore accounted as zero. As a result of this, baseline stock was zero and no estimations are required.

Project emission:

Removals by sinks

According to AR-ACM0003 GHG emissions resulting from removal of herbaceous vegetation, combustion of fossil fuel, fertilizer application, use of wood, decomposition of litter and fine roots of N-fixing trees, construction of access roads within the project boundary, and transportation attributable to the project activity shall be considered insignificant and therefore accounted as zero.

The quantification of project emissions and/or removals was calculated following on the basis of section 5.5 of the AR-ACM003 methodology "A/R Large-scale Consolidated Methodology Afforestation and reforestation of lands except wetlands".

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

Where:

$\Delta C_{ACTUAL,\,t}$ Actual net GHG removals by sinks, in year t; tCO_2e

$\Delta C_{P,t}$ Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; tCO_2e

$GHG_{E,t}$ Increase in non-CO2 GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year t, as estimated in the tool "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; tCO_2e

The increase in non-CO2 GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year t, is estimated as presented in the tool "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity". This tool can be used for estimation of non-CO2 GHG emissions resulting from burning of biomass and forest fires. The tool does not apply because fire is not used in site preparation or land clearing. Therefore, emissions resulting from burning of biomass and forest fires are accounted for as zero.

The change in the carbon stocks occurring in the project for its selected carbon pools in year t shall be calculated as follows:

$$\Delta C_{P,t} = \Delta C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta SOC_{AL,t}$$

Where:

$\Delta C_{TREE\_PROJ,t}$ Change in carbon stock in tree biomass in project in year t, as estimated using the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; tCO2e.

$C_{SHRUB\_PROJ,t}$ Change in carbon stock in shrub biomass in project in year t, as estimated using the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; tCO2e.

$\Delta C_{DW\_PROJ,t}$ Change in carbon stock in dead wood in project in year t, as estimated using the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; tCO2e.

$\Delta C_{LI\_PROJ,t}$ Change in carbon stock in litter in project in year t, as estimated using the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; tCO2e.

$\Delta SOC_{AL,t}$ Change in carbon stock in SOC in project in year t, in areas of land meeting the applicability conditions of the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", as estimated in the same tool; tCO2e.

Estimating carbon stock in trees at given point in time

"Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities AR-TOOL14 Version 04.1" was used to estimate the carbon stock in trees at give point in time. this method is used for ex-ante estimation of the carbon stock in tree biomass.

Step 1. Volume estimation

Since the beginning of the plantation project, Miro Forestry has been recording and analysing crop data using the Microforest software and enumerations in the field. the annual average increase (MAI) per species is as follows:

Species	MAI (m^3/ha/yr)	Source
Eucalyptus pellita	20.0	Yepes et al. (2011). Protocol for national and subnational Biomass-Carbon estimation in Colombia. Table 11.
Acacia mangium	26.0	Yepes et al. (2011). Protocol for national and subnational Biomass-Carbon estimation in Colombia. Table 11.
Corymbia citriodora	16.0	FAO - Forest Resources of Tropical Africa (The MAI value employed is an average between 12 and 20 m3/ha/yr)
Gmelina arborea	13.7	UST, P. (1994). Growth and biomass production of Gmelina arborea in conventional plantations in Ghana. Ghana Journal of Forestry, 1, 5.
Tectona grandis	10.3	Mattia, S. B., & Sesay, S. (2020). Ground Forest Inventory and Assessment of Carbon Stocks in Sierra Leone, West Africa. In Natural Resources Management and Biological Sciences.
Other species	6,8	Project data

Ex-ante or projected estimations were made based on the MAI of each species planted in the project area, which is the average growth of per species which is extracted from literature

Step 2. Biomass estimation

The estimation of standing tree biomass for each stratum was calculated according to equation 13 of the AR-TOOL14 and the equation 5 of the Appendix 1 of the AR-TOOL14:

$$B_{tree} = A \times b_{tree}$$

B_{TREE}	Tree biomass in the tree biomass estimation strata; t d.m.
A	Sum of areas of the tree biomass estimation strata; ha
b_{TREE}	Mean tree biomass per hectare in the tree biomass estimation strata; t d.m. ha-1

And,

$$b_{TREE} = [V_{TREE} \times D \times BEF_2] \times (1+R)$$

b_{TREE}	Mean tree biomass per hectare in the tree biomass estimation strata; t d.m. ha-1
V_{TREE}	Mean tree volume per hectare in the tree biomass estimation strata; m3 ha-1. For this case, it will be the MAI value of each species multiplied by the respective year of plantation establishment.
D	Basic wood density; t m-3
BEF_2	Biomass Expansion Factor; dimensionless
R	Root-to-shoot ratio; dimensionless

Step 3: Mean carbon stock in terms of CO2e

The conversion of the standing tree biomass for each stratum in term of carbon units was calculated according to equation 12 of the AR-TOOL14:

$C_{TREE} = x\ CF_{tree} \times B_{tree}$

C_{TREE}	Carbon stock in trees in the tree biomass estimation strata; tCO2e
CF_{TREE}	Carbon fraction of tree biomass; t C (t d.m.)-1
B_{TREE}	Tree biomass in the tree biomass estimation strata; t d.m.

Carbon in deadwood and litter was calculated using equations 9 and 15 of "A/R Tool 12 Estimation of carbon stocks and change in carbon stocks in dead Wood and litter in A/R CDM projects activities" of the AR-ACM0003 methodology, which accepts the use of a conservative default value that relates the carbon content (in deadwood and litter) as a percentage of the total carbon in the tree's biomass.

$$CDW,i,t = CTREE,i,t\ x\ DFDW$$

Where,

$\boldsymbol{CTREE, i, t}$ Carbon stock in the biomass of trees in stratum I at a time point in year t (tCO2e).

Conservative default value expressing carbon stock in deadwood as a percentage of carbon stock in tree biomass (tCO2e).

$$CLI,i,t = CTREE,i,t\ x\ DFLI$$

Where,

$\boldsymbol{CLI, i, t}$ Leaf litter carbon stock in stratum I at a time point in year t (tCO2e)

$\boldsymbol{CTREE, i, t}$ Carbon stock in the biomass of trees in stratum I at a time point in year t (tCO2e)

The conservative default value that expresses the carbon stock in the litter as a percentage of the carbon stock in the tree biomass (tCO2e).

SOC was calculated using equations 1, 2, 6 and 8 of the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" of the AR-ACM0003 methodology.

$$SOCInitial,i = SOCRef,i\ x\ fLU,i\ x\ fMG,i\ x\ fIN,i$$

Eq. 1

Where,

$\boldsymbol{SOCInitial}$, SOC stock at the start of the project activity in stratum i of the soil areas (tC/ha).

$\boldsymbol{fLU, i}$ Relative factor of change of stock for land use at baseline in stratum i of soil areas (dimensionless).

$\boldsymbol{fMG, i}$ Relative factor of change of the stock for the management regime in the baseline in the stratum i of the soil areas (dimensionless).

$\boldsymbol{fIN, i}$ Relative factor of change of the stock for the regime of reference inputs in stratum i of the soil areas (dimensionless).

$\boldsymbol{SOCRef, i}$ Reference of the soil organic carbon stock corresponding to the reference of native soil condition by climatic region and soil type applicable to stratum i of the soil areas (tC/ha).

SOCLOSS, i = SOCINITIAL, i*0.1

Eq. 2

Where:

SOCLOSS,i, SOC loss caused by disturbances attributable to the AR project activity, in stratum i of the soil area; tC/ha

1. Approximate proportion of SOC loss within the first five years from the year of preparation

The values of SOCRef,i, f LU,i , f MG,i, f IN,i, are taken from tables 3 and 6 of the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities". The values taken are consistent with the type of soil and the management used in the project baseline.

The project did not use machinery for silvi-cultural activities; therefore, there was no disturbance in the soil. Thus, carbon loss is accounted for as follows:

$$\text{SOC}_{LOSS,i} = 0$$

$dSOCt,I =$ Eq.6

Where:

dSOC $_{t,i,}$ Rate of change in the SOC stock in stratum i of the soil areas, in year t; tC/ha * year.

ΔSOC $_{AL,t}$ = i dSOC $_{t,i}$ x 1 year Eq.8

Where:

ΔSOC $_{AL,t}$ Change in the SOC stock in the soil areas that meet the applicability conditions of this tool, in the year; tCO2e

Ai Area of stratum i of soil areas; ha

<u>Calculation of tCERs and lCERs</u>

According to the standard requirements, for those projects where harvesting practices are contemplated on project activities, the loss of carbon due to harvesting shall be included in the quantification of the project emissions. Due to the project activities contemplate an increment on project area with different rotation periods per specie, the long-term average (LTA) GHG benefit was calculated as follows:

$$LTA =$$

Where:

LTA The long-term average GHG benefit

PE $_t$ The total to-date GHG emission reductions and removals generated in the project scenario (tCO2e). Project scenario emission reductions and removals shall also consider project emissions of CO_2, N_2O, CH4 and leakage.

BE_t The total to-date GHG emission reductions and removals projected for the baseline scenario (tCO_2e). Accounted

t Year.

n Total number of years in the established time-period

- Total Carbon by 2022[2]: 481955 t CO2 eq
- LTA from the ex-ante[3]: 1,122,992 t CO2 eq
- Space till reaching the LTA is 641,037 tCO_2e

LTA result is 1,122,992 tCO_2e, given that the total VCUs in the second verification is 481955 tCO_2e after buffer, there are 641037 tCO_2e remaining until reach the LTA.

The project additionally qualified and monitored non-CO2 GHG emissions from any fires (forest fires) that occurred inside the project boundaries. whose accumulated area affected by such fires in a year is > 5% of the project area and These events will be monitored, and the affected area will be recorded. Emissions of non-CO2 GHGs resulting from the loss of above-ground tree biomass due to fire will be calculated in each verification period by using: the above-ground biomass in trees of relevant strata calculated in the previous verification, the default values for the combustion factor, the emission factors, and the global warming potential.

For this monitoring period, it is observed that the accumulated areas affected by fires was less than 5 percent of the project area and therefore estimations using this tool does not need to be quantified. the project follows the modalities and procedures for A/R project activities to estimate net GHG removal by sinks, actual net GHG removal by sinks, and net anthropogenic removal by sinks. Equation 15 of the AR-TOOL 14 was used to calculate the uncertainty in tree volume. The uncertainty value of 6.20%[4] was estimated for the current monitoring period at a 95% confidence level and $\alpha = 0.05$ – according to the methodological tool, there is no discount necessary (< 10% uncertainty). These estimations can be consulted in the ex-post estimations spreadsheet5. The sampling error is also found to be 3.81% and was calculated at a 95% Confidence level and $\alpha = 0.05$.

Leakage:

The assessment of Leakage been revised and now 2 main activities that occurred in the pre-project scenario have been considered for any Leakage calculation- cattle ranching and small-scale subsistence agriculture. From above 2 only the small-scale subsistence agriculture is considered for leakage due to activity displacement to other lands outside of the project area. The first (cattle ranching), does not cause any leakage because this activity has not been displaced.

[2] 01_Supporting Information\Estimations\Ghana Ex-post 20022024 updated.xlsx

[3] 01_Supporting Information\Estimations\Ghana Ex-ante UPDATED.xlms

[4] Supporting information/Estimations/ Ghana Ex-post

[5] Supporting information/Estimations/ Ghana Ex-post

Verification team has assessed the leakage during the site visit and recalculation of Leakage is deemed to be conservative approach.

During the site visit – it was understood that there are no illegal settlement or agriculture or cattle farming in the forest protected area. The Miro has been monitoring and have put multiple check measures to ensure the same.

Regarding cattle ranching, Miro ensured that the Fulani could still move through the area (demonstrated by Miro records) with no negative impact on Miro seedlings by going through the more mature compartments. The compartments selected were those with enough age (and height of the trees) that avoid the trees being eaten by the cattle. Furthermore, these activities are not linked to the forest reserve areas because it is not permanent but seasonal activity. So, during the times of the year when the Fulani crosses the project area, Miro provides them a route to not cause harm to the trees but without displacing their movement across the reserves.

To maintain the relationship with the local community and keep the traditional practices, Miro along with the forestry commission has established seasonal cattle movement plan. Guards with check posts are established to directs the nomadic cattle herdsmen (Fulani) to the mature compartments, where the trees are mature, and damage is avoided. The nomadic cattle herdsmen are educated through trainings and notice boards. Register is maintained to capture for occurrence of any illegal grazing. The audit team as verified their plans and system of controlling the cattle herd. A FAR 03 is raised to ensure the leakage capture from illegal activities from cattle grazing.
It was verified during the site, that there are check post created and forest guards are positioned. There are route maps through which nomadic herdsmen are directed. The physical inspection of these check posts was conducted during the site visit and had interviews with the forest post guards, the herdsmen are diverted to open grass fields and to the areas where matured plantation had already happened. Thus, they ensure that the cattle from the herdsmen do not affect the young plantation.
Also, during the site, audit team interacted with Guards, workers, cowboys regarding the cattle grazing and control measures were verified.

As per the AR tool 15 section 10 (d), cattle are displaced to forested lands and no clearance of trees or decrease in crown cover of trees and shrubs, occurs due to the displaced animals – since the cattle movement are controlled to the matured compartment. Thus, leakage is considered insignificant and accounted to zero in this monitoring period.
In case where there is illegal grazing, the area affected by the illegal grazing will be accounted under the leakage. Thus FAR 03 has been raised for the same.

Regarding the small-scale subsistence agriculture, it falls into the definition of displacement of agricultural activities (Definition 4.7.d) which refers to shifting of the agricultural activities from areas of land within the project boundary to areas of land outside the project boundary. NMFC Livelihood Study _ Development Plan (2014.08.06) indicated 100 ha of farming near to the forest reserves. Accounting to this Micro had shared their further analysis of satellite imaging and areal study accounting 300 ha more (7.15% of project activity area). To the conservative measures Mico has discounted 10% of the project activity area through leakage. These calculations are verified by the auditing team.

To assess the leakage, the A/R Methodological tool: Estimation of the increase in GHG emissions attributable to the displacement of pre-project agricultural activities in A/R CDM project activity, v2.0 (AR-TOOL15) was applied.

The result from the tool is a total leakage of 15758 tonnes of CO2 equivalent,

.

Net GHG Emission Reductions and Removals:

The anthropogenic net removal of GHG by the reservoirs was estimated according to the equation of the AR-ACM0003 presented below:

$$\Delta C_{AR\text{-}CDM,t} = \Delta C_{ACTUAL,t} - \Delta C_{BSL,t} - LK_t \quad Eq.5$$

Where: $\Delta C_{AR\text{-}CDM,t}$ *Net anthropogenic removal of GHG by reservoirs in year t; tCO2e*

$\Delta C_{ACTUAL,t}$ *Net current GHG removal from reservoirs in year t; tCO2e*

$\Delta C_{BSL,t}$ *Net GHG removals by reservoirs at baseline in year t; tCO2e*

LK_t *GHG emissions due to leaks in year t; tCO2e*

Since baseline removals as stated in the Baseline Emissions sections, considering the characteristics of the baseline vegetation, is equal to zero; and emissions due to leakage were considered zero, as explained in section 1.17 and 4.3, net anthropogenic removals are expressed according to the formula:

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

The project proponents applied a buffer discount of a reserve of 10% to cover the aspects related to the risk of non-permanence.

Year	**Baseline emissions or removals (tCO_2e)**	**Project emissions or removals (tCO_2e)**	**Leakage emissions (tCO_2e)**	**VCUs past verification (tCO2e)**	**Net GHG emission reductions or removals (tCO_2e) second verification**	**Buffer pool allocation (tCO_2e)**	**VCUs eligible for issuance (tCO_2e)**
24-03 2016 to 01-11-2020	0			220,414			
02-11-2020 to 31-12-2020	0	42092			21466	2,147	19319
01-01-2021to 31-12-2021	0	256061			130584	13058	117526
01-01-2022 to 19-09-2022	0	183802	15758		93734	9373	84361
Total	**0**	**481955**	**15758**		**245784**	**24579**	**221205**

Final Assessment

It is concluded that the GHG emission removals and reductions spreadsheets are transparent and clearly referenced. The excel sheets were cross checked with the archived monitored data and no discrepancies were found. All the formulae have been found to be correctly applied in the GHG emission removals calculations. Thus, the verification team is confident that the GHG calculation is correct, accurate, traceable and conservative.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

All relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan/3/. No significant lack of evidence and missing data were detected during on site assessment discussion /11/. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures. The monitoring parameters have been measured / determined without material misstatements and is in line with all applicable standards and relevant requirements. The information inflow (from data generation, aggregation, to recording, calculation and reporting) is included in section 4.1 under each parameter and confirms to the requirement of the PD/3/. The field measurements are recorded continuously on the registered VCS PD. The data is then reported annually on the VCS Monitoring Report as verified by the verification team through remote assessment.

It was also verified through on-site audit inspection/11/ that the plant's team involved in the monitoring of project activity is well experienced. Hence, the verification team concludes that competent staff is employed by the project proponent to carry out the relevant tasks with sufficient accuracy. Furthermore, it was confirmed during remote audit discussion that internal training program for the monitoring staff is conducted on regular basis

4.6 Non-Permanence Risk Analysis

Risk factor was assessed using the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination as per Non-Permanence risk tool version 4.0. The risk rating was assessed at validation stage and also reviewed during the previous verification. For this verification, the buffer risk was set at 10%, according to the potential risk and mitigation measurements of the project which has been assessed by Verification team. The assessment is provided below:

4.6.1. Internal Risk

Project Management				
Internal Risk				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB conclusion**
a)	Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located.	2	The project proponent has established 10,495 hectors in Ghana within the Boumfoum, Chirimfa and Awura forest reserves. With the five main species established within these forest reserves include: Eucalyptus, Teak, Acacia, Gmelina and Corymbia. As is the case with most species established within commercial forestry operations, these species are not native to the region. Eucalyptus pellita: is a native species to Australia and Papua New Guinea, and is listed as an exotic species in Brazil, Congo, Fiji, India, Indonesia, Kenya, South Africa, and Uruguay.	Full adaptation of Eucalyptus pellita, Acacia Mangium corymbia citriodora, Gmelina arborea, Tectona grandis has been evidenced in PD and was cross verified by Verification Team. Selection of risk rating is satisfactory.

			Acacia mangium : is native to the humid tropical forests of northeastern Australia, particularly the coastal tropical lowlands of northern Queensland, Papua New Guinea and into Irian Jaya and the Maluku Islands of Indonesia. Corymbia citriodora: is a species of tall tree that is endemic to north-eastern Australia. Gmelina arborea: is a native species to Bangladesh, Cambodia, China, India, Japan, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam, but is introduced as an exotic species to Brazil, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Kenya, Malawi, Malaysia, Nigeria, Sierra Leone,Sudan, Tanzania, Uganda, Zambia. Tectona grandis: is native to south and southeast Asia and is mainly found within Bangladesh, India, Indonesia, Malaysia, Myanmar, Thailand, and Sri Lanka, however the species is naturalised and cultivated in many countries in Africa and the Caribbean.	
b)	Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued.	0	Not Applicable to this project	NA

c)	Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years' experience in the area).	0	All the management team i.e Coenraad Vermaak (General Manager Forestry), Graeme Harrison (Planning Manager),Paul Ayambila (Maintenance Forester) had more than five year experience in the forestry services in their particular region.	This risk is assessed as unlikely as the management team includes individuals with significance experience in skills related to successfully undertake all activities in the project. Also, personnel work under a management system and trained based on SOPs. Selection of risk rating is satisfactory.
d)	Management team VVBs not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area.	0	Miro Forestry, a sustainable plantation forestry development company incorporated in the UK but focused on West Africa, where it has a highly skilled management team present within the country	The validation team has assessed the risk by doing qualitative and quantitative analysisduring on site assessment and confirmed that the highly skilled management team of Miro forestry is present within the country. Verification team had interviewed the

				monitoring personals on sites and also the higher management team to ensure that the Miro forestry has skilled team and has enough capabilities to monitor and implement the management procedures. Selection of risk rating is satisfactory.
e)	Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs.	-2	Miro Forestry engaged with a carbon project development team, South Pole, which has extensive technical expertise in developing AFOLU projects, as well as in-depth knowledge of national and international carbon markets 6 . More information about the project developer is available at www.southpole.com also the management team responsible for managing the project within South Pole includes Jhoanata Bolivar Cardona, Maria Fernanda Buitrago, Lina Vanesa Espitia	The management team includes individuals with significant experience in AFOLU project design and the expertise of Southpole group in several AFOLU project is clearly evidenced. Selection of risk rating is satisfactory.

[6] See the support in the next route: NPRT/1_Internal risks/CV South Pole

f)	**Mitigation:** Adaptive management plan in place.	-2	From the date 6 April 2019, Miro Forestry has taken every precaution to ensure that their adaptive management plans have been formulated and implemented effectively. Presently, the updated forest management plans include the following sections: Management Systems, Planning, Silviculture, Forest Protection, Forest Roads, Harvesting, Infrastructure, Research, Natural Area Management, Social Management, Monitoring, Evaluation and Audit, Review, and Update of Management Plans On this plan these plans, Miro Forestry can demonstrate that such plans are in place (identify, evaluate, and develop a mitigation strategy for potential risks to the project) and that such plans have been evaluated in terms of potential risks and barriers to the project. Miro Ghana is able to illustrate the existence of systems for responding to fluctuating conditions.	The Mitigation Plan as described in the PD is implemented. Selection of risk rating is satisfactory.
Total Project Management (PM) [as applicable, (a + b + c + d + e + f)] Total may be less than zero.		-2	**2+0+0+0-2-2 = -2**	

Financial Viability				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**

a)	Project cash flow breakeven point is greater than 10 years from the current risk assessment	0	Not applicable to this project	NA
b)	Project cash flow breakeven point is between 7 and up to 10 years from the current risk assessment	2	According to the information provided by the project owner it was identified that the project breaks even in the year 2029, i.e. year 9 from the current risk assessment. Revenues from the commercialization of VCUs with an average annual reduction of 52,402 tCO2e were estimated. The reference price for 2022 is $15. A project discount rate of 13% is assumed, the profit tax rate in Ghana is 12.5% and the overhead cost inflation factor is 4%. In addition, revenue from the sale of: Plywood, Poles, Teak and Biomass. Also included are the costs related to the preparation of the documentation to certify the emission reductions, corresponding to the audit (DOE), the support of the project developer in this process, standard fees, and registration fees in the authorized platforms.	It was cross verified during PP interview on onsite visit that With the information provided by the Project Owner [7], it was identified that the project breaks even in the year 2029, i.e. year 9 from the current risk assessment. Selection of risk rating is satisfactory.
c)	Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment	0	Not applicable to this project	NA

[7] S

d)	Project cash flow breakeven point is less than 4 years from the current risk assessment	0	Not applicable to this project	NA
e)	Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven	0	Not applicable to this project	NA
f)	Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven	0	Not applicable to this project	NA
g)	Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven	0	Not applicable to this project	NA
h)	Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven	0	According to available financial information, the project has obtained more than 100% of the necessary financing before reaching the break-even point.	NA
i)	**Mitigation**: Project has available as callable financial resources at	0	On 26/05/2020, Miro Forestry signed agreements for US$48 million of new investment consisting of US$12 million	Selection is deemed satisfactory.

	least 50% of total cash out before project reaches breakeven		each from CDC Group plc and Aqua Ventures FZE together with US$8 million each from the Finnish Fund for Industrial Cooperation Ltd, FMO and the Land Degradation Neutrality Fund SLP, in the form of redeemable preference shares. On 14/01/2021 the Company signed an amendment to the Preference Shares subscription agreement for a further US$16 million of new investment consisting of US$12 million from FinDev Canada and a further US$4 million from the Land Degradation Neutrality Fund SLP, increasing the previous US48million commitments to US$56 million whilst decreasing the existing commitments from CDC Group plc and Aqua Ventures FZE to US$8 million each[8]. These investment resources represent approximately 30% of the annual funding required	
Total Financial Viability (FV) [as applicable, ((a, b, c or d) + (e, f, g or h) + i)] **Total may not be less than zero.**		2		

Opportunity Cost				
Risk	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**

[8] See the support in the next route: NPRT/1_Internal risks/Financial Information/MFD - Audited Consolidated Financial Statements (2021) v3

Factor				
a)	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated	0	Not applicable for this project	Selection is deemed valid
b)	NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities.	0	Not applicable for this project	As above
c)	NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities	0	Not applicable for this project	As above
d)	NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project	0	Agriculture contributes to 54 % of Ghana's GDP, and accounts for over 40 % of export earnings, while at the same time providing over 90 % of the food needs of the country. Ghana's agriculture is predominantly smallholder, traditional and rain-fed, dedicated mainly to satisfy	The description and explanation provided by PP is deemed satisfactory.

	activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated		the consumption of the domestic units (FAO, 2019). Agricultural activities are often carried out on a small scale using raw implements such as sabers and hoes and are also carried out at a subsistence level. In general, Ghana's economy in terms of employment could be classified as predominantly informal and most of the employed are in a vulnerable employment situation, as most of the currently employed persons aged 15 years and above are family workers assisting in family businesses, self-employed persons (farmers, artisans, and laborers, traders, small-scale food processors) (Labour Force Report, 2015).	
e)	NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity	0	It is not applicable for this project	As above
f)	NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity	0	Not applicable for this project	As above
g)	**Mitigation**: Project proponent is a non-profit organization	0	Not applicable for this project	As above
h)	**Mitigation**: Project is protected by legally	-2	The project area for Miro Ghana is insured through 50-year leases signed directly with	Suring onsite assessment and PP

	binding commitment to continue management practices that protect the credited carbon stocks over the length of the project crediting period (see project longevity)		the Forestry Commission. The lease is guaranteed by the State and the contracts were made under the current legal framework of the country	interview it has been assessed that project is protected by legally binding commitment to continue management practices until its crediting period. Hence selection is deemed viable.
i)	**Mitigation**: Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years (see project longevity)	0	Not applicable to this project.	NA
Total Opportunity Cost (OC) [as applicable, (a, b, c, d, e or f) + (g + h or i)] Total may not be less than 0.		-2		

Project Longevity				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**
a)	Without legal agreement or	0	Not applicable	NA

	requirement to continue the management practice			
b)	With legal agreement or requirement to continue the management practice	5	MIRO Forestry has signed a land lease agreement to 50 years with traditional landowners and the Government of Ghana for the reforestation of the project area to restore the productive forest in the degraded forest reserves. This leases construction and benefit-sharing contracts are part of the national policy to restore degraded forest reserves in Ghana, the company have signed a Land Lease and Benefit Sharing Agreement with the Forestry Commission (FC) and other relevant stakeholders for the statutory rights of entry into the Boumfoum Forest reserve, since this time the Company has been signing off agree on terms for a Public-Private Partnership (PPP) agreements. The Company's current total land holding is 17,983 hectares[9].	Selection is deemed viable
	Total Project longevity	5		

Internal Risk	
Total Internal Risk (PM + FV + OC + PL) Total may not be less than zero.	3

4.6.2 External Risk

External Risk

[9] See section 1.7 of the PD " actual situation ".

Land Tenure and Resource Access/Impacts				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**
a)	Ownership and resource access/use rights are held by same entity(s)	0	Not applicable for this project	It has been assessed during the onsite inspection and during interviews with management team that. MIRO Forestry has signed a land lease agreement for 50[10] years with traditional landowners and the Government of Ghana for the reforestation of the project area to restore the productive forest in the degraded forest reserves, under current legal framework of the country. Also this was confirmed by verification team by assessing the Land Lease and Benefit Sharing Agreement with the Forestry Commission (FC)and hence was able to conclude

[10] See the support in the next route: NPRT_2020/1_Internal_risks/ Land Lease

				that A forestry project such as MIRO with a clear management plan and a FSC certification are more robust guarantees of this permanence, compared even with restoration/conservation projects, Hence this risk is not applicable for this project.NA
b)	Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession)	2	Ghana is characterized by a pluralistic legal system where customary and statutory systems overlap. In Ghana, approximately 80% of land is held under customary tenure regimes, and the state officially owns 20% of all land. Customary rules apply in both urban and rural settings. (USAID Land Links, 2020). The Abrimasu Forest Reserve belongs to the people of the Mampong traditional area, who are represented by the stool leader or chief. The inference is that the stool owns the land and is entitled to all profits arising from the property. Several legislative instruments pertaining to land tenure and use have been uncovered by desk research. "All stool lands in Ghana shall vest in the appropriate stool on behalf of and in trust for the subjects of the stool in accordance with customary law and	The justification provided is line with the Land Tenure documents. Also PP has given explanation on the ownership and resource use rights held by different entity

			usage," states Article 267 of the 1992 Constitution. In accordance with the Miro Forestry (Ghana) Limited Preliminary Environmental Report, all stool lands are the property of paramount chiefs, who are the traditional heads of paramount stools. Depending on the form of acquisition, land ownership is frequently hierarchical, with supreme divisional, town, and village stools all having a stake in the land. The Forestry Commission is the mandated custodian of the reserve lands, and the stool landowners have entrusted it with the responsibility of managing and maintaining the reserve as a forest on their behalf	
c)	In more than 5% of the project area, there exist disputes over land tenure or ownership	0	Miro Forestry Company did an E&S Risk Assessment before land development. The Risk Assessment assesses potential E&S risks on a plot-by-plot basis, including a survey of land uses and land users (both legal and illegal). The conclusion is that the communities are willing to lease their lands to Miro and allow Miro to operate fully without any disturbance; community members are willing to move any previous land use to other areas which have been identified. Community people are happy about potential employment and development.	Verification team has assessed the “"Environmental and Social Risk Assessment for 2018 Land Development", done by Miro Forestry Company,” to verify the risk for Land Tenure and Resource Access/Impacts. This was also substantiated during onsite assessment that the communities were willing to lease their lands to Miro to operate without

				disturbances and no disputes have been noted. There is also a grievance mechanism in place which allows any participating stakeholders to record and share any dispute they may have which will be attended to by expert team of Miro. The verification team has assessed the Risk Assessment document and confirms no land is under dispute. Hence selection is deemed viable.
d)	There exist disputes over access/use rights (or overlapping rights)	0	Miro Ghana has a Grievance Mechanism that provides an open and neutral mechanism for grievances to be raised and ensures appropriate mechanisms to resolve any disputes. This is established in "MFC Land Development - Policy, Implementation Framework and E_S Risk Assessment Guidelines".	The verification team has assessed grievance mechanism approach, MFC Land Development - Policy, Implementation Framework and E_S Risk Assessment Guidelines"[11]/19/

[11] See the support in the next route: NPRT_2020/2_External_risks/MFC Land Development - Policy, Implementation Framework and E_S Risk Assessment Guidelines

				which confirms no land is under dispute. However Due to the legal land status in Ghana no habitation is allowed in the reserves. According to the Social Risk Assessment in Ghana there are 4 types of minor activities within them that could create disputes over the land to overcome this issue some guideline is given by PP depending on this case. Hence selection is deemed viable.
e)	WRC projects…	0	Not applicable for this project	NA
f)	**Mitigation**: Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period	-2	MFGH has undertaken the appropriate steps to lease the allotted property from the stool landowners through a signed lease agreement. For fifty years, the company's land lease will provide it with unrestricted access to 240.71 hectares of land.	selection is deemed viable.

g)	**Mitigation:** Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims	0	Not applicable for this project	NA
Total Land Tenure (LT) [as applicable, ((a or b) + c + d + e+ f)] Total may not be less than zero.		**0**	**0+2+0+0-2+0 = 0**	

Community Engagement				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**
a)	Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted	0	At the start of the project only one community was involved in the project area which was consider in the first local stake holder consultation. In May 2022, 11412, residents from the community attended the company's meeting to socialize and learn more about the operations in five	The justification provided is in line with the community engagement document provided for assessment.

[12] Supporting documents/EHSS document/MFGH Community Engagement with South Formangso Communities

			compartments, and the company suggested the local people stop the encroachment activities by giving them employment opportunities. The meeting was successful, but not all the locals were satisfied. Beforehand in 2021, up to 329 people that came from different communities have been consulted regarding the Miro land preparation (village community mapping).	
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted	0	As project proponent Miro has been working in the project area in the Chirimfa and Awura forest reserves, current stakeholders were notified of the company's new allocation in the neighbouring Abrimasu forest reserve. The Konkomba community, which had never been involved with MFGH, was therefore visited Furthermore, Miro Forestry has to date engaged more than 20 percent of households within the 20 km boundary and all communities regularly engaged	The justification provided is in line with the community engagement document provided for assessment
c)	**Mitigation**: The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area	-5	Communities on the edge of the project area will benefit from the Company's ongoing development, which will create a variety of local job opportunities that will directly help the communities. Over the course of the project, the number of jobs is expected to grow. Jobs improve the living conditions and health of workers and their families. Small and medium-sized support businesses have also been started because of the project. These businesses help the local economy in villages near the project area. Also, the company works on participatory	The justification provided is in line with the community engagement document provided for assessment.

			Corporate Social Responsibility (CSR) projects that will improve some of the local infrastructure and help improve the health, education, and general welfare of the local communities. The company is also looking into alternative ways for people to earn a livelihood	
Total Community Engagement (CE) [where applicable, (a+b+c)] **Total may be less than zero.**	-5	**0+0-5 = -5**		

Political Risk				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**
a)	Governance score of less than -0.79	0	Not applicable for this project	Governance Score is 0
b)	Governance score of -0.79 to less than -0.32	0	Not applicable for this project	Governance Score is 0
c)	Governance score of -0.32 to less than 0.19	2	The average (2014-2018 period) Worldwide Governance Indicators (World Bank WGI 2020 Update) [13] score for Ghana is 0.04 (see Worldwide Governance Indicators document[14]).	Governance Score is 2

[13] The World Bank (2020). Worldwide Governance Indicators 2019 Update. Retrieved from: https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators

[14] See the support in the next route: NPRT/ 2_External_risks/ wgidataset

d)	Governance score of 0.19 to less than 0.82	0	Not applicable for this project	Governance Score is 0
e)	Governance score of 0.82 or higher	0	Not applicable for this project	Governance Score is 0
f)	**Mitigation:** Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.	-2	*activities, as set out in this Section 2.3.3.* Ghana is a member of UN-REDD. Ghana has received support on governance and synergies between REDD+ and FLEGT, as well as on national forest carbon inventories through regional targeted support in West Africa. The country also participated in the regional needs assessment on NFMS in West Africa.	
Total Political (PC) [as applicable ((a, b, c, d or e) + f)] Total may not be less than zero.		**0**		

External Risk	
Total External Risk (LT + CE + PC) Total may not be less than zero	**0**

4.6.3 Natural Risk

Natural Risk				
Risk Factor	**Risk Factor and/or Mitigation Description**	**Risk Rating**	**PP justification**	**VVB Conclusion**
a	Fire (F)	0.5	Fire events at Miro Ghana were assessed using historical data available from the	PP conservatively has assessed

			Microforest database and from the fire record shapefiles of the project area. Not all fire events that have been recorded and available within the Microforest were catastrophic and all fires recorded did not lead to mortality of the carbon stocks within the compartment or stands. Of the fire events that occurred during the current monitoring period only 5,16 ha has been lost due to fire mortality from the carbon project area. It was subsequently found that these fire events were considered insignificant in relation to the carbon project area and accounted for less than 5% loss of the carbon stocks within the project area especially for within the current monitoring period. Miro Forestry also has a Fire Management Plan that is regularly updated and mitigation measures in place to prevent and attend to fires as they occur thereby ensuring that minimal stocks are lost	significance for fire risk as "Minor (5% to less than 25% loss of carbon stocks). The selected scores are considered correct as the provided evidence regarding significance, likelihood and mitigation is robust and come from relevant organizations
b	Pest and Disease Outbreaks (PD)	2.5	Pest and disease control is important in plantation forestry. There tends to be a narrower genetic base in plantation forests as compared to natural forests and increased movement of material, leading to a higher risk from pest and disease transmission. Pest and disease issues can include fungal, bacterial, and biological pathogens. The impact of pests and disease vary, but can lead to reduced growth rates, reduced yields, lower quality timber and total crop failure – all of which have a significant financial impact.	VVB has reviewed the document- MFGH FMP_Restoration Plan which justifies the PP statement. Hence, The selected scores are considered correct

			The Company[15] actively employs a range of preventative and control methods to combat pest and disease. It aims to maintain a diversity of planting stock, to ensure that the genetic base of the plantation is wide and varied. It has a dedicated research and development department that trials new commercial species for deployment, continuously evaluates its planted material, and engages with leading research institutions including FABI in South Africa, to ensure that it is abreast of the latest information on pests and diseases. Within the nursery the Company aims to keep conditions as sanitary as possible to ensure that the planting stock is free of pests and disease. The Company aims to avoid exposing trees to extremes of temperature or abnormally high or low levels of water or fertilizer, to eliminate unhygienic conditions and weeds, and to remove dead or dying plants regularly. Where necessary, pesticides and fungicides are employed to combat pathogen outbreaks. It is aware that chemical control is mostly unsuccessful unless backed up by thorough cultural management strategies and aims to ensure that the Company's staff are aware of the need for plant sanitation throughout all operations. MFGH intends to seek expert advice from 3rd party consultants and experts, particularly from the Forestry and Agricultural Biotechnology Institute (FABI) in South Africa, to assist in measures to	

			control the outbreak of diseases and pests within the plantation	
c	Extreme Weather (W)-Extreme floods	2	The extreme weather risk was assessed by the Miro forestry based on continues research 16 and field monitoring trials and found that Appropriate management can reduce the risk and ensure that forests and plantations can capitalise on potential beneficial aspects of climate change for trees. If there are any benefits to be had by trees, forests and plantations from any aspect of climate change, then pursuit of best-practice sustainable forest management is critical (Battaglia and Bruce, 2017)17. Elevated CO2 levels tend to increase the productivity of tree crops, but higher temperatures and lower precipitation are likely to induce stress on plants that are sensitive to extreme	PP has assessed the extreme weather risk and describe in the NPR report. Miro Forestry has obtained FSC certification, which is an indicator of their efforts and implementation of sustainable forestry practice also Miro's ongoing sustainable forest management and forestry practices on their plantations is to respond to the potential impacts of extreme weather events and water scarcity The selected scores are considered correct as the risk is insignificant less than every 10 years likelihood. Hence the validation team confirms that the selected scores are considered correct.

[16] Smith, C., & Brink, W. (2022). Technical review of plantation assets: forest inventory and woodflows prepared for Miro Forestry Developments Ltd. *Paperbark Forestry Consulting*

[16] Tompkins, E.L., Adger, W.N., Boyd, E., Nicholson-Cole, S., Weatherhead, K., Arnell, N. (2010). Observed adaptation to climate change: UK evidence of transition to a well-adapting society. Global Environmental Change: Human and Policy Dimensions *20*, 627–635.

[17] Battaglia, M., & Bruce, J. (2017). Direct climate change impacts on growth and drought risk in blue gum (*eucalyptus globulus*) plantations in Australia. *Australian Forestry*, *80*(4), 216–227.

hat d	Geological Risk (G)	0	Not applicable for this project	The justification for non-selection of the risk is found to be appropriate.
e	Other natural risk (ON1)	0	Not applicable for this project	The justification for non-selection of the risk is found to be appropriate.
Total Natural Risk (as applicable, F + PD + W + G + ON)		5		

4.6.4 Overall Risk Rating

Risk Category	**Rating**
a) Internal Risk	3
b) External Risk	0
c) Natural Risk	5
	8
Overall Risk Rating (a + b + c) **(Considering that the minimum risk rating shall be 10, regardless of the risk rating calculated)**	10

As per the paragraph 2.5.4 of AFOLU Non-Permanence Risk Tool v 4.0, the overall risk rating shall be rounded up to the nearest whole percentage. Hence 10 % of the total VCUs generated will be kept in buffer account as per the clause 2.5.5 of VCS version 4.1.

4.6.5 Risk Analysis Assessment Conclusion

This risk assessment has been performed at the time of validation and has been checked again for this third Verification period as recommended by the VCS standard. The assessment shows that the project is at the current point in time at a relatively low risk of 10%.

Final Assessment

The Verification team has collected and reviewed all information used to prepare this risk analysis. Also, by means of the on-site assessment in 2022 the risk level has not been changed, due to good management, clear land titles and stable external conditions.

5 VERIFICATION OPINION

KBS Certification Services Ltd. has been commissioned by 'South Pole Carbon Asset Management S.A.S.' to perform verification of its registered VCS project 'Restoration of degraded forest reserve areas in Ghana, West Africa" for the monitoring period 02-11-2020 to 19-09-2022 (Inclusive of both days) under the crediting period 24th March 2016 to 30th June 2045, with regard to the relevant requirements of VCS Standard Version 4.4..

The management of the 'South Pole Carbon Asset Management S.A.S.' with the help of Miro Forestry Development Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project final Monitoring Report Version 4.6 dated 12/04/2024. The calculation and determination of GHG emission reductions from the project is the responsibility of the management of the 'South Pole Carbon Asset Management S.A.S. The development and maintenance of records and reporting procedures are in accordance with the Monitoring Report Version 4,6 dated 12/04/2024

.

It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 02-November-2020 to 19-September-2022 (Inclusive of both days) based on the reported emission reductions in the final monitoring report version 4.6 dated 12/04/2024 for the same period.

As a result of the verification, the verification team confirms that:

All operations of the project are implemented and installed as planned and described in the project description.

The monitoring system is in place and functional.

The installed equipment essential for generating emission reductions runs reliably.

The GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, KBS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

In addition, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. KBS herewith confirms that the project has achieved emission reductions in the above mentioned reporting period as follows:

Verification period: From 02nd November 2020 to 19th September -2022 (Inclusive of both days)

The total area under the second monitoring verification is 3,871 ha. The second monitoring period aims to verify the estimated 221205 tCO2e net GHG emission reductions (considering 10% buffer credits) achieved during the current defined monitoring period.

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

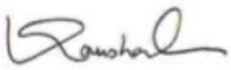
Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	VCUs past verification (tCO2e)	Net GHG emission reductions or removals (tCO_2e) second verification	Buffer pool allocation (tCO_2e)	VCUs eligible for issuance (tCO_2e)
24-03-2016 to 01-11-2020	0			220,414			
02-11-2020 to 31-12-2020	0	42092			21466	2,147	19319
01-01-2021 to 31-12-2021	0	256061	15758		130584	13058	117526

01-01-2022 to 19-09-2022	0	183802			93734	9373	84361
Total	**0**	**481955**	**15758**		**245784**	**24579**	**221205**

Location: Faridabad

Date: 18-April-2024

Authorized Signatory:



Kaushal Goyal

Managing Director

KBS Certification Services. Ltd.

Abbreviations

BAU	Business as usual
CL	Clarification request
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CL	Clarification Request
DABI	Environmental Diagnosis of Low Impact Activities
DNA	Designated National Authority
EB	CDM Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSC	Forest Stewardship Council
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MARN	Ministry of Environment and Natural Resources of the Republic of Guatemala
MP	Monitoring Plan
MR	Monitoring Report
NEOSA	Negocios Energéticos de Occidente S.A.
PP	Project Proponent
QC/QA	Quality control/Quality assurance
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VCS - PD	VCS - Project Description
VCU	Verified Carbon Unit
VT	Verification team
VVB	Validation/Verification Body
VVM	VCS Validation and Verification Manual
XLS	Emission Reduction Calculation Spread Sheet

APPENDIX 1: REFERENCES

/1/	/1.1/ Monitoring Report, Version 01, dated 23 December 2021 (Initial Version) /1.2/ Monitoring Report, Version 4.6 dated 12/04/2024 (Final Version)
/2/	/2.1/ Emission Reduction calculation sheet dated 23 December 2021 (corresponding to initial Version of VCS MR) /2.2/ Emissions Reduction calculation Sheet, dated 14-April-2022 (corresponding to final Version of VCS MR)
/3/	/3.1/ Registered VCS-PD dated 01/03/2022 /3.2/ VCS Validation-verificatio report dated 28/02/2022
/4/	➢ Verified Carbon Standard Ver. 4.4 ➢ VCS Validation and Verification Manual ver. 3.2 ➢ Registration and issuance Process v 4.0 ➢ AFOLU Non-Permanence Risk Tool ver. 4.0 ➢ VCS Program Guide ver. 4.0 ➢ AFOLU Requirements ver. 3.6 ➢ Guidelines for Sampling and Surveys for CDM Project Activities and Programme Activities, Version 04.0" ➢ "Standard for Sampling and Surveys for CDM Project Activities and Programme Activities, version 09.
/5/	VCS Programme guide Version 4.1
/6/	GIS Database- Project Boundary
/7/	Stratum and Sampling Plots
/8/	Non Permanence Risk Report ASORPAR version 2 dated 14-04-2023 Risk Report Calculation Tool ASORPAR version 02 Internal Risk assesment docuemnts External Risk assesemnt docuemnt Natural Risk assesemnt document Threat Assesment Report
/9/	Tree Measurement database
/10/	AR-ACM0003 "Afforestation and reforestation of lands except wetlands" (Version 2.0),
/11/	Onsite for verification of measuring and monitoring procedure, • Video recordings & snapshots of the project site of sample plots • Interviews and data/log review

/12/	Standard Operating Precedures
/13/	CDM guideline for assessment of changes, regarding the impacts on the applicability of the methodology, additionality or the appropriateness of the baseline scenario, EB 48.
/14/	Supportives assesed: I. Adaptive management plans II. Ghana planning enumeration_SOP procedures III. MFD policies IV. Miro 3rd party review section V. Land leasing VI. EPA Licences VII. EHSS and report VIII. FSC certificated IX. land leasing docuemnts X. Preliminary environmental report XI. Undertaking letter XII. Eligibility_AR_MIRO_Ghana
/15/	VCS declaration for avoidance for double counting
/16/	Plots co-ordinates excel
/17/	Grievance logbook
/18/	GIS shapefiles
/19/	NPRT_2020/2_External_risks/MFC Land Development - Policy, Implementation Framework and E_S Risk Assessment Guidelines

APPENDIX 2: FINDINGS

Summary of findings	CAR	CL	FAR
	05	04	04

Table 1. Remaining FAR from validation and/or previous verifications

No FAR raised during validation and previous verifications.

~~FAR ID~~		~~Section no.~~	-	~~Date:~~
~~Description of FAR~~				
~~Project participant response~~				~~Date:~~
~~Documentation provided by project participant~~				
~~VVB assessment~~				~~Date:~~

Table 2. CL from this validation/verification

CL ID	CL 01	**Section no.**	*1.4*	**Date:** 22/12/2022
Description of CL				
Under section 1.1 it is reported as “the total area under the second monitoring verification is 3,830.70 ha ”. However, as reported in the ER sheet provided, the total area is reported as 3830.74 ha. Furthermore, under section 4.3.3, in Table 11, the total project area is indicated as “3,921,0 ha”. PP to confirm and clarify exact project area considered during second verification with supportive evidence.				
Project participant response		**Date:** 22-01-2023		
The total area considered during the second verification has been updated and now reported as 3,830.73 ha in the Ex-post and Project Area and Sample Plot Calculation Sheet provided as supports. The total project area being considered for this monitoring period has been corrected in section 1.1 and under section 4.3.3, Table 11 to also read 3,830.73 ha correctly.				
Documentation provided by project participant				

Supporting documents/Estimations/Ghana Ex-post

Supporting documents/Estimations/Project Area and Sample Plot Calculation Sheet

DOE assessment	**Date:** 07/02/2023

The total area under second monitoring report is now updated and reported as 3,830.73 hac which has been cross verified from data presented in Excel sheet. However, in revised MR, under Table 8-(*Stratums defined for GHG emission reductions and removals estimations*) the area considered for strata or Management Unit (MU) **3.3** is reported as 56.4 ha. However, this unit 3.3 and species is not reported in shared Supportive document. PP to confirm and clarify.

Tectona grandis	2018	Eligible	56.4	3.3

Hence this **CL is Open now.**

Project participant response	**Date:** 14/04/2023

The total area under the second monitoring report has been cross referenced and updated. The total project area reported during this verification is 3871 ha as can be viewed within the following supports: Supporting documents/Estimations/Ghana Ex-post and within the Ex-ante (Database tab, sheet 2). The project area referenced is also as depicted in the PDD, page 8 (Table 8).

Table 8 has now been updated to Table 10 in the revised MR (page 40) as seen in the screenshot.

Table 10. Stratums defined for GHG emission reductions and removals estimations

Species	Year	Eligibility	Area (ha)	Strata
Acacia mangium	2016	Eligible	183.6	1.1
Eucalyptus spp	2016	Eligible	611.2	1.2
Tectona grandis	2016	Eligible	227.1	1.3
Corymbia citriodora	2016	Eligible	130.2	1.4
Acacia mangium	2017	Eligible	129.4	2.1
Eucalyptus spp	2017	Eligible	386.1	2.2
Gmelina arborea	2017	Eligible	6.8	2.3
Tectona grandis	2017	Eligible	48.4	2.4
Corymbia	2017	Eligible	49.7	2.5
Acacia mangium	2018	Eligible	188.0	3.1
Eucalyptus spp	2018	Eligible	717.3	3.2
Tectona grandis	2018	Eligible	56.4	3.3
Gmelina arborea	2018	Eligible	77.2	3.4
Corymbia citriodora	2018	Eligible	131.1	3.5
Other sp	2018	Eligible	6.4	3.6
Acacia mangium	2019	Eligible	33.3	4.1
Eucalyptus spp	2019	Eligible	343.8	4.2
Tectona grandis	2019	Eligible	17.4	4.3
Gmelina arborea	2019	Eligible	511.0	4.4
Corymbia citriodora	2019	Eligible	13.6	4.5
Other sp	2019	Eligible	2.9	4.6
TOTAL			**3,871**	

In addition to stratum/Monitoring unit 3.3, stratums 4.3, 4.5 and 4.6 were found to have been omitted from the estimations and supports, they have since been correctly included into the Ex-post sheet and can be viewed in the following supports (Supporting documents/Estimations/Ghana Ex-post). The related updates have also been undertaken in the Monitoring Report as required (Table 10, Page 40; Table 13, page 44).

Documentation provided by project participant	
Supporting information/Estimations/Ghana Ex-post Supporting information/Estimations/Ghana Ex-ante Supporting information/Estimations/Project Area and Sample Plot Calculation Sheet	
DOE assessment	**Date:** 20/06/2023
The explanation provided by PP is checked against supportive and found to be appropriate. Hence this finding is CLOSED.	

CL ID	CL 02	Section no.	*1.4 / 4.1*	**Date:** 22/12/2022

Description of CL

1. Under section 1.1, it is mentioned that "*Currently, MFGH has approximately 10,495 hectares established in Ghana with five species: Eucalyptus, Teak, Acacia, Gmelina and Corymbia in the Boumfoum, Chirimfa and Awura Forest Reserves*". However,

- As per registered PDD "*Miro Forestry Developments Limited (Miro Forestry) has over 10,000 hectares established in Ghana with five species".* With reference to this PP shall clarify whether there has been expansion in total land area considered for plantation.
- As per table 7 under section 3.1 of the submitted MR, PP shall clarify how the total area considered here for the eligibility analysis totals to 8,821.05, instead of the above mentioned 10,495 hectares.
- Additionally, PP shall clarify the eligible area for the plantation activities under the reported area of "*10,495 hectares" as* per the eligibility conditions defined in section 1.3 of the registered Joint PD & MR.

2. The registered PD sates that "*The project forecast an average expansion of 1,500 hectares per year for six years more until reaching approximately 14,000 hectares of holdings in 2025 through the addition of new project areas* ".

However in MR it is reported that "*Currently, MFGH has approximately 10,495 hectares established in Ghana with five species: Eucalyptus, Teak, Acacia, Gmelina and Corymbia in the Boumfoum, Chirimfa and Awura Forest Reserves. Approximately 65 percent of the corporation's leased land is now suitable for agricultural use. As a result, the company is actively investigating chances to acquire additional 4,000 hectares*". With reference to this PP needs to clarify if additional inclusion of land shall exceed 14000 hac holdings? Also, PP to clarify the implication of additional land inclusion on project scale, size, additionality assessment?

Project participant response	**Date:** 23-01-2023

1. As per PDD Miro forestry has over 10,000 ha established in Ghana. However, in 2021, there was an additional 495 ha that was acquired by land lease by Miro Forestry, this takes the total land holdings acquired by Miro Forestry up to 10,495 ha.

   The total area of 10,495 ha of land holdings available to Miro Forestry is all not currently planted as planting operations are done so in a phased approach. It should therefore be noted that this

10,495 ha refers to the land holdings that has been acquired by Miro to date and do not refer to the planted area to date or the area that is considered eligible for the project.

On an annual basis Miro Forestry determines which lands will be planted and therefore the eligibility analysis for those new expansion areas is only conducted after planting has occurred. From those planted areas, not all will qualify as eligible project areas. The non-eligible project area is not included as project area and those areas that are listed as non-eligible will not be included into the total project area.

The 8,821.05 ha that has been mentioned in table 7 under section 7 refers to the total area planted to date by Miro Forestry in all of their current land holdings irrespective if the project area is considered eligible and non-eligible. The paragraph below table 7 stated that: "The total number of hectares specified above is the total gross area established between November 2016 and July 2022 without the eligibility analysis". Therefore, in table 7, the areas that were planted after 2019 were updated to show the planting operations conducted by Miro Forestry on an annual basis and therefore the remaining areas from the 10,495 ha has not yet been planted. However, we hereby state that we remove Table 7 from the Monitoring report as the entire established planting area to date is not considered for this project activity as it is not indicative of the eligible project area.

To date, of the 10 495 ha reported, 3,871 ha is considered eligible for the 2016-2019 period as stated in the PDD, Section 1.3, Table 8 and can be viewed in the support Ghana Ex-ante (under the DB tab- Suma de Area_ha table (column cc) or GIS Strata tab (column e). For newly planted areas evaluated in 2020-2022, an eligibility assessment was run, and 1,446.85 ha was found to be eligible as per the methodological applicability and can be found in the supports: Eligibility AR_Miro_Second Verification_new _areas.

2. As per the PDD, the project forecasts an average expansion of 1,500 ha per year for six years more until reaching approximately 14,000 hectares of holdings in 2025 through the addition of new project areas. It should be noted that this refers to the expansion of the currently considered eligible area only, hereby stated to be 3,871 ha as above. All expansion areas considered henceforth will expand by 1,500 ha per year until the 14,000ha of eligible project area is reached. As previously mentioned above, not all the 10 495 ha that has been considered eligible for the carbon project. The land holdings of Miro will not exceed 14 000 ha of "eligible project area", therefore there is no implication of land inclusion that will affect the project scale, size, additionality.

   As each new land lease is acquired and planted by Miro Forestry, eligibility analysis will be conducted and analyzed accordingly.

Documentation provided by project participant
Supporting information/Estimations/ Ghana Ex-post.xlsx
Supporting information/Estimation/ Ghana Ex-ante.xlsx
Supporting information/PO Information/Eligibility_AR_Miro_Second Verification_new_areas.doc
Supporting information/GIS Shapefiles/Project Area.shp

DOE assessment	**Date:** 07/02/2023

1. Verification team has assessed the response provided by PP and accepts that 10,495 ha refers to the land holdings that has been acquired by Miro to date and do not refer to the planted area to date or the area that is considered eligible for the project. **Hence this part of CL 2 is now CLOSED.**

2. Verification team is in accordance with the PP response that states "The land holdings of Miro will not exceed 14 000 ha of "eligible project area", therefore there is no implication of land inclusion that will affect the project scale, size, additionality" However VT shall imply this to be verified and observed for proceeding Verification tenures too. **Hence this part of CL 2 shall be raised as FAR 04.**

Also, PP has mentioned above "*It should be noted that this refers to the expansion of the currently considered eligible area only, hereby stated to be 3,871 ha as above*" , However the land under project area is reported as 3,830.73 hac by PP in response to CL 1 above ,which has been cross verified from data presented in Excel sheet. PP to conform and clarify.

Hence, this part of CL 2 is OPEN.

Project participant response	**Date:** 14/04/2023

The area stated above has been rechecked and is now correctly found to be 3,871 ha, this can be cross verified and referred to in the Pivot table in the Ex-ante estimation sheet in the tab 2.DB, Tab 3. GIS_strata or Tab 12. LTA (refer to planted hectares per year for 2016-2019) (Below is a screenshot of Tab 3.GIS_strata.

Name	Specie	Year	Eligibility	Area (Ha)	Strata
Acacia	*Acacia mangium*	2016	Eligible	183,6	1,1
Eucalyptus	*Eucalyptus spp*	2016	Eligible	611,2	1,2
Teak	*Tectona grandis*	2016	Eligible	227,1	1,3
Corymbia	*Corymbia citriodora*	2016	Eligible	130,2	1,4
Acacia	*Acacia mangium*	2017	Eligible	129,4	2,1
Eucalyptus	*Eucalyptus spp*	2017	Eligible	386,1	2,2
Gmelina	*Gmelina arborea*	2017	Eligible	6,8	2,3
Teak	*Tectona grandis*	2017	Eligible	48,4	2,4
Corymbia	*Corymbia*	2017	Eligible	49,7	2,5
Acacia	*Acacia mangium*	2018	Eligible	188,0	3,1
Eucalyptus	*Eucalyptus spp*	2018	Eligible	717,3	3,2
Teak	*Tectona grandis*	2018	Eligible	56,4	3,3
Gmelina	*Gmelina arborea*	2018	Eligible	77,2	3,4
Corymbia	*Corymbia citriodora*	2018	Eligible	131,1	3,5
Other sp	*Other sp*	2018	Eligible	6,4	3,6
Acacia	*Acacia mangium*	2019	Eligible	33,3	4,1
Eucalyptus	*Eucalyptus spp*	2019	Eligible	343,8	4,2
Teak	*Tectona grandis*	2019	Eligible	17,4	4,3
Gmelina	*Gmelina arborea*	2019	Eligible	511,0	4,4
Corymbia	*Corymbia citriodora*	2019	Eligible	13,6	4,5
Other sp	*Other sp*	2019	Eligible	2,9	4,6
	TOTAL			**3871**	

Planted and projected areas by specie		
Species	Area eligible 2016-2019)	Future hectares per year (2020-2025)
Eucalyptus	2058	900
Acacia	534	150
Teak	349	0
Corymbia	325	0
Gmelina	595	450
Other sp	9	0
Total	3871	

The project area of 3,871 ha is also updated and correctly represented within the Ex-post estimation and can be referred to in the following support: Supporting information/Estimations/ Ghana Ex-post.xlsx. The correct project area size within the Ex-post can be found in tab 3.MU; 4.Uncertainity_CDM; 5.Sampling Error and 6.ER Ct. The related updates have also been undertaken in the Monitoring Report as required (Page 4; Table 10, Page 40; Table 13, page 44).

MU	Year	Sp	Eligible Area (Ha)	Management Unit	N° Plots	Average plot	Monitored	Intensity (%)	Date
1,1	2016	Aman	183,8	1,1	10	500	0,50	0,27%	09/06/2022
1,2	2016	Eucs	611,2	1,2	11	500	0,55	0,09%	09/06/2022
1,3	2016	Teak	227,1	1,3	5	500	0,25	0,11%	09/06/2022
1,4	2016	Corym	130,2	1,4	5	500	0,25	0,19%	09/06/2022
2,1	2017	Aman	129,4	2,1	5	500	0,25	0,19%	09/06/2022
2,2	2017	Eucs	386,1	2,2	22	500	1,10	0,29%	08/30/2022
2,4	2017	Teak	48,4	2,4	8	500	0,40	0,83%	09/05/2022
2,5	2017	Corym	49,7	2,5	5	500	0,25	0,50%	08/29/2022
2,3	2017	Gmelina	6,8	2,3	5	500	0,25	3,68%	09/05/2022
3,1	2018	Aman	188,0	3,1	8	500	0,40	0,21%	09/05/2022
3,2	2018	Eucs	717,3	3,2	17	500	0,85	0,12%	09/06/2022
3,5	2018	Corym	131,1	3,5	5	500	0,25	0,19%	09/06/2022
3,4	2018	Gmelina	77,2	3,4	5	500	0,25	0,32%	09/06/2022
3,6	2018	Other	6,4	3,6	5	500	0,25	3,93%	09/06/2022
4,1	2019	Aman	33,3	4,1	5	500	0,25	0,75%	09/05/2022
4,2	2019	Eucs	343,8	4,2	12	500	0,60	0,17%	09/05/2023
4,4	2019	Gmelina	511,0	4,4	19	500	0,95	0,19%	07/06/2022
3,3	2018	Teak	56,45	3,3	8	500	0,40	0,71%	07/06/2022
4,3	2019	Teak	17,4	4,3	5	500	0,25	1,44%	07/06/2022
4,5	2019	Corym	13,6	4,5	5	500	0,25	1,84%	07/06/2022
4,6	2019	Other	2,9	4,6	2	500	0,10	3,43%	07/06/2022
			3871						

Stratums defined as per Ex-ante

Name	Specie	Year	Eligibility	Area (Ha)	Strata
Acacia	*Acacia mangium*	2016	Eligible	183,6	1,1
Eucalyptus	*Eucalyptus spp*	2016	Eligible	611,2	1,2
Teak	*Tectona grandis*	2016	Eligible	227,1	1,3
Corymbia	*Corymbia citriodora*	2016	Eligible	130,2	1,4
Acacia	*Acacia mangium*	2017	Eligible	129,4	2,1
Eucalyptus	*Eucalyptus spp*	2017	Eligible	386,1	2,2
Gmelina	*Gmelina arborea*	2017	Eligible	6,8	2,3
Teak	*Tectona grandis*	2017	Eligible	48,4	2,4
Corymbia	*Corymbia*	2017	Eligible	49,7	2,5
Acacia	*Acacia mangium*	2018	Eligible	188,0	3,1
Eucalyptus	*Eucalyptus spp*	2018	Eligible	717,3	3,2
Teak	*Tectona grandis*	2018	Eligible	56,4	3,3
Gmelina	*Gmelina arborea*	2018	Eligible	77,2	3,4
Corymbia	*Corymbia citriodora*	2018	Eligible	131,1	3,5
Other sp	*Other sp*	2018	Eligible	6,4	3,6
Acacia	*Acacia mangium*	2019	Eligible	33,3	4,1
Eucalyptus	*Eucalyptus spp*	2019	Eligible	343,8	4,2
Teak	*Tectona grandis*	2019	Eligible	17,4	4,3
Gmelina	*Gmelina arborea*	2019	Eligible	511,0	4,4
Corymbia	*Corymbia citriodora*	2019	Eligible	13,6	4,5
Other sp	*Other sp*	2019	Eligible	2,9	4,6
	TOTAL			3871	

Documentation provided by project participant

Supporting information/Estimations/ Ghana Ex-post.xlsx

Supporting information/Estimation/ Ghana Ex-ante.xlsx

DOE assessment	**Date:** 10/6/2023

The explanation provided by PP is checked against supportive and found to be appropriate. Hence this finding is CLOSED.

CL ID	**CL 03**	**Section no.**	*3.3*	**Date:** 22/12/2022

Description of CL

Under section 3.2.2 it is reported that a project description deviation was made with regard to establishment of temporary sample plots. The number of sample plots considered for second verification is 152 as compared to "*822 circular (313) and square (509) plots of 500 and 400 m2" during first verification.* PP to clarify the following regarding the above-mentioned deviation:

1. In accordance with the requirement of section 3.19 of the VCS Standard version 4.4, it shall be clarified how the described deviation does not fall into the category of methodology deviations.
2. How the reduction in sample plots can be accounted as conservative despite the increase in total project area with new compartments.

Project participant response	**Date:** 22/01/2023

1 As per the requirement of section 3.19 of the VCS Standard version 4.4. the described deviation has now been correctly listed as a methodology deviation as seen in section 3.2.1, page 31.

2 The project area under verification is 3,830.73 ha for this monitoring period as no new stratums are being monitored. The calculation of sample plots takes into consideration only the 3,830.73 ha that is being considered, and given that the project has multiple strata, the allocation of the total number of sample plots for each stratum were stratified based on the proportion of PSP's that were monitored at the previous verification. By determining the appropriate proportion of PSPs for each strata, the calculation takes into consideration the conservativeness of each stratum in relation to the previous verification based on the strata's monitoring intensity. The decrease in the number of the PSP's also does not affect the estimation of the biomass of the strata as the margin of error for the calculation of the PSP's were maintained at 5% with a 95%

	confidence level. To further ensure that the sample size did not affect the biomass estimation all PSPs were measured at 500m2 circular radius. As the project area expands and new strata are developed, new PSPs will be established and the CDM_A/R Methodological Tool "Calculation of the number of sample plots for measurement within the A/R CDM project activities. Version 2" will be calculated as needed to increase the total PSP number for the project area.
Documentation provided by project participant	
Supporting information/Estimations/Project Area and Sample Plot Calculation Ghana	
DOE assessment	**Date:** 10/02/2023
1. In accordance with VVS vers4.4, section 3.19 Methodology Deviations- *Projects may deviate from the procedures set out in methodologies in certain cases, where alternative methods may be more efficient for project-specific circumstances, and where the deviation will achieve the same level of accuracy or is more conservative than what is set out in the methodology.* PP to further justify how this deviation stated shall provide more accuracy level. Also it is reported in revised MR under section 3.2.1- *"The need for the deviation is related to an error identified in the PDD and first monitoring report whereby all enumeration data that was available was used for the ex-post calculations for estimating of the biomass*". PP to clarify if PP intends to correct and attune the error in PD to be consistent for forthcoming verifications? . **Hence this CL 3 is OPEN**	
Project participant response	**Date:** 14/04/2023
Upon further review of the VCS Standards version 4.4, section 3.20 Project Descriptions Deviation, the deviation related to the reduction of permanent sample plots within the project boundary meets the requirements of a project description deviation. Upon further clarifications with the VVB, the deviation has now been updated as a Project Description Deviation in the MR (Section 3.2.2 Project Description Deviation, page 30) . The deviation has been updated in the MR and hence removed from section 3.2.1 Methodology deviation, as the deviation does not meet the requirements for it to be listed in that category. This deviation does not impact the applicability of the methodology, additionality, or appropriateness of the baseline scenario and therefore the project remains in compliance with the applied methodology. The deviation does not relate to any other part of the methodology and does not affect the conservativeness of the quantification of the GHG emission reductions or removals as described below. Miro Forestry previously utilized the sampling recommendations as per the FSC Guidelines and as per their operational and research needs which resulted in the establishment and monitoring of 822 plots. During the previous monitoring period, all enumeration data for the 822 PSPs that was available was used for the ex-post calculations for estimation of the biomass within the project boundary. However, the monitoring of such a high number of PSP's during any given monitoring period is a tedious task which requires lengthy timeframes with a big enumeration team which is not ideal for the monitoring of PSPs for this carbon project. Therefore, a deviation is undertaken to determine the correct sample size of PSPs required for the project area/boundary. By determining the correct sample size of PSPs required for the project area (lower sample size) the monitoring of the PSPs can be conducted	

within a faster timeframe by the enumeration team for the carbon project. The reduced PSPs can still also be used to determine the biomass within the project area with high precision and without compromising the accuracy of the sample. The decrease in the number of PSP's from the previous monitoring period does not affect the estimation of biomass of the strata as the margin of error is maintained at 5% and at a 95% confidence level, guaranteeing the best accuracy for the relevant stratums biomass estimation. All plots will also be measured at 500m^2.

During project development the CDM_A/R Methodological Tool" Calculation of the number of sample plots for measurements within A/R CDM project activities Version 02.1 should be used to determine the correct sample size for the project area/boundary of interest. Should the tool have been run during the project design or at the previous monitoring period the permanent sample plots would be statistically determined and found to be 152[1] instead of using the 822 enumeration plots data as originally put forth. The number of plots calculated in this verification was 152 plots[2], therefore no further calculation is required as per the requirements of the tool. Given that the project has multiple strata, the allocation of the total number of PSPs for each stratum were also then stratified based on the proportion of the PSP's that were monitored at the past verification. The calculation of the PSPs therefore takes into consideration the conservativeness for each stratum by ensuring the correct proportion of plots are monitored in relation to the previous monitoring period.

This deviation becomes effective for this monitoring period. Therefore, the deviation taken affects all monitoring periods henceforth. Having determined that the correct sample size for the PSPs was 152, a random selection of 152 plots from within the 822 currently established PSP's were undertaken using Microsoft Excel and ArcGIS. Therefore these 152 PSPs are a subset of the previously established 822 PSPs and therefore no biomass was lost and the end result of the biomass estimation within the project boundary is not compromised and the accuracy of the biomass estimation is maintained as per the requirements of the standard. In addition, the tool will be updated when new PSP's will need to be established for new strata affiliated with a new planting year and species for additional eligible areas that are added into the total project boundaries. The inclusion of an additional 21 PSPs for strata 3.3, 4.3, 4.5 and 4.6 have been added for the relevant monitoring units bringing the total number of PSP's established and monitored to date as 173 for the project area.

Furthermore, as the per the change of category of the deviation and review of the requirements of the Standards version 4.4, section 3.20 Project Description Deviation, Procedure 2): "Where the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, and the project remains in conformance with the applied methodology, t**he deviation shall be described and justified in the monitoring report.** This shall include a description of when the changes occurred and the reasons for the changes. The deviation shall also be described in all subsequent monitoring reports". We thereby state that we do not intend to correct and attune the error in PD as it is not a requirement and can be simply justified in the monitoring period.

Documentation provided by project participant	
Supporting information/Estimations/Project Area and Sample Plot Calculation Ghana	
DOE assessment	**Date:** 10/06/2023
The explanation provided by PP is checked against supportive and found to be appropriate. Hence this finding is CLOSED.	

CL ID	CL 04	Section no.	*NPR*	**Date:** 22/12/2022

Description of CL

With reference to Non-permanence risk tool and buffer accounted for present verification period-

- PP to clarify the selection of the likelihood for the fire outbreaks analysis been considered for calculation .
- PP to update the final estimation table in MR representing the total buffer considered in calculation of VCUs
- PP to clarify why the risk assessment has been reduced to 10% in comparison with 19 % considered during first assessment.

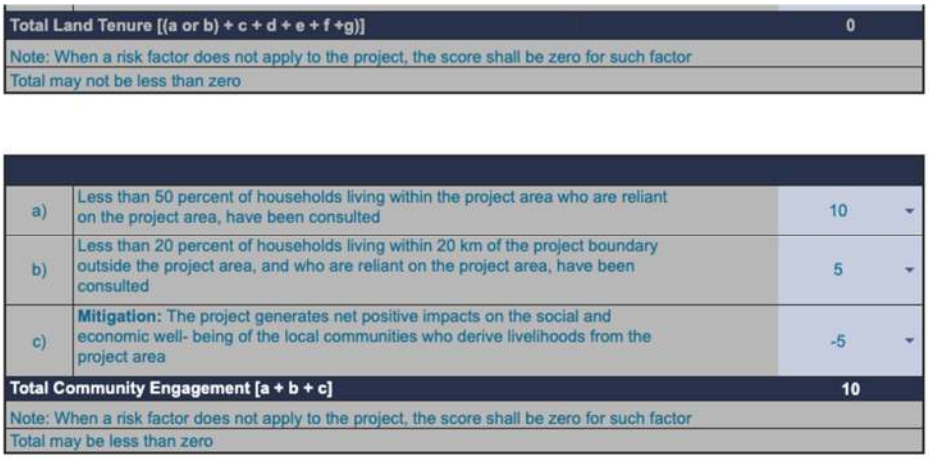
Project participant response	**Date:** 22/01/2023

- Fire events at Miro Ghana were assessed using historical data available from the Microforest database and from the fire record shapefiles of the project area. Not all fire events that have been recorded and available within the Microforest were catastrophic and all fires recorded did not lead to mortality of the carbon stocks within the compartment or stands. Of the fire events that occurred during the current monitoring period only 5,16 ha has been lost due to fire mortality from the carbon project area. It was subsequently found that these fire events were considered insignificant in relation to the carbon project area and accounted for less than 5% loss of the carbon stocks within the project area especially for within the current monitoring period. Miro Forestry also has a Fire Management Plan that is regularly updated and mitigation measures in place to prevent and attend to fires as they occur thereby ensuring that minimal stocks are lost.

  The supporting documents can be consulted in: Supporting information/Estimations/Fire Report and Analysis Ghana and NPRT/3_Natural_risks/Fire Report and Analysis Ghana.
- Table 17 (now updated to Table 13) has been accordingly updated in the MR and can be referred to in page 52. The total buffers considered in the calculations of the VCs are now available.
- The risk assessment has been reduced to 10% during this monitoring period due to the following reasons:

  - With regards to Natural Risk Category the risk mitigation score was changed from 0,50 to 0,25 during the current assessment. This change takes into consideration that the fire analysis showed that fire is not a significant threat in Ghana as originally believed to the current eligible project area and the fact that the project proponent has in place very strong mitigation practices in place for fire that was not previously assessed.
  - With regards to External Risk Category, under Total Land Tenure the risk score was changed from 10 to 0 during the current assessment. This change is related to the values associated with a.10; b.5; and c.-5 from the previous assessment whereas in the current assessment the following values were applied, a. 0; b.0; and c.-5. As per the note, when a risk factor does not apply to the project, the score shall be zero for such factor. After evaluation of the Total Land Tenure category, it was decreased to zero as all 800 households residing around the project area have been consulted and we state that more than 50 percent of the households reliant on the project have been consulted. In addition, Miro has consulted more than 20 percent of the households living within the 20 km radius of the project as the Konkomba community and neighbouring Abrimasu forest reserve was also engaged. There are currently only 800 households adjacent to the project area and all these households have been consulted.

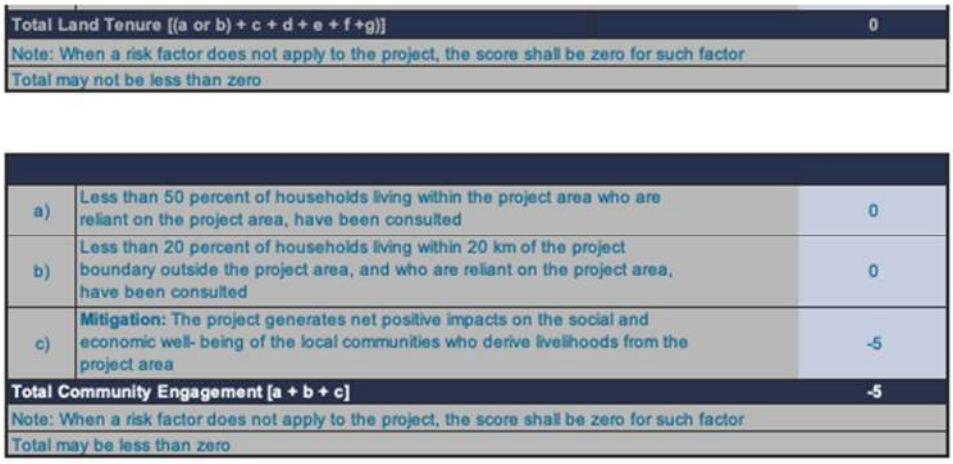
Image 1: Total Land Tenure score applied during the first monitoring period



Total Land Tenure [(a or b) + c + d + e + f +g)]		**0**
Note: When a risk factor does not apply to the project, the score shall be zero for such factor		
Total may not be less than zero		

a)	Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted	10
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted	5
c)	**Mitigation:** The project generates net positive impacts on the social and economic well- being of the local communities who derive livelihoods from the project area	-5
Total Community Engagement [a + b + c]		**10**
Note: When a risk factor does not apply to the project, the score shall be zero for such factor		
Total may be less than zero		

Image 2: Total Land Tenure score applied during the second verification monitoring period



Total Land Tenure [(a or b) + c + d + e + f +g)]		**0**
Note: When a risk factor does not apply to the project, the score shall be zero for such factor		
Total may not be less than zero		

a)	Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted	0
b)	Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted	0
c)	**Mitigation:** The project generates net positive impacts on the social and economic well- being of the local communities who derive livelihoods from the project area	-5
Total Community Engagement [a + b + c]		**-5**
Note: When a risk factor does not apply to the project, the score shall be zero for such factor		
Total may be less than zero		

The supporting documents can be consulted in: Supporting information/EHSS documents/ MFGH Community Engagement with South Fomangso Communities and Supporting information/PO Information/Preliminary Environment Report Abrimasu Forest Reserve.

Documentation provided by project participant
Supporting information/Estimations/Fire Report and Analysis Ghana Supporting information/PO Information/Preliminary Environment Report Abrimasu Forest Reserve Supporting information/EHSS and Reports/MFGH Community Engagement with South Fomangso Communities

DOE assessment	**Date:** 08/02/2023
• The verification team has reviewed the response provided by PP for the CI 4 above and also the supportive - Non-permanence Report. Further it was also verified during an onsite audit	

during interview process that the rare incidences of fires recorded did not lead to mortality of the carbon stocks within the project area and Miro Forestry also has a Fire Management Plan that is regularly updated. **Hence this part of CL is now CLOSED.**

- The final estimation table in MR representing the total buffer considered in calculation of VCUs is now updated. **Hence this part of CL is now CLOSED.**

- The consideration of a 10% buffer for the monitoring period is deemed appropriate by Verification team, **Hence this part of CL is now CLOSED**.

Thus, CL 4 is now **CLOSED.**

Table 3. CAR from this validation/verification

CAR ID	CAR 01	**Section no.**	*MR section 1.1*	**Date:** 22/12/2022
Description of CAR				
In the submitted Monitoring report- version 01, below mentioned inconsistencies have been observed- 1. In the cover page- the name of the project mentioned as "*Monitoring report of reforestation of degraded forest reserve areas in Ghana, West Africa*" is not consistent with that mentioned under project title below and in Verra project page which is as "*Reforestation of degraded forest reserve areas in Ghana, West Africa".* 2. In the cover page, the Report Id has not been highlighted. 3. The header of the Monitoring report does not indicate the version of template used. Further, the latest version of template (v4.2, applicable from 21-December-2022 onwards) shall be applied, following the template instructions therein. 4. Under section 1.1 it is mentioned as "*The proposed AR-VCS project involves reforestation activities in highly degraded forest reserves*" As project is already been implemented hence PP to refrain from using futuristic language through the report. 5. Under section 1.6, it is reported as "*The Ghana project is projected until 2045 - a 30-year lifespan*", which is inconsistent with that crediting period end date mentioned in table below (23/03/2046). Also Under section 4.3.1 it is mentioned as "*The crediting period started from 24/03/2016 to 30/06/2045*" which is incorrect. 6. Under section 1.11, it is reported as "*This project will continue to contribute to several SDGs, however there are **four** that are of a particular focus*", However in Table 1 below PP has reported 3 SDGs target and outcomes. 7. PP's name as mentioned in section 1.1 is "Miro Forestry (Ghana) Limited ("Miro Forestry", "MFGH" , However under section 1.3, it is mentioned as "Miro Forestry Developments Limited ("MFD") " PP name to be clarified and made consistent throughout the report.				

8. Under section 1.1, it reported as “the project estimates to remove 55,946 tCO2e annually and 1,678,387 tCO2e during its entire life ” However As stated in registered PD, "59,889 tCO2e annually and 1,796,683 tCO2e during its entire life". PP to clarify the same.

Project participant response	**Date:** 07/02/2023

1. The name in the cover page has been adjusted accordingly.
2. The Report Id has been highlighted accordingly.
3. The latest version(V4.2) has been applied accordingly and the template version applied is clearly marked in the header. Futuristic language has been corrected in section 1.1 and throughout the report accordingly.

   The project crediting period is kept as per the registered PDD
4. The statement under section 1.11 has been corrected and now reads” The project has three SDGs that are of particular focus”. Table 1 correctly reports on the three SDGs that are being referred to in the above statement. Miro Forestry Developments Limited (‘MFD’) is the holding company of the wholly owned (100%) subsidiary, Miro Forestry (Ghana) Limited (MFGH) operating in Ghana. To maintain consistency with what is available in the PDD, the PP name shall be referred to Miro Forestry Developments Limited or Miro Forestry in this monitoring report.
5. The statement in the PDD is hereby noted as correct and should read that the project estimates to remove "59,889 tCO2e annually and 1,796,683 tCO2e during its entire life". This statement has been updated in section 1.1 of the MR. In addition, during each verification event, the ex-ante estimations is updated and the emission reductions will be updated based on the real and current growth of the plantations as measured in field and duly recalculated and updated, as such the statement for the updated emissions reductions are “51,217 tCO2e annually and 1,536,511 tCO2e during its entire life”.

Documentation provided by project participant
Supporting information/Estimations/Ghana Ex-ante.xlsx

DOE assessment	**Date:** 11/03/2023

PP has submitted the revised Monitoring report which has been assessed by Verification Team. The above identified inconsistencies have been corrected in the MR.

However, following additional minor inconsistencies have been further observed in provided revised Monitoring report-

1. In MR, under Table 8. Stratums defined for GHG emission reductions and removals estimations- total eligible area is still reflecting as 3,830.74 ha

2. In MR, under table 13- -Net ex-ante removal of GHG emissions for the second monitoring period, the VCUs eligible for issuance is reported as 303,597 which is not consistent with that reflected in ER sheet (303,596).

3. In MR, under section 1,1- it is reported as- *The second monitoring period aims to verify the estimated **337,331** tCO2e net GHG emission reductions achieved from Miro Forestry in West Africa,* However the value reported in ER workbook for Net GHG emission reductions or removals (tCO2e) second verification

is 337330 tCO2e in tab “NET GHG ER&R” and 337329 in tab “ER Ct:. PP to conform and make it consistent throughout. 4. In Ghana Ex-post workbook- under tab NET GHG ER & R- PP to indicate units for all the values considered(*VCUs past verification/ /Buffer pool allocation/VCUs eligible for issuance*). Hence this CAR is **OPEN.**

Project participant response	**Date:** 14/04/2023
1. Table 8 has now been updated to Table 10 in the MR (page 40) and has been updated to correctly display 3,871 ha as the project area has since been corrected. 2. Table 13 has now been updated to Table 15 in the MR (page 54)and has now also been updated accordingly to display the correct VCUs eligible for issuance which is now (293,759) as per the recent update to the Ex-post/ ER workbook. 3. The Net GHG ER has since been updated and is now 326,399 tCO2e. Section 1.1 has been updated to correctly read “The second monitoring period aims to verify the estimated 326,399 tCO2e net GHG emission reductions achieved from Miro Forestry in West Africa” and is now consistent with that which is reported in the ER Tab and the Net GHG ER&R Tab in the Ex-post/ER Workbook and is now consistent throughout. 4. The units have been updated in the Net GHG ER&R and in the MR table 15(previous Table 13) accordingly (VCUs past verification, Buffer Pool allocation and VCUs eligible for issuance).	
Documentation provided by project participant	
Supporting information/Estimations/ Ghana Ex-post.xlsx	
DOE assessment	**Date:** 26/06/2023
The required changes have been now done in MR and has been cross verified. Hence CAR 1 is Closed.	

CAR ID	**CAR 02**	**Section no.**	*VCS PD template filling guidelines, section 4.1*	**Date:** 22/12/2022
Description of CAR				
1. Under section 2.2, in line with the template filling instructions, PP shall provide information on ● How due account of all and any input received during ongoing communication has been taken. Include details on any updates to the project design or justify why updates are not appropriate. ● Any changes, where relevant, to relevant laws and regulations covering workers’ right in the host country. ● Any changes, where relevant, to risks, costs and benefits the project may bring to local stakeholders. 2. Under section 2.3, PP shall specify the activities implemented to mitigate risks towards local stakeholders due to project implementation.				
Project participant response			**Date:** 22/01/2023	
1 Section 2.2 has been updated in line with the template filling instructions and can be referred to in page 14, section 2.2. 2 Section 2.3 has been updated accordingly and can be consulted on page, 19.				

Documentation provided by project participant	
Revised MR	
DOE assessment	**Date:** 5/05/2023
PP has submitted the revised MR with updates in section 2.2 and 2.3. The updated section now reflects the information asked for. The revised document is studied by Verification team and found appropriate. Hence this CAR 02 is **now CLOSED.**	

CAR ID	**CAR 03**	**Section no.**	*1.2, 4.1, 4.4*	**Date:** 22/12/2022
Description of CAR				
1. Under section 3.1, it is stated that “Thinning will be carried out in each annual coupe to ensure that the final crop develops under conditions that will maximize volume increment”. PP shall provide details of thinned biomass considered during present monitoring period in same section. 2. PP shall also describe how leakage and non-permanence risk factors are being monitored and managed for AFOLU projects under section 3.1 of the submitted MR.				
Project participant response		**Date:** 07/02/2023		
1. Under section 3.1, the thinned biomass has been included in Table 7: Thinned biomass per hectare in Ghana and can be reviewed in page 29. 2. The information has been updated to include the following: As described in full detail in the PD, including section 1.17 “Leakage” and in the section 10 “ Monitoring Plan”, the monitoring of leakage can be neglected because leakage only occurs with the displacement of agricultural activities (according to the methodology of AR-ACM0003 and the AR-Tool 14”Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activities”). As such, no displacement of agricultural activities has occurred in this outlined project activities and therefore, leakage can be counted as zero and does need to be monitored or managed. In addition, the risk factor was assessed using the VCS Tool for AFOLU Non-permanence Risk Analysis and Buffer Determination, Project risks and activities to uphold the project permanence are described in the PDD in section 4.4. Identification of risks that may substantially affect the project's GHGs emission reductions or removal enhancement are checked at each verification. For this verification, the risk buffer was set to 10% according to the potential risk and mitigation measurements of the project. Detailed information is presented in the supporting Non-permanence Risk Assessment.				
Documentation provided by project participant				
Revised MR				

DOE assessment	**Date:** 10/02/2023
1. In the revised MR submitted by PP, the details of thinned biomass have now been included and found satisfactory. 2. The revised MR now includes information on Leakages and VT is able to conform that no displacement of agricultural activities has occurred in this outlined project activities and therefore, leakage can be counted as zero and does need to be monitored or managed. Hence this CAR 3 is **now CLOSED.**	

CAR ID	**CAR 04**	**Section no.**	*4.4*	**Date:** 22/12/2022
Description of CAR				
Under section 5.4, the value for "Net ex-ante removal of GHG emissions" reported in Table 17 is incorrect. PP to provide information for the total GHG benefit calculated as the sum of stock changes along the present second monitoring period as reported in ER spreadsheet.				
Project participant response		**Date:** 22/01/2023		
The net ex-ante removal of the GHG emission table has been updated as per the requirements of the new template and is now listed as Table 13 in the MR.				
Documentation provided by project participant				
Supporting information/Estimations/ Ghana Ex-post.xlsx				
DOE assessment				**Date:** 14/04/2023
In MR , under table 13- the data reported for Project emissions or removals (tCO2e) and Net GHG emission reductions or removals for **year 2021** is not consistent in MR and in worksheet data. Also Project emissions for second verification or removals (557,745) is not consistent with data reported in ER worksheet (557,743). PP to recheck and clarify. While reporting data for "Net GHG emission reductions or removals (tCO2e) second verification" in MR under table 17, PP to categorically and clearly also report in MR in the same table the total claimable VCUs after deduction of VCUs claimed for past verification from present removals data to ,as depicted in ER worksheet. Hence this CAR is **OPEN.**				
Project participant response				**Date:** 14/04/2023
Year 2021 project emissions have been updated accordingly in the MR to match that which is depicted in the Ex-post/ER Worksheet (290,519) and can be seen in Table 15 (previously Table 13) on page number 54.				

The total project emissions/project removals in the MR have been updated accordingly (546,813) following recent updates to the Ex-post estimation and now also correctly matches what is depicted in the Ex-post/ ER Worksheet (546,813). Table 13 has been updated to Table 15 (page 54) and includes the total claimable VCUs after deduction from prior removals data as per the Ex-post (only the information pertaining to the VCU's past verification before buffer is provided in the MR as the Table should have information on the Net GHG emissions for the second monitoring period only).
Documentation provided by project participant
Supporting information/Estimations/ Ghana Ex-post.xlsx

DOE assessment	**Date:** 20/06/2023
The explanation provided by PP is checked against supportive and found to be appropriate. Hence this finding is CLOSED.	

CAR ID	**CAR 05**	**Section no.**	*4.4*	**Date:**10/02/2024
Description of CAR				
The emission reduction calculation does not apply the latest IPCC 2019 values and the leakage is not considered Leakage consideration is not appropriate and not conservative LTA calculation is wrong corresponding to the emission reductions				
Project participant response		**Date:** 20/02/2024		
IPCC 2019 values updated in the calculation for conservativeness. The Root-to-shoot ratio was changed to have a more conservative value of 0.232[18], this has made some of the calculations to be different from the presented in the previous answer. Leakage is now considered. Round up value applied LTA updated • Total Carbon by 2022[19]: 481955 t CO2 eq				

[18] 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (TABLE 4.4 (UPDATED) RATIO OF BELOW-GROUND BIOMASS TO ABOVE-GROUND BIOMASS (R) [TONNE ROOT D.M. (TONNE SHOOT D.M.)-1])

[19] 01_Supporting Information\Estimations\Ghana Ex-post 20022024 updated.xlsx

• LTA from the ex-ante[20]: 1,122,992 t CO2 eq Space till reaching the LTA is 641,037 tCO_2e Emission reductions is round down for conservativeness
Documentation provided by project participant
Supporting information/Estimations/ Ghana Ex-post.xlsx Supporting information/Ghana Ex-ante.xlsx

DOE assessment	**Date:** 22/02/2024
The documents provided by PP is checked against supportive and found to be appropriate. Hence this finding is CLOSED.	

Table 4. FAR from this verification

FAR ID	**FAR 01**	**Section no.**	*Section 4.3*	**Date:** 29/01/2024
Description of FAR				
In the next verification VVB need to check for any potential disputes related to land ownership, leakage by the local community and mitigation measures by the PP.				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

[20] 01_Supporting Information\Estimations\Ghana Ex-ante UPDATED.xlms

FAR ID	FAR 02	Section no.	*section 4.4*	Date: 29/01/2024
Description of FAR				
In the next verification VVB to check project leakage pertaining to project in line with applied methodology and AR-TOOL 15. Increase in the Subsistence farming hectare / area of land should be verified for leakage.				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

FAR ID	FAR 03	Section no.	*section 4.4*	Date: 29/01/2024
Description of FAR				
In the next verification VVB to check project leakage pertaining to cattle grazing				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				**Date:** DD/MM/YYYY

FAR ID	FAR 04	Section no.	*section 1.1*	Date: 29/01/2024
Description of FAR				
In the next verification VVB to check the total project expansion is limited to 14000 ha only				
Project participant response				**Date:** DD/MM/YYYY

Documentation provided by project participant	
DOE assessment	**Date:** DD/MM/YYYY

APPENDIX 3:

COMPETENCE OF TEAM MEMBERS

Personnel Name:		**Shikha Sharma**	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Waste Handling and Disposal	TA 13.1 Solid waste and wastewater TA 13.2 Manure		
Approved by	Manager Quality		
Approval date:	28/12/2021		

Personnel Name:		**Shilpa Swarnim**	
Qualified to work as:			
Team Leader(trainee)	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert	☐
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
SS: 01: Energy industries	TA 1.2: Energy generation from renewable energy sources		
SS 14: Afforestation and reforestation	TA 14.1 Afforestation and reforestation		
Approved by	Manager C& T		
Approval date:	06/09/2021		

Personnel Name		**Mr. Praveen N Urs**	
Qualified to work as			
Team Leader	☒	Technical Expert	☒

Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope		**Technical Area**	
SS 1: Energy industries (renewable/non-renewable sources)		TA 1.2. Renewables	
SS 13: Waste handling and disposal		TA 13.1. Solid waste and wastewater	
Approved by (Manager Competence)		Dr. Rajesh Monga	
Approval date		05-09-2023	

Personnel Name	Dr. Rajesh Monga		
Qualified to work as			
Team Leader	☐	Technical Expert	☒
Validator/Verifier (Trainee)	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope		**Technical Area**	
SS 14: Afforestation and reforestation		TA 14.1. Afforestation and reforestation	
SS 15: Agriculture		TA 15.1. Agriculture	
Approved by (Manager Competence & Training)		Dr. Ritu Arora Sehgal	
Approval date		13-06-2023	

Personnel Name	Mr. Shiv Narayan Singh		
Qualified to work as			
Team Leader	☐	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope		**Technical Area**	
SS 14: Afforestation and reforestation		TA 14.1. Afforestation and reforestation	

SS 15: Agriculture	TA 15.1. Agriculture
Approved by (Manager Competence & Training)	Dr. Rajesh Monga
Approval date	26-02-2024

Personnel Name:		**Shital Hatankar**	
Qualified to work as:			
Team Leader	☐	Technical Expert	☐
Validator/Verifier (Trainee)	☒	Financial Expert	☐
Technical Reviewer	☐	Local Expert (India)	☐
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
NA	NA		
Approved by	Manager Competency & Training		
Approval date:	23/01/2023		

Name:		**Dr.D.Siddaramu**	
Qualified to work as:			
Team Leader	☒	Technical Expert	☒
Validator/Verifier	☒	Financial Expert	☐
Technical Reviewer	☒	Local Expert (India)	☒
Area(s) of Technical Expertise			
Sectoral Scope	**Technical Area**		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Energy demand	TA 3.1. Energy Demand		
Afforestation and reforestation	TA 14.1 Afforestation and reforestation		
Approved by	Manager Quality		
Approval date:	15/12/2022		

APPENDIX 4: STAKEHOLDER COMMENTS

The project PD was webhosted for 30 days public global stakeholder commenting period from 03 March 2021 to 02 April 2021. During this window the project did not receive any comments.

A comment had come outside the 30 days public commenting period from an organisation – Climate Partner on 19th March 2024 (3 years later) requesting clarification on the LTA application by the project activity and its compliance against its regulation.

Registered PDD:	PD version 4 dt 25 /01/2022
Validation and 1st Verification report:	Version 1 dt 28 Sept 2021 by Aenor Internacional SAU
30 days commenting period and comments	03/03/2021 to 02/04/2021. No comments were received. Verified from the joint verification report of Aenor Internacional SAU
Comments received out of 30 days period	Comment was published on 19th March 2024 (**3 years later**)
Commentor	Sofia Jonson Veloso from Climate Partner
Clarification requested by the Commentor:	Clarification regarding the LTA referring to the table 42 in PD version 4.
VERRA team Request:	Verra team request the present VBB (KBS) on 08 April 2024 to observe this comment and provide the independent review.
Actions taken by PP on the comment: (chronology of actions by the client verified by KBS)	On 8th April 2024 - South Pole (consultant) representing the client Miroforestry, contacted the commentor "Climate Partner" to address the clarification. Ms. Sofia Jonson and Mr. Usman Tahir represented Climate Partner. On 10th April 2024 – 12th April 2024: More clarifications and analysis were presented by South pole to Climate Partner team. 12th April 2024 - Climate partner express their satisfaction on LTA clarification in the project and comment were closed.

VVB independent review on the comment:	Table 42 of the PDD – is only a representation of estimated total emission reduction and the average annual emission reduction. LTA calculations are represented on page 115 of the registered PD. LTA calculation and formula applied are described in the registered joint validation & verification report on page 38 and LTA has been reflected in page 41. After careful review, KBS provides its opinion that the LTA formula was applied correctly, and LTA were calculated and represented correctly based on the estimate emission reduction. KBS verified all the email communication by the PP and the commentor and understood that the commentor had confusion in understanding with the annual emission reduction – which was explained to them by the PP focal point and the comment is successfully closed. All the email communication and the email of the satisfaction acceptance by the "Climate Partner" was shared with the KBS. KBS thus concludes that comments raised by "climate Partner" was only on the clarification on the table 42 of registered PD that showcased the annual average emission reduction and not the LTA. Since the clarification on LTA is presented by PP to "Climate Partner" is satisfactory, it is justified that no action is needed in the project description or monitoring report. The ex-ante and ex-post calculation provided along with the 2nd verification report version 2.4 dt 12/04/2024 by KBS clearly represents the LTA, actual emission reductions as on 2nd verification and space left to reach the LTA. It is KBS opinion that no action is needed in the PD or MR and PP has satisfactory justified to the commentor "Climate Partner" for closure of the comment. Copy of all email communications between the PP and the commentor is provided the revised MR version 4.6